



# BENZO CHEM INDUSTRIES PRIVATE LIMITED

**Works :** B-24/25, 16/17, M.I.D.C. Area,  
DASARKHED, MALKAPUR - 443 112.  
DIST. BULDHANA,  
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Phone No. : (022) 43555888 Fax No. 022-24320924  
**Corporate Identity No. U24100MH1986PTC041751**  
E-mail : info@benzochemco.in. Website : www.bcipl.com

August 9, 2023

The Director,  
Ministry of Environment, Forests & climate change,  
Regional Office, (WCZ),  
Ground Floor, East Wing,  
New Secretariat Building,  
Civil Lines, Nagpur – 440001

**Subject:** Point –wise reply to the letter no. F.No. EC-2138/RON/2023-NGP/11882 dated 14.07.2023 issued to Benzo Chem Industries Pvt. Ltd. Plot No. B-24/25, 16/17 MIDC area Dasarkhed, Malkapur. Dist- Buldhana- Reg.

**Ref:** 1) Your letter no.. F.No. EC-2138/RON/2023-NGP/11882 dated 14.07.2023

Dear Sir,

This bears reference to the above mentioned subject and your letter no. F.No. EC-2138/RON/2023-NGP/11882 dated 14.07.2023 seeking information for the EC compliance certification for the existing unit of Benzo Chem Industries Pvt. Ltd located at Plot Nos B-24/25, 16/17 MIDC area, Dasarkhed, Malkapur, Dist : Buldhana.

In this context we are submitting herewith the point wise reply of the information sought in the letter cited under reference.

We hope that the submission is in line with your requirement and will suffice the purpose.

Yours faithfully,

For, Benzo Chem Industries Pvt. Ltd.,

Name: M.A.Sapkal

Designation: Plant Head

Encl: As above



[ An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 Certified ]



भारत सरकार  
GOVERNMENT OF INDIA  
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय  
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE  
क्षेत्रीय कार्यालय  
REGIONAL OFFICE  
Ground Floor, East Wing, New Secretariat Building  
Civil Lines, Nagpur - 440001  
E-mail: apccfcentral-ngp-mef@gov.in



F.No. EC-2138/RON/2023-NGP /11882

Date: 14.07.2023

To,  
M/s. Benzo Chem Industries Pvt. Ltd.  
B-24/25, 16/17, M.I.D.C. Area,  
Dasarkhed, Malkapur  
Dist- Buldhana.

**Subject:** Request for Certified EC Compliance of existing unit of Benzo Chem Industries Pvt. Ltd. located at plot Nos. B-24, B-25 Dasarkhed, Malkapur dist- Buldhana-reg.

Sir,

The undersigned is directed to refer to above cited subject and letters under reference. It is requested to submit the following information:

1. Latest six monthly compliance reports (with full details)
2. Details of expansion proposal
3. Consent to establish/operate
4. Duly filled in monitoring data sheet
5. Undertaking for court cases/show cause notices
6. Environmental Quality Monitoring Reports
7. Expenditure made on environment protection measures
8. Details of CSR/CER year wise.
9. Details of Green Belt Development.
10. Contact Details of Project Proponent (Mob. No. & E-mail Id)

**Note:** The site visit will be considered only after the receipt of the above information.

  
(Surender Gugloth)  
Scientist-E

**Monitoring the Implementation of Environmental Safeguards**  
**Ministry of Environment, Forest & Climate Change**  
**Integrated Regional Office Nagpur**  
**Monitoring Report**  
**Part - I**  
**DATA SHEET**

1.	Project Type: River-valley / Mining / Industry / Thermal / Nuclear / Other (Specify)	
2.	Name of the Project	
3.	Clearance Letter (s) / OM No. and date	
4.	Location a. District (s) b. State (s) c. Latitude d. Longitude	
5.	Address for correspondence a. Address of concerned Project Chief Engineer (with Pin Code & Telephone/ Telex/ Fax Numbers) ; & Address of Executive Project Engineer / Manager (with pin code/fax numbers)	
6.	Salient features a. Of the Project  b. Of the Environmental Management Plan	
7.	Break up of the Project area a. Submergence Area: Forest & Non Forest b. Others	
	a. Total Plot Area	
	b. Built - Up Area (Including Road)	
	c. Open Space available	
	d. Green belt area	
8.	Break up of the Project affected population with enumeration of those losing houses/dwelling units only, agricultural land only, both dwelling units & both dwelling units & agricultural land & landless laborers/artisan a. SC, ST/Adivasis b. Others (Please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey carried out gives details and years of survey.)	
9.	Financial Details a. Project costs as originally planned &	

	<p>subsequent revised estimates and the year of price reference.</p> <p>b. Allocations made for Environmental Management Plan with item wise &amp; year wise breakup.</p> <p>c. Benefit Cost Ratio / Internal rate of Return and the year of assessment.</p> <p>d. Whether (c) includes the cost of Environmental Management as shown in the above.</p> <p>e. Actual expenditure incurred on the Project so far</p> <p>f. Actual expenditure incurred on the Environmental Management Plan so far</p>	
10.	<p>Forest land requirement</p> <p>a. The status of approval for diversion of Forestland for non-forestry use</p> <p>b. The Status of clearing felling</p> <p>c. The status of compensatory Afforestation programme in the light of actual field experience</p>	
11.	<p>The status of clear felling in non-forest areas (such as submergence area of reservoir, Approach roads), if any with quantitative information</p>	
12.	<p>Status of construction</p> <p>a. Date of commencement (Actual and/or Planned)</p> <p>b. Date of completion (Actual and/or Planned)</p>	
13.	<p>Reasons for the delay if the project is yet to start</p>	
14.	<p>Dates of site visits</p> <p>a. The dates on which the Project was monitored by Regional Office on previous occasions, if any</p> <p>b. Date of site visit for this monitoring Report</p>	
15.	<p>Details of correspondence with project authorities for obtaining action plan / information on status of compliance to safeguards other than the routine letters for logistic support for site visit. (The monitoring report may obtain the details of all the letters issued so far but the later reports may cover only the letters issued subsequently)</p>	

**1) Latest six monthly compliance reports (with full details)**

**Reply :**

The latest six monthly compliance report for the period October 2022 to March 2023 was submitted on July 4, 2023 to the Regional Office of MoEF & CC and is enclosed along with the email transmission of the same as evidence as **Annexure-A**

**2) Details of the expansion proposal:**

**The summary of the expansion proposal is as under:**

Benzo Chem Industries Pvt Ltd. proposes expansion project for the manufacturing of chemical intermediates, agro –intermediates, pharma intermediates and speciality chemicals at Plot Nos. B-16, B-17, B-24 and B-25, Dasarkhed Malkapur MIDC, Buldhana District ,Maharashtra. The existing manufacturing capacity products is 895 MT/M as per the current CTO & by-product capacity amounting to 1704.75 MT/M and the additional proposed manufacturing capacity will be 1800.11 MT/M totalling to 2695.11 MT/M. on land admeasuring 31988 Sq.m The company's products will be exported to major markets like USA, Brazil, Europe, Japan, Korea, Taiwan etc. Its strategy is to focus on products such as chemical intermediates, agro –intermediates, pharma intermediates and speciality chemicals within the domain of its core competencies. Also to build relationships with major customers in other countries, which will open up new opportunities. In future, it wants to position itself as a company of choice for its customers and focus on Innovation and Efficient Green Processes.

Benzochem has obtained environmental clearance from SEIAA, Maharashtra for the existing production capacity of 925 MT/M vide EC letter no. EC (BENZO)-2009/155/CR.173/TC.1 dated 30th January 2010.

Further Benzochem has also obtained CTO from MPCB for the production capacity wherein the same has been capped to 895 MT/M and the total production capacity of the by –products will not exceed 1704.75 MT/M. Benzochem further has renewed the CTO vide document no. Format1.0/CC/UAN No.MPCBCONSENT-0000125229/CR/2301001660 dated 19.01.2023 and valid till 28.02.2025 keeping in view the aforesaid production capacity to 895 MT/M and total production of the by –products to 1704.75 MT/M.

The existing manufacturing facility of Benzochem Industries Pvt. Ltd. is located on Plot no.B-24 & B-25 of the MIDC Malkapur. Benzochem has purchased two adjoining plots i.e, B-16 & B-17 –each plot admeasuring on 4050 sq.m for the installation of SBT technology which is advanced technology for treatment of effluent. Existing plots B-24, B-25 are amalgamated with the aforesaid plots vide MIDC letter dated 13th June 2021. Also MIDC transferred the plot B-16 on lease to Benzochem vide letter No. /Amt/RO/MIDC/2159/2010 dated 9th July 2010. Also MIDC

transferred the plot B-17 to Benzochem vide letter No. MIDC/RO/AMT/6066/2015 dated 9th June 2015. The plot possession receipts, transfer orders of MIDC and the amalgamation letter issued by MIDC is enclosed from **Annexure -1** to **Annexure-5**

Benzochem will construct two floors above the existing R&D and QC building to accommodate the production capacity resulting from expansion. Thus the resulting configuration will be G+ 2. On the new plot B-16 and B-17 Benzochem is constructing the state of the art ETP of 120 KLD capacity based on the Soil Bio technology. The SBT unit is being constructed to upgrade performance of the existing ETP. As the installation of SBT is for upgradation of ETP and no manufacturing facility is constructed at additional land (B-16 and B-17), environmental clearance from MoEF & CC was not applicable for said activity.

Benzo Chem Industries Pvt. Ltd. has developed green belt in more than 2500 sq.m as per the EC condition and has planted a total of 515 trees within the factory premises. Earlier total plot area was 23888 sq.m for the plot Nos B-24 & B-25.

For the proposed expansion new plot nos B-16 & B-17 have been added, hence total plot area becomes 31988 sq.m. The total green belt area requirement as per the MoEF & CC norms i.e, 33% of the total plot area is 10556.04 sq.m.

Considering the requirement Benzo Chem has now developed 5207.15 Sq. m area and the remaining 5782.16 Sq,m will be developed totalling to 10989.31 sq.m which is 34.3% of the total plot area.

The summary of the expansion proposal is as under:

<b>Sr. No</b>	<b>Parameters</b>	<b>Description</b>
1.	<b>Name of the expansion proposal</b>	Proposed expansion project for manufacturing of Chemical intermediates, Agro – intermediates, Pharma intermediates and Speciality Chemicals at Plot Nos. B-24, B-25, B-16 and B-17, MIDC area, Dasarkhed, Tal : Malkapur , Dist : Buldhana.
2.	Category as per EIA Notification	5(b) & 5 (f) -A
3.	Latitude	20°58'18.82"N
4.	Longitude	76°11'17.65"E
5.	Proposed Production Capacity	Existing: 895 MT/M Existing quantity of by –products: 1704.75 MT/M (In current consent existing by-products are shifted to Hazardous waste)

		<p>Additional Proposed products:1800.11 MT/M</p> <p>Total production capacity : 2695.11 MT/M</p>
6.	Total Plot Area and Built up area	<p>Total Plot Area: 31988 sq. m.</p> <p>Existing built up area: 10080.56 Sq.m</p> <p>Additional Proposed: 1842.93 Sq.m</p> <p>Total built up area: 11923.49 Sq.m</p>
7.	Green Belt Area	<p>Benzo Chem Industries Pvt. Ltd. has developed green belt in more than 2500 sq.m as per the EC condition and has planted a total of 515 trees within the factory premises. Earlier total plot area was 23888 sq.m for the plot Nos B-24 &amp; B-25.</p> <p>For the proposed expansion new plot nos B-16 &amp; B-17 have been added, hence total plot area becomes 31988 sq.m. The total green belt area requirement as per the MoEF &amp; CC norms i.e, 33% of the total plot area is 10556.04 sq.m.</p> <p>Considering the requirement Benzo Chem has now developed 5207.15 Sq. m area and the remaining 5782.16 Sq.m will be developed totalling to 10989.31 sq.m which is 34.3% of the total plot area.</p>
8.	Fresh Water Requirement	<p>Existing water requirement: 186 CMD</p> <p>Additional proposed water requirement: 109 CMD</p> <p>Total water requirement: 295 CMD</p> <p>Recycle water: 97.3 CMD</p> <p>After recycling Total water requirement will be reduced to : 197.7 CMD</p>
9.	Effluent Quantity (Trade + Domestic)	<p>Trade Effluent: Existing + Additional Proposed = 34.73 CMD + 52.97 = 87.70 CMD</p> <p>Domestic waste water : Existing + Additional Proposed = 10 CMD + 0 = 10 CMD</p> <p>Total effluent quantity = Total trade effluent + Total domestic effluent = 87.70 CMD + 10 = 97.70 CMD</p>
10.	Trade Effluent Treatment	<p>The effluent will be treated in ETP of capacity 120 CMD &amp; MEE of capacity 100 CMD.</p> <p>The effluent will be segregated into Low TDS ,Low COD stream and High TDS, High COD stream. The High TDS &amp; COD stream from process will be treated in primary treatment first and will be fed to Multiple Effect Evaporator , MEE treated effluent will be led to Soil Biotechnology Unit and subsequently to tertiary treatment (PSF &amp; ACF)</p>

		<p>along with tertiary treated utility blowdown will be fed to Reverse Osmosis (R.O) unit.</p> <p>The permeate from R.O will be recycled in utilities and R.O reject will be fed to MEE to achieve Zero Liquid Discharge (ZLD). Thus it will be a Zero Liquid Discharge facility.</p>																		
11.	Domestic Waste water Treatment	The total domestic effluent of 10 CMD will undergo treatment in existing STP of 30 CMD capacity																		
12.	Fuel requirement at full load	<table border="1"> <thead> <tr> <th>Equipment</th> <th>Type of Fuel</th> <th>Total Fuel quantity</th> </tr> </thead> <tbody> <tr> <td>*6 TPH Boiler</td> <td>Coal</td> <td>30 TPD</td> </tr> <tr> <td>12 TPH boiler</td> <td>Coal / Briquette</td> <td>42.86 TPD /49.37 TPD</td> </tr> <tr> <td>**Thermopack of capacity 8 lakhs Kcal /hr x 2Nos</td> <td>Coal</td> <td>20 TPD</td> </tr> <tr> <td>Thermopack of capacity 12 lakh Kcal /hr x 2Nos</td> <td>Coal / Briquette</td> <td>15.59 TPD / 17.95 TPD</td> </tr> <tr> <td>***D.G set – 1 x 1020 KVA</td> <td>HSD</td> <td>6454.3 lit/day</td> </tr> </tbody> </table> <p><b>Note :</b></p> <p><b>*The 1 x 6 TPH boiler will be dismantled and 1 x 12 TPH boiler will be installed in its place</b></p> <p><b>** The 2 X 8 lakh Kcal /hr Thermopacks will be dismantled and 2 x 12 lakh Kcal /hr Thermopacks will be installed in its place</b></p> <p><b>***DG Set(1020KVA)is already existing</b></p>	Equipment	Type of Fuel	Total Fuel quantity	*6 TPH Boiler	Coal	30 TPD	12 TPH boiler	Coal / Briquette	42.86 TPD /49.37 TPD	**Thermopack of capacity 8 lakhs Kcal /hr x 2Nos	Coal	20 TPD	Thermopack of capacity 12 lakh Kcal /hr x 2Nos	Coal / Briquette	15.59 TPD / 17.95 TPD	***D.G set – 1 x 1020 KVA	HSD	6454.3 lit/day
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13.	Power Requirement	<p>Existing power (Connected load): 500 KW</p> <p>Additional Proposed (Connected Load) : <b>1500 KW</b></p> <p>Total connected load: <b>2000 KW</b></p> <p>Existing operational load : <b>400KW</b></p> <p>Additional proposed operational load : <b>1400KW</b></p> <p>Total operational load : <b>1800 KW</b></p>																		



		<p>Generation of electricity from Solar: 210 KWP</p> <p>% of saving due to installation of Solar: 11.6 %</p> <p>The electricity generated from the solar rooftop harvesting system will be used for the illumination of the street lights, parking etc.</p>																												
14.	Dispersion of emission for Boiler , Thermopack and the D.G sets	<table border="1"> <thead> <tr> <th></th> <th>Boiler</th> <th>Thermopacks</th> <th>D.G set</th> </tr> <tr> <th>Emissions</th> <th>1 x 12 TPH</th> <th>2 x 12 lakh Kcal /hr</th> <th>1 x 1020 KVA</th> </tr> </thead> <tbody> <tr> <td>SO<sub>2</sub> (g/sec)</td> <td></td> <td>2.127</td> <td>0.39</td> </tr> <tr> <td>PM10 (g/sec)</td> <td></td> <td>0.240</td> <td>Negligible</td> </tr> <tr> <td>PM2.5 (g/sec)</td> <td></td> <td>0.142</td> <td>Negligible</td> </tr> <tr> <td>NO<sub>x</sub> (g/sec)</td> <td></td> <td>2.182</td> <td>1.77</td> </tr> <tr> <td>Stack height</td> <td></td> <td>33 m</td> <td>30 m above ground</td> </tr> </tbody> </table>		Boiler	Thermopacks	D.G set	Emissions	1 x 12 TPH	2 x 12 lakh Kcal /hr	1 x 1020 KVA	SO <sub>2</sub> (g/sec)		2.127	0.39	PM10 (g/sec)		0.240	Negligible	PM2.5 (g/sec)		0.142	Negligible	NO <sub>x</sub> (g/sec)		2.182	1.77	Stack height		33 m	30 m above ground
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Stack height		33 m	30 m above ground																											
15.	Work Force	<p>Existing Nos. : 338 Nos</p> <p>Additional Proposed nos : 0 Nos</p> <p>Total nos : 338 Nos</p>																												
16.	Total Capital Cost the project	<p>Existing capital cost : 6860.1 lakhs</p> <p>Additional Proposed capital cost : 1108.94 lakhs</p> <p>Total capital cost : 7969.04 lakhs</p>																												
17.	<b>Corporate Environmental Responsibility (CER)</b>	<p>Rs. 11.0894 lacs i.e 1% of additional capital investment of the project (As per Corporate Environment Responsibility (CER) Office Memorandum (F. No. 22-65/2017-IA.III) dated 1<sup>st</sup> May 2018). CER will be a part of EMP as per MoEF &amp; CCs OM dated 25<sup>th</sup> Feb. 2021</p>																												

**The list of the proposed products as per the submitted EC application are as under:**

Sr. No.	Product name	Existing Quantity MT/M	Additional proposed Quantity MT/M	Total (MT/M)
<b>Group-1</b>				
1	4,4'-Dichloro Benzophenone	0	(+)5	5
2	4, 4 Dihydroxy Benzophenone	0	(+) 5	
3	Alpha Bromo(4-chlorophenyl) Acetic acid (alpha-Br PCPAA)	5	0	
4	Trisphenol	5	(-) 5	

Sr. No.	Product name	Existing Quantity MT/M	Additional proposed Quantity MT/M	Total (MT/M)
5.	Methyl (E) 3-Methoxy-2-(2-Chloromethyl Phenyl)-2-Propenoate (METHYL ACRELATE)	5	(-) 5	
	<b>Group -2</b>			
6	3-Methoxymethylene-3H-benzofuran-2-one (MPMA)	0	(+) 10	10
7	N,N'-Diallyl-1,3-diaminopropane Dihydrochloride (DAAH)	0	(+) 10	
8	3-(2,5-Dimethyl-phenyl)-4-hydroxy-8-methoxy-1-azo-spiro[4.5]dec-3-en-2-one (M-301)	0	(+) 10	
9	cis-8-Methoxy-1,3-diazaspiro[4.5]decane-2,4-dione (M-187)	0	(+) 5	
	<b>Group -3</b>			
10	Methyl (E)-2-[2-(6-chloropyrimidin-4-ylloxy)phenyl]-3-methoxyacrylate (MMP)	0	(+) 10	10
11	2-Amino-2-phenylbutyric acid (APBA)	0	(+) 10	
12	1,3-Dimethoxybenzene (1,3 DMBZ)	0	(+) 5	
13	Isopropyl 3-chloro-4-methyl Benzoate (ICMB)	20	(-) 15	
	<b>Group -4</b>			
14	ORTHO METHYL PHENYL ACETIC ACID (OMPAA)	40	(-) 40	40
15	Para chlorophenylacetic acid (PCPAA)	40	(-) 40	
16	Ortho hydroxy phenyl acetic acid (OHPAA)	30	(-) 20	
17	ortho methyl phenyl acetic acid methyl ester (OMPAA Ester)	*0	(+) 40	
18	Propargyl-CM-Estaer 55% Monochloro Benzene	20	(-) 20	
19.	4-Chloro Phenethyl Alcohol 2-(4 Chlorophenyl) Ethanol	20	(-) 20	
20	2-Chloro-4,6 Dimethoxy – 1,3,5 Triazine (CDMT)	15	(-) 15	
21	2,4,6 Trimethyl Benzaldehyde 84% in Acetone / Mesitaldehyde	25	(-) 25	
	<b>Individual products</b>			
22	<b>3 Isochromanone 9 (3-IC)</b>	60	0	60
23	Methyl 2-(2-Chloro Methyl) Phenyl Acetate (MCMPPA)	15	(+) 45	60
24	<b>3-chloro 2-methyl Anisol (3CMA)</b>	40	(+) 10	50
25	<b>2-Coumaranone -30% (2-C 30%)</b>	400	(-) 50	350
26	Ortho chlorophenylacetic acid (OCPAA)	150	(-) 150	0
27	<b>Hydantoin (5- Ethyl – 5 –Phenyl Hyadantoin)</b>	0	(+) 20	20
28	<b>2-Coumaranone (2-C)</b>	0	(+) 40	40
29	6-Chloro-4-Hydroxy-5-Methylpyridin-2-(1H)-one (PU2-Base)	0	(+) 3	3
30	Salt solution (By product)	200	(-)200	0
31	HCl solution (30% to 32%)	0	(+) 1174.53	1174.53

Sr. No.	Product name	Existing Quantity MT/M	Additional proposed Quantity MT/M	Total (MT/M)
32	Ammonia solution (25%)	0	(+) 626.58	626.58
33	Sodium Bisulphite solution (10%)	0	(+) 241	241
33	Hydrobromic acid (40% - 50%)	0	(+) 5	5
	Total		<b>1800.11</b>	<b>2695.11</b>

Note : The total existing production quantity shall not exceed 895 MT/M and also, the quantity of Byproduct shall not exceed 1704.705 MT/M

\*Note : The product ortho methyl phenyl acetic acid methyl ester (OMPAA Ester) is not mentioned in the current CTO, The existing capacity is 0 MT/M instead of 5 MT/M which is an inadvertent typographical error.

Note : Alpha Bromo Ortho chloro Phenyl Acetic acid Methyl Ester is the existing product mentioned in the current CTO with quantity of 5 MT/M , but was missed out inadvertently as the product has been deleted.

### 3) Consent to establish / Operate

**Reply :** Benzo Chem Industries Pvt. Ltd. has obtained valid CTO vide document no. Format1.0/CC/UAN No.MPCBCONSENT-0000125229/CR/2301001660 dated 19<sup>th</sup> January 2023 and valid till 28<sup>th</sup> February 2025. The aforesaid CTO is enclosed as **Annexure-6**

### 4) Duly filled in monitoring data sheet

**Reply :** The duly filled in monitoring data sheet is enclosed as **Annexure-7**

### 5) Undertaking for court cases / show cause notices

**Reply :** The undertaking for the court cases / show cause notices is enclosed as **Annexure-8**

### 6) Environmental Quality monitoring reports

**Reply:** The following reports are a part of environmental monitoring reports which are enclosed as **Annexure-9**

- Ground water quality reports
- Stack monitoring reports for the Boiler Thermopack
- Ambient air quality monitoring reports
- Scrubber stack monitoring reports
- Workplace air monitoring reports
- ETP outlet reports
- Noise monitoring reports

### 7) Expenditure made on environment protection measures

**Reply: The total capital expenditure and the recurring expenditure on environment protection measures is tabulated below:**

Sr.No	Item	Capital cost (Rs. Lakhs)	Recurring cost (Rs. Lakhs per annum)
1.	Air pollution control	180	38
2.	Water pollution control	1389	396
3.	Noise pollution control	5	01
4.	Occupational health	10	2.1
5.	Solid and Hazardous Waste storage and disposal	15	20
6.	Implementation of the risk assessment measures and HAZOP	3	0.50
7.	Environmental Monitoring Budget	2	2.5
8.	Green belt	5	3
	<b>Total</b>	<b>1609</b>	<b>462.1</b>

**8) Details of the CSR /CER year-wise**

The CER is not applicable to the existing unit as the environmental clearance to the existing unit was accorded on vide letter no. EC(BENZO)-2009/155/CR.173/TC.1 dated 30<sup>th</sup> January 2010 which was prior to the enactment of the MoEF's Office Memorandum No. F.No. 22-65 /2017-IA.III dated 1<sup>st</sup> May 2018 related to Corporate Environmental Responsibility (CER)

**Reply : The details of the Benzo Chem group CSR are tabulated below :**

CSR conducted in the FY 2019 -2020

Sr.No	CSR Project / activity identified	Projects or programs 1) Local Area or other 2) Specify the state and district where projects / program was undertaken	Amount outlay (budget) project or program wise	Amount spent on the projects / programs sub heads : 1) Direct expenditure on projects / programs 2) Overheads	Amount spent : Direct or through implementing agency
1.	Medical and educational aid to poor and needy of the society by VDMCT	Maharashtra Rajasthan Bihar	Rs. 11,50,000/-	Rs. 11,50,000/-	Implementing agency
2.	Medical and educational aid to poor and needy of the society by SRKMCT	Maharashtra Rajasthan Bihar	Rs. 16,50,000/-	Rs. 16,50,000/-	Implementing agency
3.	Medical and educational aid to poor section of the society through SCST	Maharashtra	Rs. 7,50,000/-	Rs. 7,50,000/-	Implementing agency
4.	Medical Aid to Bombay Hospital and Medical Research Center	Local area	Rs. 50,000/-	Rs. 50,000/-	Implementing agency
5.	Medical aid to people who visited Pandharpur during Aashadashi Ekadashi through Jan Kalyan Sewa Sanstha	Maharashtra	Rs. 2,50,000/-	Rs. 2,50,000/-	Implementing agency
6.	Sanitisation and distribution of re-usable sanitary pads to women who don't have access to menstrual hygiene through Milap Organization NGO.	Maharashtra	Rs. 21,000/-	Rs. 21,000/-	Direct

**Benzo Chem Industries Pvt. Ltd.,Plot Nos B-24, B-25, MIDC area Dasarkhed, Malkapur, Tal : Malkapur Dist : Buldhana**

7.	Medical aid to 8 months old baby for treatment of Sepsis virus through NHES	Local area	Rs. 8,764/-	Rs. 8,764/-	Direct
8.	Medical aid to a baby for treatment through Abhilasha Foundation	Local area	Rs. 50,000/-	Rs. 50,000/-	Direct
9.	Financial assistance to help differently abled person self reliant through IMFPA ;	Maharashtra	Rs. 3,000/-	Rs. 3000/-	Implementing agency
10.	Financial assistance towards promotion of sports through SRST	Local area	Rs. 25,000/-	Rs. 25,000/-	Direct
11.	Financial assistance for medical aid to poor people through Apollo hospital	Local area	Rs. 5,96,055 /-	Rs. 5,96,055 /-	Direct
12.	Assistance for special education and employment enhancing vocation skills among women through Rajasthani Mahila Mandal	Local area	Rs. 3,00,000/-	Rs. 3,00,000/-	Implementing agency
13.	Financial assistance towards promotion of sports through Think foundation Mumbai Marathon	Local area	Rs. 25,000/-	Rs. 25,000/-	Direct
14.	Financial assistance towards eradication of hunger and malnutrition among underprivileged children through World Vision India	Local area	Rs. 20,000/-	Rs. 20,000/-	Direct

**Details of the CSR amount spent against the ongoing projects for the financial year 2020 -2021**

1	2	3	4	5		6	7	8	9	10	11	
				State	District						Name	CSR Registration number
1	Medical, Educational, Food and Financial Aid in Poor and Needy people of the Society	VII (i) (ii) (iii) & (iv)	Yes	Mumbai and Sub/Urban Areas, Maharashtra	FY 2020-2021	5579500	5579500	Nil	Direct as well as through Implementing Agency	(1)SRKMCT (2)VDMCT	(1) CSR00002870 (2) CSR00002875	
2	Medical, Educational Food, and Financial Aid to Poor and Needy people of the Society	VII (i) (ii) (iii) & (iv)	Yes	Jalgaon, Maharashtra	FY 2020-2021	146218	146218	Nil	Direct	N.A.	N.A.	
3	Food Aid to Poor and Needy	VII (i) (ii) (iii) & (iv)	No	Dahej, Gujrat	FY 2020-2021	111000	111000	Nil	Direct	N.A.	N.A.	

**Benzo Chem Industries Pvt. Ltd.,Plot Nos B-24, B-25, MIDC area Dasarkhed, Malkapur, Tal : Malkapur Dist : Buldhana**

	people of the society										
4	Medical, Educational Food, and Financial Aid to Poor and Needy people of the Society	VII (i) (ii) (iii) & (iv)	Yes	Buldhana, Maharashtra	FY 2020-2021	3609011	3609011	Nil	Direct	N.A.	N.A.

**Details of the CSR amount spent against the ongoing projects for the financial year 2021-2022**

Sr.No	Name of the Project	Item from the list of activities in schedule VII to the Act	Local area (Yes/No)	Location of the project		Project duration	Amount allocated for the project (in Rs.)	Amt. spent in the current financial Year (in Rs.)	Amt. transferred to Unspent CSR Account for the project as per Section 135(6) (in Rs.)	Mode of Implementation – Direct (Yes/No)	Mode of implementation through implementing Agency	
				State	District						Name	CSR Registration number
1	Medical, Educational, Food and Financial Aid in Poor and Needy	VII (i) (ii) (iii) & (iv)	Yes	Mumbai and Sub-Urban Areas, Maharashtra		FY 2021-2022	5139000	5139000	Nil	Direct as well as through Implementing Agency	(1)SRKMCT (2)VDMCT	(1) CSR00002870 (2) CSR00002875





**The further details of the CSR activities conducted are enclosed as an Annexure-10**

**9) Details of the green belt development**

**Reply:** Benzo Chem Industries Pvt. Ltd. has developed green belt in more than 2500 sq.m as per the EC condition and has planted a total of 515 trees within the factory premises. Earlier total plot area was 23888 sq.m for the plot Nos B-24 & B-25.

For the proposed expansion new plot nos B-16 & B-17 have been added , hence total plot area becomes 31988 sq.m. The total green belt area requirement as per the MoEF & CC norms i.e, 33% of the total plot area is 10556.04 sq.m.

Considering the requirement Benzo Chem has now developed 5207.15 Sq. m area and the remaining 5782.16 sq,m will be developed totaling to 10989.31 sq.m which is 34.3% of the total plot area.

**10) Contact details of the project proponent (Mob No. and E-mail Id)**

**Reply :** The contact details of the project proponent are as under :

Name : Mr. Madhukar Sapkal

Designation : Plant Head

Mobile : 7559367814

Email : [productioneou@benzochem.co.in](mailto:productioneou@benzochem.co.in)

## List of Annexures

<b>Annexure No.</b>	<b>Title of the Annexure</b>
A.	EC compliance report for the Period October 2022 to March 2023
1.	Plot possession receipt of Plot B-16
2.	Plot possession receipt of Plot B-17
3.	Transfer order for the Plot No. B-16
4.	Transfer order for Plot No. B-17
5.	Amalgamation order of Plot B-24, B-25 , B-16 and B-17
6.	Current valid CTO
7.	Duly filled in monitoring data sheet
8.	Undertaking for show cause notices / court case with necessary Annexures
9.	Environmental monitoring reports
10.	CSR reports of Benzochem Group for the FY 2019-2020, 2020-2021 and 2021 -2022

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## **Annexure –A**

# **EC compliance report for the Period October 2022 to March 2023**

## Kapil

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**From:** Umesh Ladhe <ladhe@benzochem.co.in>  
**Sent:** 04 July 2023 17:39  
**To:** apcccentral-ngp-mef@gov.in  
**Cc:** ecompliance-mh@gov.in  
**Subject:** Submission of the six monthly compliance report for the unit of Benzo Chem Industries Pvt. Ltd. at Plot B-24, B-25 MIDC area, Dasarkhed Tal : Malkapur , Dist Buldhana ( Period Oct 2022 to March 2023)-Reg.

**Deputy Director General of Forests (Central),  
West Central Zone,  
Regional Office,  
New Secretariate Building, Opp. VCA Ground,  
Civil Lines, Nagpur-440001.**

**Subject: Submission of the half-yearly compliance report for Manufacturing of Agro and pharmaceutical intermediate project at Malkapur MIDC by M/s Benzo Chem Industries Pvt. Ltd. at Plot B-24 & B-25, MIDC area, Dasarkhed, Tal: Malkapur, District: Buldhana by Benzo Chem Industries. Pvt. Ltd.- Submission of the EC compliance report for the period October 2022 to March 2023 –Reg.**

**Ref: Environmental Clearance letter no. EC (BENZO)-2009/155/CR.173/TC.1 dated 30th January 2010 granted by SEIAA, Maharashtra.**

Dear Sir,

We have received the Environment Clearance from SEIAA, Maharashtra vide the letter cited under reference.

As per the requirement, we are submitting herewith the EC Compliance report of the said project for the period of October 2022 to March 2023 which can be downloaded from the Wetransfer link given below.

<https://we.tl/t-HsTdEtBaSK>

**Please note that the above Wetransfer link is valid for a period of 1 week i.e., 10<sup>th</sup> July 2023.**

With this reference, we wish to submit the details required as below:

1. Current status of Project.
2. Data Sheet
3. Pointwise compliance to stipulations as laid down by the SEIAA in the EC letter cited under reference.

We hope you will find the same in line with your requirements.

Thanking You,

**For Benzo Chem Industries Pvt. Ltd.**

**Dr. UMESH LADHE**

**Authorized Signatory**





# BENZO CHEM INDUSTRIES PRIVATE LIMITED

Works : B-24/25,16/17, M.I.D.C. Area,  
DASARKHED, MALKAPUR - 443 112.  
DIST. BULDHANA,  
Phone : (07267) 262678 / 79 / 81  
Fax : (07267) 262680  
E-mail :- benzoecu@rediffmail.com.

Registered Office : Plot No. 26/28 A,  
Cawasji Patel Street, Opposite to Yazdani Bakery,  
Fort, Mumbai - 400 001.  
Phone No. : (022) 43555888 Fax No. 022-24320924  
Corporate Identity No. U24160MH1985PTC041751  
E-mail : info@benzochemco.in. Website : www.bcipl.com

June 20, 2023

Deputy Director General of Forests (Central),  
West Central Zone,  
Regional Office,  
New Secretariate Building, Opp. VCA Ground,  
Civil Lines, Nagpur-440001.

**Subject:** Submission of the half yearly compliance report for Manufacturing of Agro and pharmaceutical intermediate project at Malkapur MIDC by M/s Benzo Chem Industries Pvt. Ltd. at Plot B-24 & B-25, MIDC area, Dasarkhed, Tal : Malkapur, District : Buldhana by Benzo Chem Industries. Pvt. Ltd. - Submission of the EC compliance report for the period October 2022 to March 2023 -Reg.

**Ref:** Environmental Clearance letter no. EC (BENZO)-2009/155/CR.173/TC.1 dated 30th January 2010 granted by SEIAA, Maharashtra.

Dear Sir,

We have received the Environment Clearance from SEIAA, Maharashtra with letter no. under reference.

As per the requirement, we are submitting herewith the EC Compliance report of the said project for the period of October 2022 to March 2023.

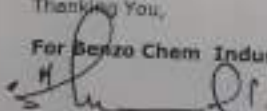
With this reference we wish to submit the details required as below:

1. Current status of Project.
2. Data Sheet
3. Pointwise compliance to stipulations as laid down by the SEIAA in the EC letter cited under reference.

We hope you will find the same in line with your requirements.

Thanking You,

For Benzo Chem Industries Pvt. Ltd.

  
Authorized Signatory

Government of Maharashtra

No.: EC (BENZO)-  
2009/155/CR.173/TC.1  
Environment department  
Room No. 217, 2nd floor,  
Mantralaya Annexe,  
Mumbai 400 032  
Dated: 30<sup>th</sup> January, 2010.

To,  
M/s. Benzo Chem Industries Pvt. Ltd.  
B-24, 25, MIDC Area, Dasarkhed,  
Tal - Malkapur, Dist- Buldhana

**Sub: Proposed agro and pharmaceutical intermediate project at Malkapur MIDC by M/s. Benzo Chem Industries Pvt. Ltd. - Environmental clearance regarding**

Sir,

This has reference to your communication Letter dated 27<sup>th</sup> April, 2009 on the above mentioned subject. The proposal was considered as per the EIA Notification - 2006, by the State Level Expert Appraisal Committee in its 10<sup>th</sup> & 17<sup>th</sup> meetings. SEAC in its 17<sup>th</sup> meeting recommended your proposal for prior Environment Clearance to State Level Environment Impact Assessment Authority (SEIAA) subject to submission of additional information on the points raised by SEAC. Subsequent information submitted by you, vide letter dated 20<sup>th</sup> August, 2009 has also been considered by State Level Environment Impact Assessment Authority in its 18<sup>th</sup> meeting held on 11<sup>th</sup> January, 2010.

2. It is noted that the proposal is for grant of environmental clearance for proposed agro and pharmaceutical intermediate project at Malkapur MIDC by M/s. Benzo Chem Industries Pvt. Ltd. The project considered by SEAC under screening category 5 (f) of EIA Notification 2006.

**Project information from documents submitted by you & considered by SEAC & SEIAA is summarized as below:**

Name of the Project : Agro and pharmaceutical intermediate project  
Type of Project : Bulk drugs and intermediates category  
Project Proponent : M/s. Benzo Chem Industries Pvt. Ltd.  
Location of the project : B-24, 25, MIDC AREA, Dasarkhed , Tal - Malkapur, Dist- Buldhana  
Land : 23,888 sq. mts.  
Project built up area : 14115 sq. mts.  
Estimated cost of the project : Rs. 13.25 Crores

**Production capacity:**

Sr. No.	Product	Capacity MT/Month
1.	PARA CHLORO PHYNYL ACETIC ACID / 4- CHLORO PHENYL ACETIC ACID	40
2.	ORTHO- METHYL BENZYL CYNIDE/ 2 METHYL BENZYL	40





	CYNIDE	
3.	2,4, DICHLORO PHENYL ACETIC ACID	30
4.	ORTHO CHLORO PHENYL ACETIC ACID	200
5.	2,5 DIMETHYL PHENYL ACETYL CHLORIDE	15
6.	PARA CHLORO META CRESOL	15
7.	ALPHA BROMO ORTHO CHLORO PHENYL ACETIC ACID METHYL ESTER	05
8.	ALPHA BROMO ORTHO CHLORO PHENYL ACETIC ACID	05
9.	2- METHYL PHENYL ACETIC ACID/ ORTHO- METHYL PHENYL ACETIC ACID	40
10.	2- COUMARANONE , 30 % WITH ACETIC ANHYDRIDE, 70 %	400
11.	2,4, DICHLORO BENZYL CYNIDE	30
12.	2,4,6 TRICHLORO PHENYL ACETYL CHLORIDE	05
13.	3-ISO CROMANONE	20
14.	4- CHLORO PHENETHYL ALCOHOL	20
15.	ALPHA BROMO PARA CHLORO PHENYL ACETIC ACID	15
16.	2,4, DICHLORO PHENYL ACETYL CHLORIDE	25
17.	PROPARGYL - CM- ESTER, 55 % MONO CHLORO BENZENE	20

**By- Product:**

Sr. No.	By - Product	Capacity MT/Month
1.	HYDROCHLORIC ACID	400
2.	HYDROBROMIC ACID	20
3.	AMMONIA SOLUTIO N	150

**Water Requirement:**

Total Water requirement: 212 CMD (173 for industrial use, 39 CMD for domestic use & gardening)

**Effluent generated:** Domestic: 10 CMD; Plant operation: 80 CMD.

Entire effluent would be treated in Effluent Treatment Plant and treated effluent reused.

**Capacity of ETP:** 100 CMD

**Fuel requirement: coal:** 30 TPD

**Solid Waste Management:**

Coal ash: 25 MT/Month; disposal: sale to brick manufacturers.

**Chemical sludge from Effluent treatment plant:** 0.5MT/M disposal: would be sent to CHWTSDF, Talaja.

**Hazardous waste:**

Category: 20.3: 5 Kg/day

Category: 34.3: 0.3 Kg/day

Scheduled - II: A -10: 2 Kg/day

**Disposal:** on the sight of authorized waste management facility.

**Power requirement:** sanctioned load: 625 KVA; connected load: 400 KVA from MSEB;

**Green Belt Development:** 2500 sq. m. area for green belt. Total 500nos. of trees will be planted.

**Environmental Management Plan:** Capital cost will be Rs. 1.28 crores and Recurring cost will be Rs. 7.50 Lakhs.



3. The proposal has been considered by SEIAA in its 18<sup>th</sup> meeting dated on 11<sup>th</sup> January, 2010 & decided to accord environmental clearance to the said project under the provisions of Environment Impact Assessment Notification, 2006 subject to implementation of the following terms and conditions :-

- (i) Coal ash should be stored in covered area.
- (ii) Stack emission should be treated as per Standards laid down by MPCB.
- (iii) No land development / construction work preliminary or otherwise relating to the project shall be taken up without obtaining due clearance from respective authorities.
- (iv) No additional land shall be used /acquired for any activity of the project without obtaining proper permission.
- (v) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water , medical health care, crèche etc. the housing may be in the form of temporary structures to be removed after the completion of the project.
- (vi) No fuel other than mentioned above with said contents shall be used without obtaining proper permission.
- (vii) For controlling fugitive natural dust, regular sprinkling of water & wind shields at appropriate distances in vulnerable areas of the plant shall be ensured.
- (viii) The coal will be transported through closed containers.
- (ix) Proper coal handling, transportation and handling system should be as per plan approved by MPCB.
- (x) Regular monitoring of the air quality, including SPM & SO<sub>2</sub> levels both in work zone and ambient air shall be carried out in and around the project and records shall be maintained. The location of monitoring stations and frequency of monitoring shall be decided in consultation with Maharashtra Pollution Control Board (MPCB) & submit report accordingly to MPCB.
- (xi) The process emissions and particulate matter from various units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.
- (xii) Fugitive emissions in the work zone environment, product and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits imposed by MPCB.
- (xiii) During transfer of materials, spillages shall be avoided and gulland drains be constructed to avoid mixing of accidental spillages with domestic waste and storm drains.
- (xiv) For control of process emissions, stacks of appropriate height as per the CPCB guidelines shall be provided. The scrubbed water shall be sent to the ETP for further treatment.
- (xv) A detailed scheme for rainwater harvesting shall be prepared and implemented to recharge ground water.
- (xvi) Periodic monitoring of ground water shall be undertaken and results analyzed to ascertain any change in the quality of water. Results shall be regularly submitted to the Maharashtra Pollution Control Board.
- (xvii) The project proponent shall treat the wastewater up the industry specific standards as notified in EPA or as laid down by the MPCB whichever are stringent.
- (xviii) Leq of Noise level shall be maintained as per standards. For people working in the high noise area, requisite personal protective equipment like earplugs etc. shall be provided.

 - 3 -

- (xix) The overall noise levels in and around the plant are shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures, etc. On all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- (xx) Green belt shall be developed & maintained around the plant periphery. Green Belt Development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO/ Agriculture Dept.
- (xxi) Adequate safety measures shall be provided to limit the risk zone within the plant boundary, in case of an accident. Leak detection devices shall also be installed at strategic places for early detection and warning.
- (xxii) Occupational health surveillance of the workers shall be done on a regular basis and record maintained as per Factories Act.
- (xxiii) The company shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling.
- (xxiv) The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Waste (Management and Handling) Rules, 2003. Authorization from the MPCB shall be obtained for collections/treatment/storage/disposal of hazardous wastes.
- (xxv) The company shall undertake following Waste Minimization Measures :
- Metering of quantities of active ingredients to minimize waste.
  - Reuse of by- products from the process as raw materials or as raw material substitutes in other process.
  - Maximizing Recoveries.
  - Use of automated material transfer system to minimize spillage.
  - Use of "Closed Feed" system into batch reactors.
- (xxvi) Regular mock drills for the on-site emergency management plan shall be carried out. Implementation of changes / improvements required, if any, in the on-site management plan shall be ensured.
- (xxvii) A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.
- (xxviii) Separate funds shall be allocated for implementation of environmental protection measures/EMP along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should reported to the MPCB & this department
- (xxix) The project management shall advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the marathi language of the local concerned within seven days of issue of this letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the Maharashtra Pollution Control Board and may also be seen at Website at <http://envs.maharashtra.gov.in>
- (xxx) Project management should submit half yearly compliance reports in respect of the stipulated prior environment clearance terms and conditions in hard & soft copies to the MPCB & this department, on 1<sup>st</sup> June & 1<sup>st</sup> December of each calendar year.
- (xxxi) A copy of the clearance letter shall be sent by proponent to the concerned Municipal Corporation and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
- (xxxii) The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the



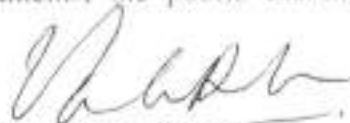
respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

(xxxiii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.

(xxxiv) The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.

(xxxv) The environmental clearance is being issued without prejudice to the court case pending in the court of law and it does not mean that project proponent has not violated any environmental laws in the past and whatever decision of the Hon'ble court will be binding on the project proponent. Hence this clearance does not give immunity to the project proponent in the case filed against him.

4. The Environment department reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the department or for that matter, for any other administrative reason.
5. **Validity of Environment Clearance:** The environmental clearance accorded shall be valid for a period of 5 years to start of production operations by the power plant.
6. No further expansion or modifications in the plant shall be carried out without prior approval of SEIAA. In case of any deviation or alteration in the project proposed from those submitted to this department for clearance, a fresh reference should be made to the department to assess the adequacy of the condition(s) imposed and to incorporate additional environmental protection measures required, if any.
7. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the public Liability Insurance Act, 1991 and its amendments.

  
(Valsa R Nair Singh)  
Secretary, Environment  
department & MS, SEIAA

Copy to:

1. Shri. Ashok Basak, IAS (Retd.), Chairman, SEIAA, 502, Charleville, 'A' Road, Churchgate, Mumbai- 400 020, Maharashtra.

2. Shri. P.M.A Hakeem, IAS (Retd.), Chairman, SEAC, 'Jugnu' Kottaram Road, Calicut- 673 006 Kerala.
3. Member Secretary, Maharashtra Pollution Control Board, with request to display a copy of the clearance.
4. The CCF, Regional Office, Ministry of Environment and Forest (Regional Office, Western Region, Kendriya Paryavaran Bhavan, Link Road No- 3, E-5, Ravi-Shankar Nagar, Bhopal- 462 016). (MP).
5. Regional Office, MPCB, Amravati.
6. Collector, Buldhana.
7. IA- Division, Monitoring Cell, MoEF, Paryavaran Bhavan, CGO Complex, Lodhi Road, New Delhi-110003.
8. Director(TC-1), Dy. Secretary(TC-2),Scientist-1,Environment department
9. Select file (TC-3).

**Monitoring Report**

**PART – I**

**DATA SHEET**

No.		
1.	<b>Project type:</b> River Valley / Mining / Industry / Thermal / Nuclear / Others (specify)	: <b>Industry</b>
2.	<b>Name of the Project</b>	: <b>Manufacturing of Agro and pharmaceutical intermediate project at Malkapur MIDC by M/s Benzo Chem Industries Pvt. Ltd. at Plot B-24 , B-25 , MIDC area , Dasarkhed, Tal : Malkapur ,District : Buldhana</b>
3.	<b>Clearance letter (s) / OM No. and date</b>	: <b>EC (BENZO)-2009/155/CR.173/TC.1 dated 30<sup>th</sup> January 2010.</b>
4.	<b>Location</b> a) District (s)	: <b>Buldhana</b>
	b) State (s)	: Maharashtra
	c) Location latitude / longitude	: 20°58'18.82"N 76°11'17.65"E
5.	<b>Address for Correspondence</b> a) Address of the Concerned Project Chief Engineer (with Pin code & Telephone / Telex / Fax Numbers)	: Mr. Madhukar Sapkal Plant head – Benzo Chem Industries Pvt. Ltd. Plot Nos. B-24 & B-25, MIDC area , Dasarkhed, Tal : Malkapur ,District : Buldhana, Pin : 443101
	b) Address of the Concerned Project Chief Engineer (with Pin code & Telephone / Telex / Fax Numbers)	
6.	<b>Salient features</b> a) of the Project	: The salient features of the project are as under:  The products as per the CTO are as under :

Sr.No	Product	Unit (MT/M)
1	ParaCholoro Phenyl Acetic Acid	40
2	Alpha Bromo Ortho Chloro Phenyl Acetic Acid Methyl Ester	5
3	Alpha Bromo Para Chloro Phenyl Acetic Acid	5
4	TRISPHENOL	5
5	Methyl 2- ( 2-Chloromethyl ) phenyl Acetate (MCPMA)	15
6	4-Chloro Phenethyl Alcohol 2-(4 Chlorophenyl) Ethanol	20
7	2-Chloro- 4,6 Dimethoxy – 1,3,5 Triazine (CDMT)	15
8	3 – ISO Chromanone	60
9	ISOPROPYL-3-CHLORO 4-METHYL BENZOATE (ICMB)	20
10.	Ortho Chloro Phenyl Acetic Acid	150
11	2-Methyl Phentl Acetic / Ortho Methyl Phenyl Acetic Acid	40
12	Salt Solution (By-product)	200
13	Propargyl-CM-Estaer 55% Monochloro Benzene	20
14	2,4,6 Trimethyl Benzaldehyde 84% in Acetone	25
15	Methyl (E) 3-Methoxy-2- ( 2-Chloromethyl Phenyl)-2- Propenoate (METHYL ACRELATE)	5
16	3-CHLORO 2-METHYL ANISOL	40
17	2-Coumaranone 30% with Acetic Anthydride 70%	400
18	ORTHO HYDROXY PHENYL ACETIC ACID (OHPAA)	30

		<p><b>Note :</b> The total production quantity shall not exceed 895 MT/M and also, the quantity of Byproduct shall not exceed 1704.705 MT/M</p> <p><b>Utility details :</b></p> <p>Boiler capacity : 6TPH Thermopack capacity : 2 x 8 lakh Kcal /hr <b>Water requirement:</b> 186.29 CMD</p> <p><b>Effluent generation:</b></p> <p>Trade effluent: 34.73 CMD</p> <p>Domestic effluent: 10 CMD</p> <p><b>Fuel requirement for the heating units:</b></p> <p>For the 6 TPH boiler : Coal / Briquette : 30 MT/day</p> <p>For the 2 x 8 Kcal / hr Thermopacks : Coal /Briquette : 20 MT /day.</p>
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	<p>b) of the Environmental Management Plans</p>	<p>➤ <b>Air pollution equipment :</b>                  Multicyclone separator followed by bagfilter for the boiler of 6TPH and Thermopacks of capacity 2 x 8 lakh Kcal /hr followed by common stack of 33m.</p> <p>Details of the scrubbers are as under :</p> <p>Stack for HCl scrubber, height provided= 15 meters.                  Stack for the Ammonia scrubber, height Provided = 13 meters.</p> <p><b>Details of the effluent treatment Plant :</b></p> <p>We have provided Effluent Treatment Plant (ETP) of designed capacity of 120.00 CMD consisting of Primary (Collection tank, Oil Separation Tank, Neutralization (2 nos), Primary Clarifier), Secondary (Aeration Tank, Secondary Clarifier), Tertiary (Pressure sand filter, Activated carbon filter), Advanced treatment (3 stage Multi Effect Evaporator), Sludge treatment (Sludge drying bed) for the treatment of 34.73 CMD of trade effluent.</p> <p><b>Noise pollution control measures:</b></p> <p>Acoustic enclosure has been provided for the boiler of 6 TPH capacity and also for the D.G sets of 1010 KVA. PPEs such as ear muffs and ear plugs have been provided to the workers working in the high noise areas.</p> <p>Green belt:                  As per the EC letter green belt stipulated is 2500 m<sup>2</sup>. Beno Chem Industries Pvt. Ltd. has provided the existing green belt admeasuring more than 2500 m<sup>2</sup> in which 515 trees have been planted.</p>
7.	<p><b>Break up of the Project Area</b></p> <p>a) Submergence area: forest &amp; non forest</p>	:

			Not applicable as the project is located in a notified industrial area i.e, MIDC area Dasarkhed ,Tal :Malkapur ,District : Buldhana.																												
	<b>b) Others</b>		Plot area: 23888 sq.m Built up area : 10080.56 sq.m																												
8.	<b>Breakup of the project affected population</b> with the enumeration of those losing Houses / Dwelling units only, Agricultural Land & Landless Laborers / Artisans:  a) SC, ST / Adivasi	:	Not applicable as the land is in notified MIDC area and is in possession of Benzo Chem Industries Pvt. Ltd.																												
	b) Others (please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey is carried out give details & year of survey)	:																													
9 a)	<b>Financial Details:</b> Project cost as originally planned and subsequent revised estimates and the year of price reference	:	Original Project cost (Rs. 22,78,26,172) Year of price reference : (2009-2010) Revised project cost : (Rs. 68,78,51,555) Year of price reference : (2022-2023)																												
b)	Allocation made for environmental management plans with item wise and year wise breakup	:	The item-wise allocation made for the environmental plans is as under :  <table border="1"> <thead> <tr> <th>Sr.No</th> <th>Item</th> <th>Capital cost (Rs. Lakhs)</th> <th>Recurring cost (Rs. Lakhs per annum)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Air pollution control</td> <td>180</td> <td>38</td> </tr> <tr> <td>2.</td> <td>Water pollution control</td> <td>1389</td> <td>396</td> </tr> <tr> <td>3.</td> <td>Noise pollution control</td> <td>5</td> <td>01</td> </tr> <tr> <td>4.</td> <td>Occupational health</td> <td>10</td> <td>2.1</td> </tr> <tr> <td>5.</td> <td>Solid and Hazardous Waste storage and disposal</td> <td>15</td> <td>20</td> </tr> <tr> <td>6.</td> <td>Implementation of the risk assessment</td> <td>3</td> <td>0.50</td> </tr> </tbody> </table>	Sr.No	Item	Capital cost (Rs. Lakhs)	Recurring cost (Rs. Lakhs per annum)	1.	Air pollution control	180	38	2.	Water pollution control	1389	396	3.	Noise pollution control	5	01	4.	Occupational health	10	2.1	5.	Solid and Hazardous Waste storage and disposal	15	20	6.	Implementation of the risk assessment	3	0.50
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1.	Air pollution control	180	38																												
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				measures and HAZOP		
			7.	Environmental Monitoring Budget	2	2.5
			8.	Green belt	5	3
				<b>Total</b>	<b>1609</b>	<b>462.1</b>
c)	Benefit cost ratio/Internal rate of Return and the year of assessment	:	Internal rate of return ---			
d)	Whether (c) includes the cost of environmental management as shown in the above	:	Yes			
e)	Actual expenditure incurred on the project so far	:	Actual expenditure on the project so far: Rs. 68,78,51,555			
f)	Actual expenditure incurred on the environmental management plans so far	:	The actual expenditure incurred on the project so far is as under :			
			<b>Sr.No</b>	<b>Item</b>	<b>Capital cost (Rs. Lakhs)</b>	<b>Recurring cost (Rs. Lakhs per annum)</b>
			1.	Air pollution control	180	38
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			3.	Noise pollution control	5	01
			4.	Occupational health	10	2.1
			5.	Solid and Hazardous Waste storage and disposal	15	20
			6.	Implementation of the risk assessment measures and HAZOP	3	0.50
			7.	Environmental Monitoring Budget	2	2.5
			8.	Green belt	5	3
				<b>Total</b>	<b>1609</b>	<b>462.1</b>
<b>10</b>	<b>Forest Land Requirement</b>		Not applicable as the project is located in the notified MIDC area and the land is in possession of the project proponent. No forest land has been utilized for the project			

EC compliance - Benzochem Industries Pvt. Ltd. (October 2022 to March -2023)

a)	The status of approval for diversion of forest land for non-forestry use	:	Not applicable as no forest land was utilized for the project.
b)	The status of clearing felling	:	Not applicable as no forest land was utilized for the project.
c)	The status of compensatory afforestation, if any Comments on the viability & sustainability of compensatory afforestation program in the light of actual field experience so far	:	Not applicable as no forest land was utilized for the project.
<b>11</b>	<b>The status of clear felling</b> in non-forest areas (such as submergence area or reservoir, approach roads.), if any with quantitative information required.	:	Not applicable as no forest land was utilized for the project.
<b>12</b>	<b>Status of construction</b> (Actual&/or planned)		The project has been constructed and the production has already commenced.
a)	Date of commencement (Actual&/or planned)	:	We had started construction / commenced the project after securing the necessary approvals.
b)	Date of completion (Actual&/or planned)	:	The date of completion as per the first CTO is 23.10.2010
<b>13</b>	<b>Reasons for the delay</b> if the project is yet to start	:	Project was not delayed. Immediately after getting EC,CTE and CTO unit was in operation.
<b>14</b>	<b>Dates of Site Visits</b>		
a)	The dates on which the project was monitored by the Regional Office on previous occasions, if any	:	The project has not been monitored by the Regional Office on previous occasions
b)	Date of site visits for this monitoring report	:	Not applicable as the project has not been monitored by the Regional Office of MoEF & CC on previous occasions

**Point-wise compliance to the environmental clearance conditions given in the F.No. IA-J-11011/175/2019-IA-II(I) dated November 10, 2020**

Sr.No	EC condition	Compliance
<b>EC conditions</b>		
(i)	Coal ash should be stored in covered area.	Coal ash storage is provided along with proper shed arrangements. The photographs of the coal ash storage are enclosed as <b>Annexure-1</b>
(ii)	Stack emission should be treated as per Standards laid down by MPCB	<p>Common stack height of 33 meter with sampling port is provided to boiler of capacity 6 TPH &amp; Thermic Fluid Heater of capacity 16 Lakh Kcal. Stack emission monitoring is done regularly. The parameters such as SO<sub>2</sub>, TPM and NO<sub>x</sub> were monitored for the boiler thermopack and the results are given below:</p> <p>TPM = 90 mg/Nm<sup>3</sup>                      SO<sub>2</sub> = 5.17 kg/day                      NO<sub>2</sub> = 16.4 mg/Nm<sup>3</sup></p> <p>All the parameters are within the consented limits for the respective pollutants.</p> <p>The stack monitoring reports are enclosed as <b>Annexure-2</b></p>
(iii)	No land development / construction work preliminary or otherwise relating to the project shall be taken up without obtaining due clearance from respective authorities	Noted
(iv)	No additional land shall be used / acquired for any activity of the project without obtaining proper permission.	No additional land is used for manufacturing activity of the project.
(v)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. the housing may be in the form of temporary structures to be removed after the completion of the project.	The local villagers were employed for the construction activity. All temporary arrangements were done such as safe drinking water & toilets.
(vi)	No fuel other than mentioned above with said contents shall be used without obtaining proper permission.	We are using coal as a fuel for the boilers and the thermic fluid heaters in line with the environmental clearance granted.

(vii)	For controlling fugitive natural dust, regular sprinkling of water & wind shields at appropriate distances in vulnerable areas of the plant shall be ensured.	The said dust emission controls were followed during construction & production activity.
(viii)	The coal will be transported through closed Containers.	Provided PPE for coal handling. The transportation is done by Authorized supplier in the vehicle covered by tarpaulin. The photos of the closed coal carrying trucks are enclosed as <b>Annexure-4</b>
(ix)	Proper coal handling, transportation and handling system should be as per the plan per plan approved by MPCB.	Coal is handling a standard operates procedure (SOP). Personal protective equipment(PPE) are always used. Coal is always received from authorized supplier in truck closed by tarpaulin. The photos of the closed coal carrying trucks are enclosed as <b>Annexure-4</b>
(x)	Regular monitoring of the air quality, including SPM & SO <sub>2</sub> levels both in work /one and ambient air shall he carried out in and around the project and records shall he maintained. The location of monitoring stations and frequency of monitoring shall be decided in consultation with Maharashtra Pollution Control Board (MPCB) & submit report accordingly to MPCB.	<p>Ambient Air monitoring was done regularly at our manufacturing unit. The frequency has been decided in consultation with MPCB officials. The ambient air quality was carried out near main gate and the results are presented below:</p> <p>PM<sub>10</sub> = 46 µg/m<sup>3</sup>  SO<sub>2</sub> = 4.85 µg/m<sup>3</sup>  NO<sub>2</sub> = 7.34 µg/m<sup>3</sup></p> <p>All the above parameters were found to be within the respective limits as per NAAQS 2009.</p> <p>The ambient air quality monitoring reports are enclosed as <b>Annexure -5</b></p>
(xi)	The process emissions and particulate matter from various units shall confirm to the standards prescribed by the concerned authorities from time to time. Al no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	<p>We are regularly monitoring process scrubbers &amp; boiler stack.</p> <p>The HCl and the NH<sub>3</sub> scrubbers were monitored for the HCl and NH<sub>3</sub> respectively:</p> <p>The HCl was found to be 74.8 mg/Nm<sup>3</sup>  The NH<sub>3</sub> was found to be Below Limit of Quantification (BLQ).</p>

		<p>The scrubber monitoring reports re enclosed as <b>Annexure-6</b></p> <p>All process emissions and particulate matter from boilers are within respective consented limits.</p> <p>In the event of failure of pollution control system(s) unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.</p>
(xii)	<p>Fugitive emissions in the work zone environment, product and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits imposed by MPCB.</p>	<p>We are regularly monitoring workroom air quality at production area. The fugitive emissions viz., SPM, NH<sub>3</sub>, Acid Mist (as HCl) Chlorine (Cl<sub>2</sub>), and RSPM in work place i.e. in production area were found to be Below Limit of Quantification. (BLQ) All reports are within MPCB norms. The reports are enclosed as <b>Annexure-7.</b></p>
(xiii)	<p>During transfer of materials, spillages shall be avoided and garland drains be constructed to avoid mixing of accidental spillages with domestic waste and storm drains.</p>	<p>All material transfers through pipeline only so precautions are taken that there will not be any chances of spillage. Proper drain system is provided to avoid mixing of accidental spillages with domestic waste and storm drains. The photos are enclosed as <b>Annexure-8.</b></p>
(xiv)	<p>For control of process emissions, stacks of appropriate height as per the CPCB guidelines shall be provided. The scrubbed water shall be sent to the ETP for further treatment.</p>	<p>For control of process emissions, stacks are provided with appropriate heights as per CPCB guidelines.</p> <p><b>Stack 1</b> attached to DG Set 1010 KVA i.e. height=8 metres</p> <p><b>Stack 2:</b> for HCl scrubber, height provided= 15 meters.</p> <p><b>Stack 3:</b> for Ammonia scrubber, height Provided = 13 metres.</p> <p><b>Stack 4:</b> for Boiler thermopack, height provided = 33 metres.</p> <p>Kindly refer <b>Annexure-6.</b></p> <p>The scrubber effluent is treated in ETP. The reports of the ETP outlet enclosed and the photographs of the ETP are enclosed as <b>Annexure-9</b></p>

(xv)	A detailed scheme for rainwater harvesting shall be prepared and implemented to recharge ground water.	Recharge of ground water is not allowed within the MIDC for chemical industries. Rain water harvesting system is implemented. The roof water harvesting is provided already. The rain water collected from the rooftop will be stored in the 50 KL tank. The photographs of the rainwater harvesting are enclosed as <b>Annexure- 10</b>
(xvi)	Periodic monitoring of ground water shall be undertaken and results analyzed to ascertain any change in the quality of water. Results shall be regularly submitted to the Maharashtra Pollution Control Board.	Results of the ground water quality are enclosed as <b>Annexure-11</b>
(xvii)	The project proponent shall treat the wastewater up the industry specific standards as notified in EPA or as laid down by the MPCB whichever are stringent.	We are treating wastewater for Recycle and reuse. The unit is run on complete Zero Liquid Discharge basis. The results of the ETP outlet are as under : TSS= 8 mg/lit. BOD=2 mg/lit. COD= 10 mg/lit. TDS= 530mg/lit Oil & Grease = BLQ Chlorides (as Cl)= 92 mg/lit. Sulphates as(SO <sub>4</sub> ) = 50 mg/lit. Cyanide as (CN) = BLQ Free Ammonia = BLQ The ETP outlet reports are enclosed as <b>Annexure-12</b>
(xviii)	Leq of Noise level shall be maintained as per standards. For people working in the high noise area, requisite personal protective equipment like earplugs etc. shall be provided.	The noise levels i.e., Leq was monitored at 6 locations. The Leq day ranged from 64.2 dB(A) (Near Admin office & Quality control lab) to 74.1 dB(A) (Near Boiler)  The Leq night ranged from 57.5dB(A)(Near Admin Office to 71.4 dB(A)(Near Boiler).  Noise levels are maintained as per standards by implementing various control measures. Proper PPE are provided for people working in high noise areas. The noise reports are enclosed as <b>Annexure-13</b>



<p>(xix)</p>	<p>The overall noise levels in and around the plant are shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures, etc. On all sources of noise generation. The ambient noise levels shall confirm to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).</p>	<p>The noise levels i.e, Leq was monitored at 6 locations.                  The Leq day ranged from 64.2 dB(A) (Near Admin office &amp; Quality control lab) to 74.1 dB(A) (Near Boiler)</p> <p>The Leq night ranged from 57.5dB(A)(Near Admin Office to 71.4 dB(A)(Near Boiler).</p> <p>Noise levels in and around the plant are within the standards.                  Noise Monitoring is being done regularly.</p> <p>All reports are as per MPCB standards. Day time noise levels are below 75 dBA, &amp; during night below 70 dBA.</p> <p>Noise monitoring is done at different work places like, Near Admin Office, Near Godown, Near E.T.P., Near Boiler etc. Reports are enclosed as <b>Annexure-13</b></p>
<p>(xx)</p>	<p>Green belt shall he developed &amp; maintained around the plant periphery. Green Belt Development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO/ Agriculture Dept.</p>	<p>As per the EC letter, the stipulated green belt is 2500 sq.m ,The existing green belt is developed and maintained on 5207.15 Sq. area. Total of 515 trees have been planted in the existing green belt. Photos are enclosed as <b>Annexure-14</b>.</p>
<p>(xxi)</p>	<p>Adequate safety measures shall be provided to limit the risk zone within the plant boundary, in case of an accident. Leak detection devices shall. also be installed at strategic places for early detection and warning.</p>	<p>Company has full-fledged well established safety and fire department. Implementation &amp; monitoring of adequate safety measures are taken by these concerned departments. Leakage detectors are installed to identify leakages &amp; fire hazard. Detection system is installed at strategic places. The write up of the leak detection devices along with photographs is enclosed as <b>Annexure - 14(A)</b></p> <p>An underground Fire Hydrant system has been installed in the plant with rings around all blocks to achieve maximum coverage. One Fire Tanks of 350 m3. A total of 97 fire extinguishers are available to counter the fire hazard. The details of the safety systems is enclosed as</p>

		<p><b>Annexure -15</b> The latest safety audit report dated 02.03.2022 is enclosed as <b>Annexure-16</b>. Risk Analysis, On - Site Emergency plan is prepared &amp; Available in factory and it is updated regularly. The latest updated Onsite Emergency Plan is enclosed as <b>Annexure-17</b></p>
(xxii)	Occupational health surveillance of the workers shall be done on a regular basis and record maintained as per Factories Act.	Medical checkup of the all employees who are engaged in dangerous operations carried out on regular time interval. Form 7 is available. Reports are attached as <b>Annexure -18</b>
(xxiii)	The company shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling.	<p>Firefighting systems are available in Factory site.</p> <p>An underground Fire Hydrant system has been installed in the plant with rings around all blocks to achieve maximum coverage. One Fire Tanks of 350 m3. A total of 97 fire extinguishers are available to counter the fire hazard at strategic locations such as Godown, QC Lab, Admin Office etc. The details of the safety systems is enclosed as <b>Annexure -15</b> The latest safety audit report dated 02.03.2022 is enclosed as <b>Annexure-16</b>. Risk Analysis, On - Site Emergency plan is prepared &amp; Available in factory and it is updated regularly. The latest updated Onsite Emergency Plan is enclosed as an <b>Annexure-17</b></p>
(xxiv)	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the hazardous Waste (Management and Handling) Rules, 2003. Authorization from the MPCB shall be obtained for /storage/disposal of hazardous wastes.	The company is strictly complying with the rules and regulations with regard to handling and disposal of hazardous waste in accordance with the Hazardous Waste (Management and Handling) Rules, 2016 and as amended till date . We have already taken permission from CHWTSDf, Butibori. The aforesaid agreement with CHWTSDf and valid till 10.07.2024 along with the latest submitted Form-4 is enclosed as an <b>Annexure-19</b> .

<p>(xxv)</p>	<p>The company shall undertake following Waste Minimization Measures:</p> <ul style="list-style-type: none"> <li>• Metering of quantities of active ingredients to minimize waste.</li> <li>• Reuse of by- products from the process as raw materials or as raw material substitutes in other process.</li> <li>• Maximizing Recoveries.</li> <li>• Use of automated material transfer system to minimize spillage.</li> <li>• Use of 'Closed Feed' system into batch reactors.</li> </ul>	<p>Followed as per the requirement:</p> <p>(a) All raw materials are metered and controlled for its quantities to minimize waste. The raw materials are checked for their quality, passed material get unloaded by stores in designated area. Stock of the every raw material is maintained. The production gives requisition slip &amp; stores persons can measure, issue the said quantity of material in presence of production. Liquid materials are stored in well calibrated storage tanks. Some tanks are having level indicator &amp; some tanks are having load cell which indicate the weight on display board. The store person issues the required quantity to production day tanks through pump in close system as per the requisition slip. The day tanks also having load cells or level indicators for the reconfirmation of the raw material consumed for production.. The relevant photographs are enclosed as <b>Annexure -19(A)</b></p> <p>(b) Some of the byproduct we are reusing in the process as raw material and remaining can be sold to authorized vendor with proper documentation. By products are generated in different steps of chemical processes, it is consumed in-house</p> <p>For example in product 3 -Iso Chromanone the chlorination of ortho methyl phenyl acetic acid can be done by using chlorine gas, HCl gets generated during</p>
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		<p>reaction &amp; scrubbed in the multistage scrubber. Scrubbed HCL get collected in storage tanks. The collected HCL can be used in the neutralization &amp; acidification step of 2 Coumarone . The process flow diagram of the same is enclosed as <b>Annexure-19(B)</b></p> <p>(c) We are recovering solvent used in process and it's recycled in process. The solvent recovery diagram is enclosed as <b>Annexure -19 (C)</b></p> <p>(d) Pumps are used to transfer liquids in closed pipelines. The photographs of the pumps for the transfer of liquids are enclosed as <b>Annexure -19(D)</b></p> <p>(e) We have provided day tanks with proper line for feeding tank in the close system in to batch reactors. The photographs of the same are enclosed as <b>Annexure -19(E)</b></p>
(xxvi)	Regular mock drills for the on-site emergency management plan shall be carried out. Implementation of changes improvements required, if any, in the on-site management shall be ensured.	Regular fire and safety trainings, mock drills are carried out. The latest mock drill report dated January 7, 2023 is enclosed as <b>Annexure -20</b>
(xxvii)	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	We have separate environment Management cell for implementation of the stipulated environmental safeguards. The structure of the Environmental Management Cell is enclosed as an <b>Annexure-21</b> and the responsibilities of each personnel are enclosed as an <b>Annexure-22.</b>
(xxviii)	Separate funds shall be allocated for implementation of environmental protection measures/EMP along with item-wise breaks-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should reported to the M PCB & this department.	Already done.

(xxix)	<p>The project management shall advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the Marathi language of the local concerned within seven days of issue of this letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the Maharashtra Pollution Control Board and may also be seen at Web site at <a href="http://envis.maharashtra.gov.in">http://envis.maharashtra.gov.in</a></p>	<p>We have inadvertently missed out to publish the advertisement of the obtained Environmental Clearance in the newspapers. Hence, we are unable to submit the copy for same. We regret the same. .</p>
(xxx)	<p>Project management should submit half yearly compliance reports in respect of the stipulated prior environment clearance terms and conditions in hard &amp; soft copies to the MPCB &amp; this department. on 1<sup>st</sup> June &amp; December of each calendar year.</p>	<p>Noted &amp; being done.</p>
(xxxii)	<p>A copy of the clearance letter shall be sent by proponent to the concerned Municipal Corporation and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent</p>	<p>We have not received any suggestions and representations while processing the proposals from concerned Panchayat, Zilla Parishad/ Municipal Corporation, Urban local and the local NGO. Hence this clearance copy not given to them but informed in the various meetings. The clearance letter has been displayed on the website of the company and the weblink for the same is as under:</p> <p><a href="http://www.bcipl.com/environment.html">http://www.bcipl.com/environment.html</a></p>
(xxxiii)	<p>The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPIV, RSPM. SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral</p>	<p>The EC compliance and the Form-V has been displayed on the website and the weblink for the same is as under :</p> <p><a href="http://www.bcipl.com/environment.html">http://www.bcipl.com/environment.html</a></p>

(xxxiii)	<p>parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.</p> <p>The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions. including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of WEI", the respective Zonal Office of CPCB and the SPCB.</p>	<p>Noted &amp; being done. The display board depicting the environmental monitoring results is enclosed as <b>Annexure-25</b></p> <p>Noted &amp; being done.</p>
(xxxiv)	<p>The environmental statement for each financial year ending 31' March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules. 1986, as amended subsequently, shall. also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF' by e-mail.</p>	<p>We are regularly submitting environment statement to MPCB. The latest Form-V was submitted on 28<sup>th</sup> September 2022 and is enclosed as an <b>Annexure -23</b>. The Form-V has been displayed on the website of the company and the weblink is as under :</p> <p><a href="http://www.bcipl.com/environment.html">http://www.bcipl.com/environment.html</a></p>
(xxxv)	<p>The environmental clearance is being issued without prejudice to the court. case pending in the court of law and it does not mean that project proponent has not violated any environmental laws in the past and whatever decision of the Hon'ble court will be binding on the project proponent. Hence this clearance does not give immunity to the project proponent in the case filed against him.</p>	<p>Noted and agreed</p>
4.	<p>The Environment department reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the department or for that matter. for any other administrative reason.</p>	<p>Noted and agreed</p>
5.	<p>Validity of Environment Clearance: The environmental clearance accorded shall be</p>	<p>Noted and agreed</p>

<p>6.</p>	<p>valid for a period of 5 years to start of production operations by the power plant.</p> <p>No further expansion or modifications in the plant shall be carried out without prior approval of SEIAA. In case of any deviation or alteration in the project proposed from those submitted to this department for clearance, a fresh reference should be made to the department to assess the adequacy of the condition(s) imposed and to incorporate additional environmental protection measures required, if any.</p>	
<p>7.</p>	<p>The above stipulations would be enforced among others under the Water (Prevention and control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules. 1989 and its amendments, the public Liability Insurance Act, [991 and its amendments.</p>	<p>We have latest and valid public liability insurance policy of Bajaj Allianz valid till June 2023. We also have Employees Compensation insurance Policy No: 31142048721 57700000 of HDFC Ergo General Insurance Company Limited valid till 31st August 2023. Both aforesaid documents are enclosed as <b>Annexure – 24</b></p>

### List of Annexures

<b>Sr. No</b>	<b>Annexure Title</b>
1.	Photographs of the coal ash storage
2.	Stack monitoring reports for the boiler and the thermopack
3.	Latest valid CTO
4.	Photos of the closed coal carrying trucks
5.	Ambient air quality monitoring reports
6.	Scrubber monitoring reports
7.	Workplace air monitoring reports
8.	Photographs of the separate effluent drain and the storm water drain
9.	ETP monitoring reports
10.	Photographs of the rainwater harvesting system
11.	Ground water monitoring reports
12.	Photographs of the acoustic enclosure for the D.G sets, boiler and the ambient noise reports
13.	Photographs of the existing green belt
14.	Write up on leak detection devices
15.	Write up on the existing safety systems
16.	Latest safety audit report
17.	Latest updated Onsite Emergency Plan
18.	Form-7
19.	Agreement with CHWTSDF and the latest submitted Form-4
19(A)	Photographs of the tanks with load cells and level indicators
19(B)	Process flow diagram of the re-use of HCl in another product
19(C)	Schematic diagram of solvent recovery system
19 (D)	Photographs of the pumps for the transfer of liquids
19 (E)	Photographs of the day tanks
20.	Latest mock drill report
21.	Environmental Management Cell
22.	Responsibilities of the EMC personnel
23.	Latest submitted Form-V
24.	Valid public liability insurance policy & Employees Compensation Insurance Policy
25.	Photograph displaying parameters for environmental monitoring



## **Annexure – 1**

# **Photographs of the coal ash storage**



2023/4/30 17:36



## **Annexure –2**

# **Stack monitoring reports for the boiler and the thermopack**

**STACK EMISSION MONITORING REPORT**

Sample ID : 5A/11/22/0608	Report No. 5A/11/22/0608	Report Date	03/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Stack Emission
Sample Quantity / Packing	PM: 1 no. thimble SO <sub>2</sub> : 30 ml x 1 no. plastic bottle NO <sub>2</sub> : 25 ml x 1 no. plastic bottle CO <sub>2</sub> : 1 x 1 no. bladder CO: 1 x 1 no. bladder O <sub>2</sub> : 1 x 1 no. bladder	Date - Sampling	26/11/2022
		Date - Receipt of Sample	29/11/2022
Sampling Procedure	IS 11255 (Part 1):1985,(Part 2):1985,(Part 3):2008,(Part 7):2005	Date - Start of Analysis	29/11/2022
Order Reference	Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	Date - Completion of Analysis	03/12/2022

Stack Details	
~ Stack Identity	Stack No. 4
~ Stack attached to	Boiler Thermopack
~ Material of construction	MS
~ Stack height above ground level	33 m
~ Stack diameter	1.1 m
~ Stack shape at top	Round
~ Type of Fuel	Coal
~ Fuel Consumption	12 T/d

Parameter	Result	Limits as per MPCB Consent	Unit	Method
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Flue Gas Temperature	142	-	°C	IS 11255 (Part 3):2008
Flue Gas Velocity	10.9	-	m/s	IS 11255 (Part 3):2008
Flue Gas Flow Rate	25574	-	Nm <sup>3</sup> /h	IS 11255 (Part 3):2008
Particulate Matter (PM)	19	150	mg/Nm <sup>3</sup>	IS 11255 (Part 1):1985
Sulphur Dioxide (SO <sub>2</sub> )	8.42	Not specified	mg/Nm <sup>3</sup>	* IS 11255 (Part 2):1985
Sulphur Dioxide (SO <sub>2</sub> )	5.17	240	kg/d	IS 11255 (Part 2):1985
Oxides of Nitrogen (NO <sub>x</sub> )	16.4	Not specified	mg/Nm <sup>3</sup>	IS 11255 (Part 7):2005
Carbon Dioxide (CO <sub>2</sub> )	3	Not specified	%	IS 13270:1992
Oxygen (O <sub>2</sub> )	5	Not specified	%	IS 13270:1992
Carbon Monoxide (CO)	2.3	Not specified	%	IS 13270:1992

  
Kavita Shewale  
Section In-charge (Chemical)  
Reviewed & Authorised by



Sample ID : SA/11/22/0608	Report No. SA/11/22/0608	Report Date	03/12/2022
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*K. Shewale*

Kavita Shewale  
Section In-Charge (Chemical)  
Reviewed & Authorised by



**Note:**

1. The result listed refer only to the tested sample(s) and applicable parameter(s).
2. This report is not to be reproduced except in full, without written approval of the laboratory.
3. In case sampling is not done by laboratory, the results apply to the sample as received.
4. There are no additions to, deviations or exclusions from the method.

**Disclaimer**

Information is supplied by the customer (~) and can affect the validity of results.



## **Annexure – 3**

# **Latest valid Consent to Operate**

# MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437  
Fax: 24023516  
Website: <http://mpcb.gov.in>  
Email: [cac-cell@mpcb.gov.in](mailto:cac-cell@mpcb.gov.in)



Kalpataru Point, 2nd and  
4th floor, Opp. Cine Planet  
Cinema, Near Sion Circle,  
Sion (E), Mumbai-400022

**RED/L.S.I (R58)**  
**No:- Format1.0/CC/UAN No.MPCB-  
CONSENT-0000125229/CR/2301001660**

**Date: 19/01/2023**

**To,**  
**M/s.BENZO CHEM INDUSTRIES PVT LTD**  
**B-24,25,B 16 &17 DASARKHED**  
**MALKAPUR,Buldhana**



Your Service is Our Duty

**Sub: Renewal of Consent to Operate in RED/LSI Category.**

- Ref:**
1. Consent to Renewal accorded by Board vide No. Format 1.0/CC/UAN No. 0000067060/CO-1910000801, dated 16/10/2019
  2. Minutes of 6th CC Meeting held on 27.06.2022.
  3. Earlier Consent to Renewal accorded by Board vide No. Format 1.0/CC/UAN No. 00000125229/CR-2208001327, dated 28.08.2022.
  4. Industry's request letter for issuance of corrigendum in the earlier consent issued dated 06.09.2022.

Your application No.MPCB-CONSENT-0000125229 Dated 10.11.2021

For: grant of Consent to Operate under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. **The consent to renewal is granted for a period up to 28/02/2025**
2. **The capital investment of the project is Rs.58.5136 Crs. (As per C.A Certificate submitted by industry Existing 47.01+Expansion 11.50)**
3. **Consent is valid for the manufacture of:**

Sr No	Product	Maximum Quantity	UOM
Products			
1	ParaCholoro Phenyl Acetic Acid	40	MT/M
2	Alpha Bromo Ortho Chloro Phenyl Acetic Acid Methyl Ester	5	MT/M
3	Alpha Bromo Para Chloro Phenyl Acetic Acid	5	MT/M
4	TRISPHENOL	5	MT/M
5	Methyl 2- ( 2-Chloromethyl ) phenyl Acetate (MCPMA)	15	MT/M



Sr No	Product	Maximum Quantity	UOM
6	4-Chloro Phenethyl Alcohol 2-(4 Chlorophenyl) Ethanol	20	MT/M
7	2-Chloro- 4,6 Dimethoxy - 1,3,5 Triazine (CDMT)	15	MT/M
8	3 - ISO Chromanone	60	MT/M
9	ISOPROPYL-3-CHLORO 4-METHYL BENZOATE (ICMB)	20	MT/M
10	Ortho Chloro Phenyl Acetic Acid	150	MT/M
11	2-Methyl Phentl Acetic / Ortho Methyl Phenyl Acetic Acid	40	MT/M
12	Salt Solution (By-product)	200	MT/M
13	Propargyl-CM-Estaer 55% Monochloro Benzene	20	MT/M
14	2,4,6 Trimethyl Benzaldehyde 84% in Acetone	25	MT/M
15	Methyl (E) 3-Methoxy-2-( 2-Chloromethyl Phenyl)-2-Propenoate (METHYL ACRELATE)	5	MT/M
16	3-CHLORO 2-METHYL ANISOL	40	MT/M
17	2-Coumaranone 30% with Acetic Anthydride 70%	400	MT/M
18	ORTHO HYDROXY PHENYL ACETIC ACID (OHPAA	30	MT/M

The total production quantity shall not exceed 895 MT/M and also, the quantity of By-product shall not exceed 1704.705 MT/M

4. **Conditions under Water (P&CP), 1974 Act for discharge of effluent:**

Sr No	Description	Permitted (in CMD)	Standards to	Disposal Path
1.	Trade effluent	34.73	As per Schedule-I	Recycle 100% to achieve ZLD
2.	Domestic effluent	10.0	As per Schedule-I	STP

5. **Conditions under Air (P& CP) Act, 1981 for air emissions:**

Sr No.	Stack No.	Description of stack / source	Number of Stack	Standards to be achieved
1	S1	BOILER (6 TPH) capacity	1	As per Schedule -II
2	S2	Thermic Fluid Heater (2 Nos. 8 Lac Kcal/Hr.) capacity	1	As per Schedule -II
3	S3	D.G. Set (1020 KVA)	1	As per Schedule -II
4	S4	Chlorination	1	As per Schedule -II
5	S5	Hydrolysis	1	As per Schedule -II
6	S6	Bromination	1	As per Schedule -II

6. **Non-Hazardous Wastes:**

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	PAPER WASTE	10	Kg/M	Sale	Sale to authorized party
2	METAL WASTE	100	Kg/M	Sale	Sale to authorized party
3	WOODEN WASTE	400	Kg/M	Sale	Sale to authorized party

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
4	GLASS WASTE	25	Kg/M	Sale	Sale to authorized party
5	COAL ASH	12	MT/Day	Sale	Sale to Brick Manufacturer

7. **Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for treatment and disposal of hazardous waste:**

Sr No	Category No./ Type	Quantity	UoM	Treatment	Disposal
1	20.3 Distillation residues	4.52	Kg/Day	Incineration	CHWTSDF
2	35.3 Chemical sludge from waste water treatment	30	Kg/Day	Landfill after treatment	CHWTSDF
3	Schedule-II, A-11 Cyanide Compound II, A-11 Cyanide Compound	1.5	Kg/Day	Landfill after treatment	CHWTSDF
4	Sodium Bisulphite solution / Sodium sulphite solution	17.64	MT/M	Recycle*	Sale to authorised party / CHWTSDF
5	HYDROBROMIC ACID 40-50%	17.69	MT/M	Recycle*	Sale to authorised party / CHWTSDF
6	HYDROCHLORIC ACID ( 30%-32% )	399.6	MT/M	Recycle*	Sale to authorised party / CHWTSDF
7	LIQUOR AMMONIA 25%	144.79	MT/M	Recycle*	Sale to authorised party / CHWTSDF
8	Sodium Sulphate	800	MT/M	Recycle*	Sale to authorised party / CHWTSDF
9	Sodium Bromide Solution in water	25	MT/M	Recycle*	Sale to authorised party / CHWTSDF
10	Sodium Chloride	100	MT/M	Recycle*	Sale to authorised party / CHWTSDF
11	37.3 Concentration or evaporation residues	100	MT/M	Recycle/Secured landfill	Sale to authorised party / CHWTSDF

**\* Industry shall ensure disposal to the Actual user having permissions under Rule 9 of Hazardous and other Waste (M & TM) Rules, 2016**

8. **Conditions under Plastic Waste Management Rules, 2016 (Notification dtd. 18/03/2016):**

<b>Sr No</b>	<b>Type of Waste</b>	<b>Quantity</b>	<b>UoM</b>	<b>Disposal Path</b>
1	Plastic	200.00	Kg/M	Sale to authorized recycler/re-processor

9. The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding on the industry.
10. This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.
11. The industry shall also comply with the Industry specific standards notified under Environment (Protection) Act, 1986.
12. The industry shall provide water metering system including for the use of treated effluent.
13. Industry shall install online monitoring system i.e. IP Camera and flow meter to ensure the Zero Liquid Discharge and its connectivity to the MPCB server. Industry shall also install separate energy meter to the pollution control devices.
14. The applicant shall comply with the conditions of the Environmental Clearance granted vide letter No. EC (BENZO)-2009/155/CR.173/TC.1, dated 30/01/2010.
15. The applicant shall not carry out any excess production or produce new products without consent of the Board and without an Environment Clearance, wherever it requires.
16. This Consent is issued without prejudice to the Order Passed or may be Passed by The Hon'ble NGT, Western Zone, Bench, Pune in the matter of Application No. 124/2017 (WZ), M.A. 299/2017 filed by Arvind Mahajan & ors. V/s. M/s. Benzo Chem Industries Pvt. Ltd., Plot No. B-24/25, MIDC, Village Dasarkhed, Tal. Malkapur, Dist. Buldhana.
17. The industry shall obtain necessary permission from the Directorate of Industrial Safety and Health (DISH).
18. The applicant shall properly collect, transport & regularly dispose-off the Hazardous Waste to CHWTsdf, in compliance of the Hazardous and other Waste (M & TH) Rule-2016 and keep proper manifest thereof.
19. The applicant shall make an application for renewal of consent 60 days prior to date of expiry of the Consent to Operate.
20. The existing Bank Guarantee of Rs 5.0 Lakhs is being forfeited as industry has not carried out verification by NEERI of decontamination work; no provision to arrest the contaminated rainwater runoff; no upgradation of ETP was done before 30.06.2022.
21. Industry shall submit top up Bank Guarantee of Rs 10 Lakhs towards compliance of consent conditions and O & M of PCS also submit B.G. of RS.1.0 lakh for installation of OCMS before 30.08.2022.
22. This consent is issued pursuant to the decision of 6 th CC Meeting held on 27.06.2022.

23. This consent is issued with n overriding effect on earlier consent granted by the board vide no. Format 1.0/CC/UAN No. 00000125229/CR-2208001327, dated 28.08.2022.
24. Industry should not carry out any activity on newly added plot no.B-16 &17 till obtaining amended EC for incorporation of the said plot nos. in Environmental clearance.
- . This consent is issued as per communication letter dated 03/11/2022 which is approved by competent authority of the board.

**Received Consent fee of -**

<b>Sr.No</b>	<b>Amount(Rs.)</b>	<b>Transaction/DR.No.</b>	<b>Date</b>	<b>Transaction Type</b>
1	500000.00	TXN2111000622	11/11/2021	Online Payment
2	50000.00	TXN2111000781	12/11/2021	Online Payment

**The balance fees of Rs.2,00,000/-will be adjusted in the next renewal of consent.**

**Copy to:**

1. Regional Officer, MPCB, Amravati and Sub-Regional Officer, MPCB, Akola  
- They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB,Sion, Mumbai
3. CC/CAC desk- for record & website Updation purpose.

## **SCHEDULE-I**

### **Terms & conditions for compliance of Water Pollution Control:**

1. A] As per your application, you have provided Effluent Treatment Plant (ETP) of designed capacity of 120.00 CMD consisting of Primary (Collection tank, Oil Separation Tank, Neutralization (2 nos), Primary Clarifier), Secondary (Aeration Tank, Secondary Clarifier), Tertiary (Pressure sand filter, Activated carbon filter), Advanced treatment (3 stage Multi Effect Evaporator), Sludge treatment (Sludge drying bed) for the treatment of 34.73 CMD of trade effluent.  
B] The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent and recycle the entire treated effluent into the process for various purposes such as for cooling, process & Scrubbing with metering system so as to achieve Zero Liquid Discharge. There shall be no discharge on land or outside factory premises.  
C] Industry shall install online monitoring system i.e. IP Camera and flow meter to ensure the Zero Liquid Discharge and its connectivity to the MPCB server. Industry shall also install separate energy meter to the pollution control devices.
2. A] As per your application, you have provided Sewage Treatment Plant of designed capacity As per your application, you provided Septic tank for partial treatment of the sewage generated and further, shall treat the overflow of septic tank in Effluent Treatment Plant. CMD for the treatment of 10.0 CMD of sewage.  
B] The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards.

<b>Sr.No</b>	<b>Parameters</b>	<b>Standards (mg/l)</b>	
1	Suspended Solids	Not to exceed	50
2	BOD 3 days 27°C	Not to exceed	30

3. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
4. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

<b>Sr. No.</b>	<b>Purpose for water consumed</b>	<b>Water consumption quantity (CMD)</b>
1.	Industrial Cooling, spraying in mine pits or boiler feed	97.00
2.	Domestic purpose	15.00

<b>Sr. No.</b>	<b>Purpose for water consumed</b>	<b>Water consumption quantity (CMD)</b>
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	74.29
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Gardening	0.00

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.

### **SCHEDULE-II**

#### **Terms & conditions for compliance of Air Pollution Control:**

1. As per your application, you have provided the Air pollution control (APC) system and erected following stack (s) to observe the following fuel pattern:

<b>Stack No.</b>	<b>Source</b>	<b>APC System provided/proposed</b>	<b>Stack Height(in mtr)</b>	<b>Type of Fuel</b>	<b>Sulphur Content(in %)</b>	<b>Pollutant</b>	<b>Standard</b>
S1	Boiler	Multi Cyclone Separator followed by Bag Filter	33.00	COAL OR BRIQUETTES 30 MT/Day	0.5	TPM	150 Mg/Nm <sup>3</sup>
						SO2	240 Kg/Day
						SOX=41 MG/NM3	-
S2	Thermic Fluid Heater	Multi Cyclone Separator followed by Bag Filter	33.00	COAL OR BRIQUETTES 20 MT/Day	0.5	TPM	150 Mg/Nm <sup>3</sup>
						SO2	204 Kg/Day
S3	DG Set	Acoustic Enclosure	3.50	HSD 300 Lit/Day	1	TPM	150 Mg/Nm <sup>3</sup>
						SO2	6 Kg/Day
S4	Chlorination	Scrubber	13.00	-	-	Chlorine	03 PPM
S5	Hydrolysis	Scrubber	13.00	-	-	NH3	50 PPM
S6	Bromination	Scrubber	13.00	-	-	HBr	03 PPM

2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.
3. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

<b>Parameters</b>	<b>Standards (mg/l)</b>
-------------------	-------------------------

4. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
5. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
6. Solvent Management shall be carried out as follows:
- Reactors shall be connected to Water / Chilled Water /Brine Condenser system.
  - Reactors and solvent handling pumps shall have mechanical seals to prevent the leakages.

- c. The condensers shall be provided with adequate Heat transfer area (HTA) and residence time so as to achieve more than 97% overall recovery
- d. Solvents shall be stored in a separate space specified with all safety measures.
- e. Proper earthing shall be provided in all the equipment's, wherever solvent handling is done.
- f. Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.
- g. All the solvent storage tanks shall be connected with vent condensers with Water / chilled water / Brine circulation.
- h. Fugitive emissions shall be controlled at 99.95% with effective chillers.
- i. Solvent transfer shall be through pump.
- j. Metering and control of quantities of active ingredients to minimize wastes.
- k. Use of automatic filling to minimize spillage.
- l. Use of close feed system into batch reactors.
- m. Venting equipment through vapour recovery system.



### SCHEDULE-III

#### Details of Bank Guarantees:

Sr. No	Consent (C2E/C2O/C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C to R	Rs. 10 Lakh	15 days	Towards Operation & Maintenance of Pollution Control Systems & Compliance of Consent Conditions	28/02/2027	30/06/2027
2	C to R	Rs. 1 Lakh	15 days	Towards installation of OCEMS before 30.08.2022.	28/02/2027	30/06/2027

The above Bank Guarantee(s) shall be submitted by the applicant in favour of Regional Officer at the respective Regional Office within 15 days from the date of issue of Consent.

#### BG Forfeiture History

Srno.	Consent (C2E/C2O/C2R)	Amount of BG imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
1	C to R	5,00,000	15 DAYS	Towards Operation & Maintenance of Pollution Control Systems & Compliance of Consent Conditions	5,00,000/-	not carried out verification by NEERI of decontamination work; no provision to arrest the contaminated rainwater runoff; no upgradation of ETP was done before 30.06.2022.

#### BG Return details

Srno.	Consent (C2E/C2O/C2R)	BG imposed	Purpose of BG	Amount of BG Returned
NA				

### SCHEDULE-IV

#### General Conditions:

1. The waste generator shall.-
  - a) take steps to minimize generation of plastic waste and segregate plastic waste at source in accordance with the Plastic Waste Management Rules, 2016 or as amended from time to time.
  - b) not litter the plastic waste and ensure segregated storage of waste at source and handover segregated waste to urban local body or gram panchayat or agencies appointed by them or registered waste pickers', registered recyclers or waste collection agencies;



2. All institutional generators of plastic waste, shall segregate and store the waste generated by them in accordance with the Plastic Waste Management Rules, 2016 amendment from time to time and handover segregated wastes to authorized waste processing or disposal facilities or deposition centers either on its own or through the authorized waste collection agency.
3. All waste generators shall pay such user fee or charge as may be specified in the byelaws of the local bodies for plastic waste management such as waste collection or operation of the facility thereof, etc.;
4. Every person responsible for organizing an event in open space, which involves service of food stuff in plastic or multilayered packaging shall segregate and manage the waste generated during such events in accordance with the Plastic Waste Management Rules, 2016 amendment from time to time.
5. The Energy source for lighting purpose shall preferably be LED based
6. The PP shall harvest rainwater from roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial applications within the plant
7. Conditions for D.G. Set
  - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
  - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
  - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
  - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
  - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
  - f) D.G. Set shall be operated only in case of power failure.
  - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
  - h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.
8. The applicant shall maintain good housekeeping.
9. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
10. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
11. The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
12. The industry shall submit quarterly statement in respect of industries obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can downloaded from MPCB official site).

13. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
14. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification No. B-29016/20/90/PCI-L dated. 18.11.2009 as amended.
15. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
16. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
17. The PP shall provide personal protection equipment as per norms of Factory Act
18. Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.
19. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
20. The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
21. The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the Hazardous and Other Wastes (M & TM) Rules 2016, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.
22. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
23. Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website ([www.mpcb.gov.in](http://www.mpcb.gov.in)).
24. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
25. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
26. The industry should not cause any nuisance in surrounding area.

27. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
28. The industry shall create the Environmental Cell by appointing an Environmental Engineer, Chemist and Agriculture expert for looking after day to day activities related to Environment and irrigation field where treated effluent is used for irrigation.
29. The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
30. The industry should comply with the Hazardous and Other Wastes (M & TM) Rules, 2016 and submit the Annual Returns as per Rule 6(5) & 20(2) of Hazardous and Other Wastes (M & TM) Rules, 2016 for the preceding year April to March in Form-IV by 30th June of every year.
31. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
32. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
33. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions.
34. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
35. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
36. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
37. The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.

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**This certificate is digitally & electronically signed.**

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## **Annexure – 4**

# **Photos of the closed coal carrying trucks**



## **Annexure – 5**

# **Ambient air quality monitoring reports**

**AMBIENT AIR QUALITY MONITORING REPORT**

Sample ID: AA/11/22/0606	Report No. AA/11/22/0606	Report Date	09/12/2022
Name and address of Customer	Benzo Chem Industries Pvt. Ltd. B - 24/25, Dhanushad MIDC Area, Malkajour, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ambient Air
Sampling Location	Near Main Gate	Date - Sampling	28/11/2022
Sample Quantity / Packing	PM <sub>10</sub> : 1 x 1 no. filter paper SPM: 1 no. zip bag SO <sub>2</sub> , NO <sub>2</sub> : 30 ml x 2 no. plastic bottle each	Date - Receipt of Sample	29/11/2022
Sampling Procedure	As per method reference	Date - Start of Analysis	29/11/2022
Order Reference	Quo. Ref. No. ABC/B6/Q 05 dated 02.05.2022	Date - Completion of Analysis	08/12/2022

**Meteorological Data / Environmental Conditions**

Average Wind Velocity 7.8 km/h	Wind Direction SE	Relative Humidity (Max./Min.): 72/54%	Temperature (Max./Min.): 33/27°C	Duration of Survey 8 h
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Parameter	Result	Unit	Method
<b>Chemical Testing; Group: Atmospheric Pollution</b>			
Sulphur Dioxide (SO <sub>2</sub> )	4.85	µg/m <sup>3</sup>	IS 3025 Part 13: 2017
Nitrogen Dioxide (NO <sub>2</sub> )	7.34	µg/m <sup>3</sup>	IS 3025 Part 13: 2017
Particulate Matter (size less than 10 µm) or PM <sub>10</sub>	46	µg/m <sup>3</sup>	IS 3025 Part 13: 2017
Suspended Particulate Matter (SPM)	50	µg/m <sup>3</sup>	IS 3025 Part 13: 2017

*Kavita Shewale*  
Kavita Shewale  
Section In-charge (Chemical)  
Reviewed & Authored by



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**AMBIENT AIR QUALITY MONITORING REPORT**

Sample ID : AA/05/23/5609	Report No. AA/05/23/5609	Report Date	23/05/2023
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ambient Air
Sampling Location	Near Admin Office	Date - Sampling	13/05/2023 to 14/05/2023
Sample Quantity / Packing	PM <sub>10</sub> : Bag, Metals: 1 x 3 no. filter paper PM <sub>2.5</sub> : 1 x 1 no. filter paper SO <sub>2</sub> , NO <sub>2</sub> : 30 ml x 6 no. plastic bottle each NH <sub>3</sub> : 10 ml x 24 no. plastic bottle Ozone: 10 ml x 1 no. plastic bottle C <sub>6</sub> H <sub>6</sub> : 6 no. charcoal tubes CO: 1 no. bladder	Date - Receipt of Sample	16/05/2023
Sampling Procedure	As per Method Reference	Date - Start of Analysis	16/05/2023
Order Reference	As per Quotation No. AEC/JL/Q-05 DT. 11.05.2023	Date - Completion of Analysis	22/05/2023

**Meteorological Data / Environmental Conditions**

Average Wind Velocity 6.2 km/h	Wind Direction N-E	Relative Humidity (Max./Min.): 52/28%	Temperature (Max./Min.): 42/26°C	Duration of Survey 24 h
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Parameter	Result	NAAQS# 2009	Unit	Method
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Sulphur Dioxide (SO <sub>2</sub> )	<b>12.5</b>	80	µg/m <sup>3</sup>	IS 5182 (Part 2): 2001
Nitrogen Dioxide (NO <sub>2</sub> )	<b>17.5</b>	80	µg/m <sup>3</sup>	IS 5182 (Part 3): 2000
Particulate Matter (size less than 10 µm) or PM <sub>10</sub>	<b>64</b>	100	µg/m <sup>3</sup>	IS 5182 (Part 23): 2008
Particulate Matter (size less than 2.5 µm) or PM <sub>2.5</sub>	<b>32</b>	60	µg/m <sup>3</sup>	CPCB Guidelines, Volume 1:36/2012-13, Page No.15:2013
Ozone (O <sub>3</sub> )	<b>BLQ</b> (LOQ:19.6)	180	µg/m <sup>3</sup>	Methods of Air Sampling and Analysis (AMMA), 3rd Ed. Method 41, Page no. 403 /988
Lead (as Pb)	<b>BLQ</b> (LOQ:0.02)	1	µg/m <sup>3</sup>	EPA/825/R-95/010 a Compendium Method 10-3.1.8.3.2
Carbon Monoxide (CO)	<b>1.96</b>	4	mg/m <sup>3</sup>	CPCB Guidelines, Volume II, 37/2012-13, Page no.16: 2013
Ammonia (NH <sub>3</sub> )	<b>BLQ</b> (LOQ:20)	400	µg/m <sup>3</sup>	CPCB Guidelines, Volume 1:36/2012-13, Page No.35: 2013
Benzene (C <sub>6</sub> H <sub>6</sub> )	<b>1.71</b>	5	µg/m <sup>3</sup>	IS 5182 (Part 10): 2006
Benzo (a) pyrene (BaP) Particulate Phase only	<b>BLQ</b> (LOQ:0.2)	1	ng/m <sup>3</sup>	IS 5182 (Part 12): 2004
Arsenic (as As)	<b>BLQ</b> (LOQ:0.3)	6	ng/m <sup>3</sup>	EPA/825/R-95/010 a Compendium Method 10-3.1.6.3.4
Nickel (as Ni)	<b>BLQ</b> (LOQ:3)	20	ng/m <sup>3</sup>	EPA/825/R-95/010 a Compendium Method 10-3.1.6.3.2

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification

TWA Time Weighted Average

 # NAAQS (National Ambient Air Quality Standards (Industrial, Residential, Rural and other Area) specified as:  
 24 hours TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM<sub>10</sub>, PM<sub>2.5</sub>, Lead and Ammonia, 1 hour TWA in  
 case of Carbon Monoxide and Ozone, Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.


  
**Ninad Soundankar**  
 Technical Manager (Chemical)  
 Reviewed & Authorised by




Sample ID : AA/05/23/5609	Report No. AA/05/23/5609	Report Date:	23/05/2023
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Ninad Soundankar  
Technical Manager (Chemical)  
Reviewed & Authorised by



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## **Annexure – 6**

# **Scrubber monitoring reports**

### STACK EMISSION MONITORING REPORT

Sample ID : SA/11/22/3460	Report No. SA/11/22/3460N	Report Date	03/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Process Stack Emission
Sample Quantity / Packing	Acid Mist (as HCl): 30 ml x 1 no. plastic bottle	Date - Sampling	26/11/2022
		Date - Receipt of Sample	29/11/2022
Sampling Procedure	IS 11255 (Part 3):2008	Date - Start of Analysis	29/11/2022
Order Reference	Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	Date - Completion of Analysis	02/12/2022

Stack Details	
~ Stack Identity	Stack No. 2
~ Stack attached to	HCL Scrubber
~ Material of construction	MS
~ Stack height above ground level	15 m
~ Stack diameter	0.53 m
~ Stack shape at top	Round
~ Type of Fuel	-
~ Fuel Consumption	-

Parameter	Result	Unit	Method
<b>Chemical Testing; Group: Atmospheric Pollution</b>			
Flue Gas Temperature	35	°C	IS 11255 (Part 3):2008
Flue Gas Velocity	7.5	m/s	IS 11255 (Part 3):2008
Flue Gas Flow Rate	5546	Nm <sup>3</sup> /h	IS 11255 (Part 3):2008
Acid Mist (as HCl)	74.8	mg/Nm <sup>3</sup>	Titrimetric Method

*B. Shewale*

Kavita Shewale  
Section In-charge (Chemical)  
Reviewed & Authorised by



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**Disclaimer**

Information is supplied by the customer (~) and can affect the validity of results.

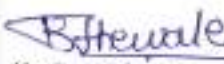




### STACK EMISSION MONITORING REPORT

Sample ID : SA/11/22/3461	Report No. SA/11/22/3461N	Report Date	03/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Process Stack Emission
Sample Quantity / Packing	Ammonia (NH <sub>3</sub> ): 30 ml x 1 no. plastic bottle	Date - Sampling	26/11/2022
Sampling Procedure	IS 11255 (Part 3):2008	Date - Receipt of Sample	29/11/2022
Order Reference	Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	Date - Start of Analysis	29/11/2022
		Date - Completion of Analysis	02/12/2022
<b>Stack Details</b>			
~ Stack Identity	Stack No. 3		
~ Stack attached to	NH <sub>3</sub> Scrubber		
~ Material of construction	MS		
~ Stack height above ground level	13 m		
~ Stack diameter	0.53 m		
~ Stack shape at top	Round		
~ Type of Fuel	-		
~ Fuel Consumption	-		
<b>Parameter</b>	<b>Result</b>	<b>Unit</b>	<b>Method</b>
<b>Chemical Testing; Group: Atmospheric Pollution</b>			
Flue Gas Temperature	34	°C	IS 11255 (Part 3):2008
Flue Gas Velocity	7.9	m/s	IS 11255 (Part 3):2008
Flue Gas Flow Rate	5842	Nm <sup>3</sup> /h	IS 11255 (Part 3):2008
Ammonia (NH <sub>3</sub> )	BLQ (LOQ:5)	mg/Nm <sup>3</sup>	IS 11255 (Part 3):2008

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification

  
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Section In-charge (Chemical)  
Reviewed & Authorised by



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## **Annexure – 7**

# **Workplace air monitoring reports**

**WORK ROOM ENVIRONMENT MONITORING REPORT**

Sample ID : WR/11/22/0609	Report No. WR/11/22/0609	Report Date	10/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra	Order Reference : Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	
Sampling done by	Laboratory	Sample Description / Type	Work Place Environment
Sampling Location	Production Department (1st Floor)	Date - Sampling	26/11/2022
Sample Quantity / Packing	RSPM, SPM: 1 no. filter paper & 1 no. zip bag Chlorine (Cl <sub>2</sub> ), Acid Mist (as HCl), Ammonia (NH <sub>3</sub> ): 30 ml x 2 no. plastic bottle each	Date - Receipt of Sample	29/11/2022
Sampling Procedure	As per method reference	Date - Start of Analysis	29/11/2022
Duration of Sampling	8 h	Date - Completion of Analysis	09/12/2022

Parameter	Result	Limit as per Second schedule of factories Act/OSHA#	Unit	Method
		TWA (8 h)		
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Respirable Suspended Particulate Matter (RSPM)	<b>BLQ</b> (LOQ:0.1)	5#	mg/m <sup>3</sup>	MOSH 0500
BLQ: Below Limit of Quantification, LOQ: Limit of Quantification TWA : Time Weighted Average Note: Sample ID WR/11/22/0609 bears two Test Reports-WR/11/22/0609 and WR/11/22/0609N				

  
Kavita Shewale  
Section In-charge (Chemical)  
Reviewed & Authorised by



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4. There are no additions to, deviations or exclusions from the method.



**WORK ROOM ENVIRONMENT MONITORING REPORT**

Sample ID : WR/11/22/0609	Report No. WR/11/22/0609N	Report Date	10/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra	Order Reference : Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	
Sampling done by	Laboratory	Sample Description / Type	Work Place Environment
Sampling Location	Production Department (1st Floor)	Date - Sampling	26/11/2022
Sample Quantity / Packing	RSPM, SPM: 1 no. filter paper & 1 no. zip bag Chlorine (Cl <sub>2</sub> ), Acid Mist (as HCl), Ammonia (NH <sub>3</sub> ): 30 ml x 2 no. plastic bottle each	Date - Receipt of Sample	29/11/2022
Sampling Procedure	As per method reference	Date - Start of Analysis	29/11/2022
Duration of Sampling	8 h	Date - Completion of Analysis	09/12/2022

Parameter	Result	Limit as per Second schedule of factories Act/OSHA#	Unit	Method
		TWA (8 h)		
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Suspended Particulate Matter (SPM)	BLQ (LOQ:0.1)	15#	mg/m <sup>3</sup>	NIOSH 0500
Ammonia (NH <sub>3</sub> )	BLQ (LOQ:0.02)	18	mg/m <sup>3</sup>	NIOSH 6315
Acid Mist (as HCl)	BLQ (LOQ:1)	7	mg/m <sup>3</sup>	Titrimetric Method
Chlorine (Cl <sub>2</sub> )	BLQ (LOQ:0.001)	3	ppm	IS 5182 (Part XIX): ISB2

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification  
TWA : Time Weighted Average  
Note: Sample ID WR/11/22/0609 bears two Test Reports-WR/11/22/0609 and WR/11/22/0609N

*B. Shewale*

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Section In-charge (Chemical)  
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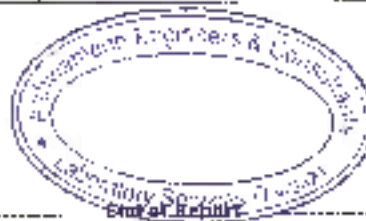


**WORK ROOM ENVIRONMENT MONITORING REPORT**

Sample ID: WR/11/22/0609	Report No.: WR/11/22/0609	Report Date:	11/11/2022
Name and address of Customer:	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/75, Pasarkher MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra	Order Reference / Quot. Ref. No:	ABC/B5-Q-05 dated 02.05.2022
Sampling date by:	Laboratory	Sample Description / Type:	Work Place Environment
Sampling Location:	Production Department (1st Floor)	Date - Sampling:	26/11/2022
Sample Quantity / Packing:	RSPM, SPM, 1 no. filter paper & 1 m, 2 p bag 1 Flame (Cl <sub>2</sub> ), Acid Mist (as HCl), Ammonia (NH <sub>3</sub> ), 30 ml x 2 no. plastic bottle each	Date - Receipt of Sample:	29/11/2022
Sampling Procedure:	As per method reference	Date - Start of Analysis:	29/11/2022
Duration of Sampling:	8 h	Date - Completion of Analysis:	09/12/2022

Parameter	Result	Limit as per Second schedule of factories Act/OSHA#	Unit	Method
		TWA (8 h)		
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Respirable Suspended Particulate Matter (RSPM)	BLQ (LOQ:0.1)	54	mg/m <sup>3</sup>	H03 Infr
BLQ: Below Limit of Quantification, LOQ: Limit of Quantification TWA: Time Weighted Average Note: Sample ID WR/11/22/0609 bears two Test Reports-WR/11/22/0609 and WR/11/22/0609H				

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Section In charge (Chemical)  
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**WORK ROOM ENVIRONMENT MONITORING REPORT**

Sample ID: WR/11/22/0609	Report No: WR/11/22/0609M	Report Date:	10/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 11/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 413101 Maharashtra	Order Reference / Qty. Ref. No.	ACC/B5/Q-05 dated 02.05.2022
Sampling done by	Laboratory	Sample Description / Type	Work Place Environment
Sampling Location	Production Department (1st Floor)	Date - Sampling	26/11/2022
Sample Quantity / Packing	RSPM, SPH - 1 no. filter paper & 1 no. zip bag Chlorine (Cl <sub>2</sub> ), Acid Mist (as HCl), Ammonia (NH <sub>3</sub> ) - 30 ml x 2 no. plastic bottle each	Date - Receipt of Sample	20/11/2022
Sampling Procedure	As per method reference	Date - Start of Analysis	29/11/2022
Duration of Sampling	6 h	Date - Completion of Analysis	09/12/2022

Parameter	Result	Limit as per Second schedule of factories Act / OSHA#	Unit	Method
		TWA (8 h)		
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Suspended Particulate Matter (SPM)	BLQ (LOQ:0.1)	15#	mg/m <sup>3</sup>	NIOSH9503
Ammonia (NH <sub>3</sub> )	BLQ (LOQ:0.02)	18	mg/m <sup>3</sup>	NIOSH 9505
Acid Mist (as HCl)	BLQ (LOQ:1)	7	mg/m <sup>3</sup>	NIOSH Method
Chlorine (Cl <sub>2</sub> )	BLQ (LOQ:0.001)	1	ppm	NIOSH Method; IS302

BLQ - Below Limit of Quantification, LOQ - Limit of Quantification  
TWA : Time Weighted Average

Note: Sample ID WR/11/22/0609 bears two Test Reports-WR/11/22/0609 and WR/11/22/0609N

*Kovita Shewale*

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Reviewed & Authorised by



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## **Annexure – 8**

**Photographs of the separate  
effluent drain and the storm  
water drain**



BY DEANAR  
Date: 02/02/2023, 14:28



BY DPAN 6/1/2024  
Kuala Lumpur, Malaysia





## **Annexure –9**

# **ETP monitoring reports**

# AERATION TANK

OPERATIONAL INSTRUCTIONS  
FOR THE AERATION TANK  
1. The tank should be operated at a constant level.  
2. The flow rate should be maintained as per the design.  
3. The tank should be cleaned regularly.  
4. The tank should be inspected daily.  
5. The tank should be repaired as per the schedule.  
6. The tank should be shut down in case of any emergency.  
7. The tank should be restarted after the emergency is over.  
8. The tank should be operated at a constant level.  
9. The flow rate should be maintained as per the design.  
10. The tank should be cleaned regularly.



SECON





2022/2/17 08:20













**TEST REPORT**

Sample ID : E/11/22/0357	Report No. E/11/22/0357	Report Date	06/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Treated Trade Effluent
Sampling Location	ETP Outlet	Date - Sampling	27/11/2022
Sample Quantity / Packing	2 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of sample	29/11/2022
Sampling Procedure	IS 3025 (Part 1):1987 Amds.1& APHA,23rd Ed.2017,1060 B,1-40	Date - Start of Analysis	29/11/2022
Order Reference	Quo. Ref. AEC/BS/Q-05 dated 27.11.2022	Date - Completion of Analysis	05/12/2022

Sr.No.	Parameter	Result	Unit	Method
<b>Chemical Testing; Group: Pollution &amp; Environment</b>				
1	pH	<b>8.10</b>	-	IS 3025 (Part II):883
2	Total Suspended Solids	<b>8</b>	mg/L	IS 3025 (Part I):884
3	Biochemical Oxygen Demand (3 days, 27°C)	<b>2</b>	mg/L	IS 3025 (Part 4):893
4	Chemical Oxygen Demand	<b>10</b>	mg/L	APHA, 23rd Ed., 5220-B, 5-10
5	Total Dissolved Solids	<b>530</b>	mg/L	IS 3025 (Part 15):884
6	Oil & Grease	<b>BLQ (LOQ:1)</b>	mg/L	APHA, 23rd Ed., 5520-B, 5-42
7	Chloride (as Cl)	<b>92</b>	mg/L	IS 3025 (Part 32):888
8	Sulphate (as SO <sub>4</sub> )	<b>50</b>	mg/L	IS 3025 (Part 24):886
9	Cyanide (as CN)	<b>BLQ (LOQ:0.001)</b>	mg/L	APHA, 23rd Ed., 4500-CN, C & D, 4-44 & 4-47
10	Free Ammonia	<b>BLQ (LOQ:0.1)</b>	mg/L	APHA, 23rd Ed., 4500-NH <sub>3</sub> , B & C, 4-10, 4-12

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification

  
Ninad Soundankar  
Technical Manager (Chemical)  
Reviewed & Authorised by



**Note:**

1. The result listed refer only to the tested sample(s) and applicable parameter(s).
2. This report is not to be reproduced except in full, without written approval of the laboratory.
3. In case sampling is not done by laboratory, the results apply to the sample as received.
4. There are no additions to, deviations or exclusions from the method.





## **Annexure – 10**

# **Photographs of the rainwater harvesting system**





## **Annexure – 11**

# **Ground water monitoring reports**

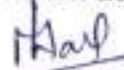
Report Date: 05.01.2023

**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	17.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Zodga Village well Water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/11	Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Zodga Village well Water			
Date		17.12.2022			
1	Colour	1.00		5	15
2	Odour	Agreeable	--	Agreeable	Agreeable
3	pH	8.02	--	6.5 -8.5	No Relaxation
4	Turbidity	0.1	NTU	1	5
5	Total Dissolved Solids	1880	mg/lit	Max 500	2000
6	Total Suspended Solid	<1	mg/lit	Not Specified	Not Specified
7	Aluminium as Al	<0.03	mg/lit	Max 0.03	0.2
8	Ammonia-N	<0.5	mg/lit	Max 0.5	No Relaxation
9	Boron	<0.1	mg/lit	Max 0.5	1
10	Calcium as Ca	144	mg/lit	Max 75	200
11	Chlorides as Cl	336	mg/lit	Max 250	1000
12	Copper	<0.03	mg/lit	Max 0.05	1.5
13	Fluoride as F	1.32	mg/lit	Max 1.0	1.5
14	Free residual chlorine	<0.2	mg/lit	Min 0.2	1
15	Iron as Fe	<0.05	mg/lit	Max 0.3	No Relaxation
16	Magnesium as Mg	27.3	mg/lit	Max 30	100
17	Manganese as Mn	<0.1	mg/lit	Max 0.1	0.3
18	Nitrate as NO <sub>3</sub>	12.7	mg/lit	Max 45	No Relaxation
19	Phenolic compounds	<0.001	mg/lit	Max 0.001	0.002
20	Sulphate	199.44	mg/lit	Max 200	400
21	Sulphide	<0.05	mg/lit	Max 0.05	No Relaxation
22	Total Alkalinity as CaCO <sub>3</sub>	529	mg/lit	Max 200	600

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Report Date: 05.01.2023

**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s.Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	17.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Zodga Village well Water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/11		Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Zodga Village well Water	Date			
			17.12.2022			
23	Total Hardness as CaCO <sub>3</sub>	474		mg/lit	Max 200	600
24	Selenium	<0.01		mg/l	Max 0.01	No Relaxation
25	Zinc as Zn	0.3517		mg/lit	Max 5	15
26	Cadmium	<0.002		mg/lit	Max 0.003	No Relaxation
27	Lead	<0.01		mg/lit	Max 0.01	No Relaxation
28	Mercury	<0.001		mg/lit	Max 0.001	No Relaxation
29	Nickel as Ni	<0.02		mg/lit	Max 0.02	No Relaxation
30	Total Arsenic	<0.005		mg/lit	Max 0.01	0.05
31	Total Chromium as Cr	<0.05		mg/lit	Max 0.05	No Relaxation
32	Cyanide (CN)	<0.005		mg/lit	Max 0.05	No Relaxation
33	BOD	3		mg/lit	Not Specified	Not Specified
34	COD	10		mg/lit	Not Specified	Not Specified
35	PolyChlorinated Biphenyls	<0.0005		mg/lit	Max 0.0005	No Relaxation
36	Poly Aromatic Hydrocarbons	<0.0001		mg/lit	Max 0.0001	No Relaxation
37	<b>Trihalomethanes</b>					
1	Bromoform	<0.1		mg/lit	Max 0.1	No Relaxation
2	Dibromochloromethane	<0.1		mg/lit	Max 0.1	No Relaxation
3	Bromodichloromethane	<0.06		mg/lit	Max 0.06	No Relaxation
4	Chloroform	<0.2		mg/lit	Max 0.2	No Relaxation

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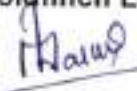
Report Date: 05.01.2023

**Analysis Test Report**

Name & Address of the Client :	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
Date of Sample Collection :	18.12.2022	Sample Description :	Ground Water
Date of Receipt of Sample :	26.12.2022	Sample Quantity :	1000 ml
Date of Analysis Started :	27.12.2022	Sample Collected by :	Laboratory
Date of Analysis Completed :	05.01.2023	Sample Container :	Plastic Carboy
Sampling Plan :	QF/LA/01-B 28.11.2022	Sampling Location :	Malakapur village Bore well Water
Sampling Method :	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/08	Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Malakapur village Bore well Water			
Date		18.12.2022			
1	Colour	1.00		5	15
2	Odour	Agreeable	--	Agreeable	Agreeable
3	pH	7.87	--	6.5 -8.5	No Relaxation
4	Turbidity	0.1	NTU	1	5
5	Total Dissolved Solids	900	mg/lit	Max 500	2000
6	Total Suspended Solid	<1	mg/lit	Not Specified	Not Specified
7	Aluminium as Al	<0.03	mg/lit	Max 0.03	0.2
8	Ammonia-N	<0.5	mg/lit	Max 0.5	No Relaxation
9	Boron	<0.1	mg/lit	Max 0.5	1
10	Calcium as Ca	92	mg/lit	Max 75	200
11	Chlorides as Cl	196	mg/lit	Max 250	1000
12	Copper	<0.03	mg/lit	Max 0.05	1.5
13	Fluoride as F	1.02	mg/lit	Max 1.0	1.5
14	Free residual chlorine	<0.2	mg/lit	Min 0.2	1
15	Iron as Fe	<0.05	mg/lit	Max 0.3	No Relaxation
16	Magnesium as Mg	27.3	mg/lit	Max 30	100
17	Manganese as Mn	<0.1	mg/lit	Max 0.1	0.3
18	Nitrate as NO <sub>3</sub>	18.62	mg/lit	Max 45	No Relaxation
19	Phenolic compounds	<0.001	mg/lit	Max 0.001	0.002
20	Sulphate	61.68	mg/lit	Max 200	400
21	Sulphide	<0.05	mg/lit	Max 0.05	No Relaxation
22	Total Alkalinity as CaCO <sub>3</sub>	414	mg/lit	Max 200	600

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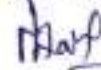
**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	18.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Malkapur village Bore well Water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/08		Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Malkapur village Bore well Water	Date			
			18.12.2022			
23	Total Hardness as CaCO <sub>3</sub>	344		mg/lit	Max 200	600
24	Selenium	<0.01		mg/l	Max 0.01	No Relaxation
25	Zinc as Zn	<0.05		mg/lit	Max 5	15
26	Cadmium	<0.002		mg/lit	Max 0.003	No Relaxation
27	Lead	<0.01		mg/lit	Max 0.01	No Relaxation
28	Mercury	<0.001		mg/lit	Max 0.001	No Relaxation
29	Nickel as Ni	<0.02		mg/lit	Max 0.02	No Relaxation
30	Total Arsenic	<0.005		mg/lit	Max 0.01	0.05
31	Total Chromium as Cr	<0.05		mg/lit	Max 0.05	No Relaxation
32	Cyanide (CN)	<0.005		mg/lit	Max 0.05	No Relaxation
33	BOD	3		mg/lit	Not Specified	Not Specified
34	COD	10		mg/lit	Not Specified	Not Specified
35	PolyChlorinated Biphenyls	<0.0005		mg/lit	Max 0.0005	No Relaxation
36	Poly Aromatic Hydrocarbons	<0.0001		mg/lit	Max 0.0001	No Relaxation
37	<b>Trihalomethanes</b>					
1	Bromoform	<0.1		mg/lit	Max 0.1	No Relaxation
2	Dibromochloromethane	<0.1		mg/lit	Max 0.1	No Relaxation
3	Bromodichloromethane	<0.06		mg/lit	Max 0.06	No Relaxation
4	Chloroform	<0.2		mg/lit	Max 0.2	No Relaxation

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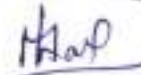
Report Date: 05.01.2023

**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	18.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Mhaiswadi Village Well water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/10	Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Mhaiswadi Village Well water			
Date		18.12.2022			
1	Colour	1.00		5	15
2	Odour	Agreeable	--	Agreeable	Agreeable
3	pH	8.18	--	6.5 -8.5	No Relaxation
4	Turbidity	0.1	NTU	1	5
5	Total Dissolved Solids	720	mg/lit	Max 500	2000
6	Total Suspended Solid	<1	mg/lit	Not Specified	Not Specified
7	Aluminium as Al	<0.03	mg/lit	Max 0.03	0.2
8	Ammonia-N	<0.5	mg/lit	Max 0.5	No Relaxation
9	Boron	<0.1	mg/lit	Max 0.5	1
10	Calcium as Ca	32	mg/lit	Max 75	200
11	Chlorides as Cl	159	mg/lit	Max 250	1000
12	Copper	<0.03	mg/lit	Max 0.05	1.5
13	Fluoride as F	0.7	mg/lit	Max 1.0	1.5
14	Free residual chlorine	<0.2	mg/lit	Min 0.2	1
15	Iron as Fe	<0.05	mg/lit	Max 0.3	No Relaxation
16	Magnesium as Mg	90.7	mg/lit	Max 30	100
17	Manganese as Mn	<0.1	mg/lit	Max 0.1	0.3
18	Nitrate as NO <sub>3</sub>	12.62	mg/lit	Max 45	No Relaxation
19	Phenolic compounds	<0.001	mg/lit	Max 0.001	0.002
20	Sulphate	64.82	mg/lit	Max 200	400
21	Sulphide	<0.05	mg/lit	Max 0.05	No Relaxation
22	Total Alkalinity as CaCO <sub>3</sub>	368	mg/lit	Max 200	600

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Report Date: 05.01.2023

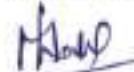
**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	18.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Mhaiswadi Village Well water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/10		Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Mhaiswadi Village Well water	Date			
			18.12.2022			
23	Total Hardness as CaCO <sub>3</sub>	458		mg/lit	Max 200	600
24	Selenium	<0.01		mg/l	Max 0.01	No Relaxation
25	Zinc as Zn	0.2902		mg/lit	Max 5	15
26	Cadmium	<0.002		mg/lit	Max 0.003	No Relaxation
27	Lead	<0.01		mg/lit	Max 0.01	No Relaxation
28	Mercury	<0.001		mg/lit	Max 0.001	No Relaxation
29	Nickel as Ni	<0.02		mg/lit	Max 0.02	No Relaxation
30	Total Arsenic	<0.005		mg/lit	Max 0.01	0.05
31	Total Chromium as Cr	<0.05		mg/lit	Max 0.05	No Relaxation
32	Cyanide (CN)	<0.005		mg/lit	Max 0.05	No Relaxation
33	BOD	<2		mg/lit	Not Specified	Not Specified
34	COD	<10		mg/lit	Not Specified	Not Specified
35	PolyChlorinated Biphenyls	<0.0005		mg/lit	Max 0.0005	No Relaxation
36	Poly Aromatic Hydrocarbons	<0.0001		mg/lit	Max 0.0001	No Relaxation
37	<b>Trihalomethanes</b>					
1	Bromoform	<0.1		mg/lit	Max 0.1	No Relaxation
2	Dibromochloromethane	<0.1		mg/lit	Max 0.1	No Relaxation
3	Bromodichloromethane	<0.06		mg/lit	Max 0.06	No Relaxation
4	Chloroform	<0.2		mg/lit	Max 0.2	No Relaxation

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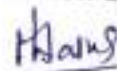
Report Date: 05.01.2023

**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Prvate Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	19.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Dasarkhed Village Bore well Water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/09	Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Dasarkhed Village Bore well Water			
Date		19.12.2022			
1	Colour	1.00			
2	Odour	Agreeable	--	5	15
3	pH	7.86	--	Agreeable	Agreeable
4	Turbidity	0.2	NTU	6.5 -8.5	No Relaxation
5	Total Dissolved Solids	730	mg/lit	1	5
6	Total Suspended Solid	<1	mg/lit	Max 500	2000
7	Aluminium as Al	<0.03	mg/lit	Not Specified	Not Specified
8	Ammonia-N	<0.5	mg/lit	Max 0.03	0.2
9	Boron	<0.1	mg/lit	Max 0.5	No Relaxation
10	Calcium as Ca	134.4	mg/lit	Max 0.5	1
11	Chlorides as Cl	135	mg/lit	Max 75	200
12	Copper	<0.03	mg/lit	Max 250	1000
13	Fluoride as F	0.73	mg/lit	Max 0.05	1.5
14	Free residual chlorine	<0.2	mg/lit	Max 1.0	1.5
15	Iron as Fe	<0.05	mg/lit	Min 0.2	1
16	Magnesium as Mg	25.9	mg/lit	Max 0.3	No Relaxation
17	Manganese as Mn	<0.1	mg/lit	Max 30	100
18	Nitrate as NO <sub>3</sub>	17.4	mg/lit	Max 0.1	0.3
19	Phenolic compounds	<0.001	mg/lit	Max 45	No Relaxation
20	Sulphate	112.68	mg/lit	Max 0.001	0.002
21	Sulphide	<0.05	mg/lit	Max 200	400
22	Total Alkalinity as CaCO <sub>3</sub>	354	mg/lit	Max 0.05	No Relaxation
				Max 200	600

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Report Date: 05.01.2023

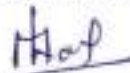
**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16 ,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	19.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Dasarkhed Village Bore well Water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/09		Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Dasarkhed Village Bore well Water	Date			
			19.12.2022			
23	Total Hardness as CaCO <sub>3</sub>	444		mg/lit	Max 200	600
24	Selenium	<0.01		mg/l	Max 0.01	No Relaxation
25	Zinc as Zn	0.0672		mg/lit	Max 5	15
26	Cadmium	<0.002		mg/lit	Max 0.003	No Relaxation
27	Lead	<0.01		mg/lit	Max 0.01	No Relaxation
28	Mercury	<0.001		mg/lit	Max 0.001	No Relaxation
29	Nickel as Ni	<0.02		mg/lit	Max 0.02	No Relaxation
30	Total Arsenic	<0.005		mg/lit	Max 0.01	0.05
31	Total Chromium as Cr	<0.05		mg/lit	Max 0.05	No Relaxation
32	Cyanide (CN)	<0.005		mg/lit	Max 0.05	No Relaxation
33	BOD	<2		mg/lit	Not Specified	Not Specified
34	COD	<10		mg/lit	Not Specified	Not Specified
35	PolyChlorinated Biphenyls	<0.0005		mg/lit	Max 0.0005	No Relaxation
36	Poly Aromatic Hydrocarbons	<0.0001		mg/lit	Max 0.0001	No Relaxation
37	<b>Trihalomethanes</b>					
1	Bromoform	<0.1		mg/lit	Max 0.1	No Relaxation
2	Dibromochloromethane	<0.1		mg/lit	Max 0.1	No Relaxation
3	Bromodichloromethane	<0.06		mg/lit	Max 0.06	No Relaxation
4	Chloroform	<0.2		mg/lit	Max 0.2	No Relaxation

----- End of Report -----

For Goldfinch Laboratory



Verified and Authorized by

Page 2 of 2

**NABL Accreditation in Process**

**Note :** 1. Test results related only to the sample(s) tested. 2. This Certificate may not be reproduced in full or part, without the permission of this Laboratory. 3. Samples will be retained by us for a period of fifteen days only, unless specific instructions are given by the client. 4. Goldfinch Lab is not responsible for the authenticity of photocopies or computer scanned reports / certificates.

## **Annexure –12**

**Photographs of the  
acoustic enclosure for the  
D.G sets, boiler and the  
ambient noise reports**



REDMI NOTE 9 PRO MAX  
AI QUAD CAMERA







## **Annexure – 13**

# **Photographs of the existing green belt**















← CONTROL ROOM  
← HI PANEL ROOM  
← PG ROOM  
↑ PROCESS PLANT  
↑ O.C. & V AND D  
↑ ETP

SPEED  
LIMIT  
15 km/h







## **Annexure – 14**

# **Write up on leak detection devices**

# **BENZO CHEM INDUSTRIES PVT LIMITED**

## **LEAK DETECTION DEVICES INSTALLED IN THE PLANT**

Following are the leak detection devices installed in our plant.

<u>Sr.</u>	<u>Leak Detection</u>	<u>Location</u>	<u>Application</u>
1	Chlorine Leak Detection	Near Chlorine Cylinders	For Detection of Chlorine Gas Leakage
2	Smoke Detectors	Process Plant	For Detection of Smoke / Fire in the Panel Room
3	Smoke Detectors	Administrative Building	For Detection of Smoke / Fire in the Office

Authorized Signatory





## **Annexure – 15**

**Write up on the existing  
safety systems**



# BENZO CHEM INDUSTRIES PRIVATE LIMITED

**Works:** B-24, 25, B-16, B-17,  
M.I.D.C. Area, Dasarkhed,  
**Malkapur – 443 112, (Dist. Buldhana)**  
Phone No. : (07267) 262678/79/81  
Fax: (07267) 262680  
E-mail: benzoeou@rediffmail.com

**Registered Office:** Plot No 26/28A,  
Kawasji Patel Street, Opp. Yazdhani Bakery,  
Fort, **Mumbai – 400 001.**  
Phone No. : (022) 43555888 / 22,  
Fax: (022) 40057327  
E-mail: gcpl@bom3.vsnl.net.in Website: www.bcipl.com

**Corporate Identity No. U24100MH1986PTC041751**

## FIRE HYDRANT SYSTEM

An underground Fire Hydrant system has been installed in the plant with rings around all blocks to achieve maximum coverage. One Fire Tanks of 350 m<sup>3</sup>, following are the details of the system.

- a) Fire Tank capacity - 350000 Ltr
- b) Type of Hazard - Ordinary Hazard
- c) Design Code - TAC's Fire Protection Manual
- d) Total number of fire hydrant valves (24 Nos), Sprinkler Nozzles (204 Nos) and water monitor (4 Nos)
- e) Fire Pumps Details :-

<b>Types of pumps</b>	<b>Capacity</b>	<b>Discharge</b>	<b>Head</b>
	HP/KW	M <sup>3</sup> /Hr	M
Jockey	15/10	10.8	70
Hydrant	60/45	137	70
Hydrant	60/45	137	70
Diesel	-/-	137	70

- f) No. of Hose Box - 24
- g) No. of Hoses - 48
- h) No. of Branch - 24
- i) Water Monitor - 4
- j) Four way Fire Bridge - 1
- k) Smoke Detector - 12
- l) Manual Call Point - 24
- m) Assembly Points - 2
- n) Wind Socks – 2





# BENZO CHEM INDUSTRIES PRIVATE LIMITED

**Works:** B-24, 25, B-16, B-17,  
M.I.D.C. Area, Dasarkhed,  
**Malkapur – 443 112, (Dist. Buldhana)**  
Phone No. : (07267) 262678/79/81  
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Fort, **Mumbai – 400 001.**  
Phone No. : (022) 43555888 / 22,  
Fax: (022) 40057327  
E-mail: gcpl@bom3.vsnl.net.in Website: www.bcipl.com

**Corporate Identity No. U24100MH1986PTC041751**

## LIST OF FIRE EXTINGUISHERS

<b>Sr. No.</b>	<b>Types of Extinguishers</b>	<b>Capacity</b>	<b>Quantity</b>
1	Foam Type	50 Ltr	06
2	Foam Type	9 Ltr	24
3	DCP	10 Kg	17
4	DCP	5 Kg	32
5	DCP (Pressured Type)	2 Kg	12
3	CO2	4.5 Kg	06
		<b>Total</b>	<b>97</b>



# BENZO CHEM INDUSTRIES PRIVATE LIMITED

**Works:** B-24, 25, B-16, B-17,  
M.I.D.C. Area, Dasarkhed,  
**Malkapur – 443 112, (Dist. Buldhana)**  
Phone No. : (07267) 262678/79/81  
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Fort, **Mumbai – 400 001.**  
Phone No. : (022) 43555888 / 22,  
Fax: (022) 40057327  
E-mail: gcpl@bom3.vsnl.net.in Website: www.bcipl.com

**Corporate Identity No. U24100MH1986PTC041751**

## LIST OF EQUIPMENTS IN EMERGENCY CUPBOARD

<b>ITEAMS</b>	<b>NUMBER</b>
Breathing Apparatus	07
Spare Cylinder	02
First Aid Box	12
Torch	02
Emergency siren	02 (Auto and Manual)

Note- Ambulance is available in 24\*7 in plant.

## **Annexure – 16**

**Latest safety audit report**

**REPORT**  
**EXTERNAL SAFETY AUDIT**  
**IS-14489**  
**FOR**



**M/S BENZO CHEM INDUSTRIES PVT. LTD.,**  
**B-24/25, AT-M.I.D.C.AREA, DASARKHED**

**TAL-MALKAPUR**

**DIST-BULDHANA**

**CONDUCTED BY**

**NIKI TEHNO ASSOCIATES**

**91, SHIVPRATAP COLONY**

**TULSIRAM NAGAR, DEOPUR**

**DHULE-424002**

Dhule -02562-224381

**Shri Sai Samarth**

Nasik-0253-2577567

Mobile-94222-96019

Thane-022-56074155

## NIKI TECHNO ASSOCIATES

**Office-91, Shivpratap Colony, Tulshiram Nagar, Deopur, Dhule**

*Group of Technocrates-, Competent Person for Testing Of Pressure Vessels, Lifting Tackles, Drawing & Approval Of Plans, Calibration Of Storage Tanks, Stability Certificate , Safety Audit, On Site Emergency Plan, Hazop Study Etc.*

### SCHEDULE II

(See rule 8 & 9)

#### Proforma for Safety Audit Report

1. Name and address of the factory: **M/S BENZO CHEM INDUSTRIES PVT.LTD.**

PLOT NO. B-24,25,M.I.D.C.  
DASARKHED, TAL-MALKAPUR  
DIST-BULDHANA

2. Name of the Occupier: : Shri Sunil Nawal

3. Date of Audit: : 02.03.2022

4. List of raw material with maximum storage quantity : As per Sheet Attached

5. List of finished products with maximum storage quantity: As per Sheet Attached

6. Manufacturing process flow chart: : As per Sheet Attached

7. P I Diagram of all plants (Chemical Factories) : : Not Applicable

8. Name of the Safety Auditor and  
and name of the person who : Mr. S.L.Nikumbh  
has carried out safety audit, [M.Sc.(Phy)., A.D.I.S, A.M.I.S.L.E.]

9. Whether enclosed Safety Audit Report as per IS 14489, or any such standards  
prevailing at the relevant time, whichever is latest: As per IS-14489

Date : 02.03.2022

Signature of Safety Auditor/  
Person or employee of an Institution  
authorized to carry out safety audit

I (Occupier) undertake to submit the action taken report on recommendations  
of Safety Audit on or before .....

Date : 02.03.2022

Signature of the Occupier

## Mfg Process Flow Chart

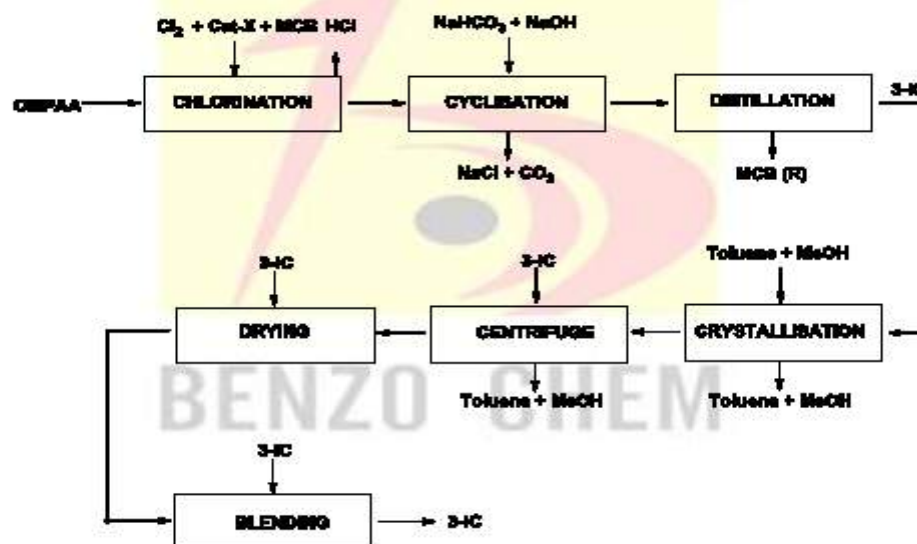
**BENZO CHEM INDUSTRIES PVT. LTD.**  
 B-24/25, MIDC, Dasarkhed, Dist. Buldhana, Malkapur - 443101  
 Phone : 0091-7267-262678/79/80

1) **PRODUCT NAME:** 3-ISOCHROMANONE (3-IC)

2) **RAW MATERIALS:**

1) Ortho-Methyl phenyl acetic acid (OMPAA)	2) Mono-chlorobenzene (MCB)
3) Cat-X	4) Chlorine gas
5) Sodium hydroxide	6) 30% Hydrochloric acid
7) Sodium bicarbonate	8) Toluene
9) Methanol	

3) **PROCESS FLOW CHART:**



4) **BRIEF PROCESS:**

Ortho-methyl phenyl acetic acid (OMPAA) is charged to GLR chlorination reactor along with mono-chlorobenzene and cat-X and heated at 90-95 °C. Then the chlorine gas is purged till desired conversion and mass is cooled to get 2-chloromethyl phenyl acetic acid. The 2-chloromethyl phenyl acetic acid is further cyclized using mixture of sodium bicarbonate and sodium hydroxide at reflux temperature to get crude 3-Iso chromanone (3-IC). The crude 3-IC is distilled off to get 3-IC, which is further crystallized using toluene and methanol the further centrifuge and drying to get pure 3-IC, which is further blending and packing.

Head Office : M/S. Benzochem Industries Pvt. Ltd. / Gitanjali Chemicals Pvt. Ltd.  
 26/28A, Cawasji Patel Street, Fort, Mumbai - 400 001, India.  
 Phone: +91-22-43555888

**BENZO CHEM INDUSTRIES PVT. LTD.**

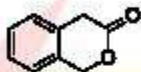
B-24/25, MIDC, Dasarkhed, Dist. Buldhana, Malkapur – 443101  
Phone : 0091-7267-262678/79/80

1) **PRODUCT NAME:** 3-ISOCHROMANONE (3-IC)

2) **CAS NUMBER:** 4385-35-7

3) **MOLECULAR FORMULA:** C<sub>9</sub>H<sub>8</sub>O<sub>2</sub>

4) **STRUCTURE:**

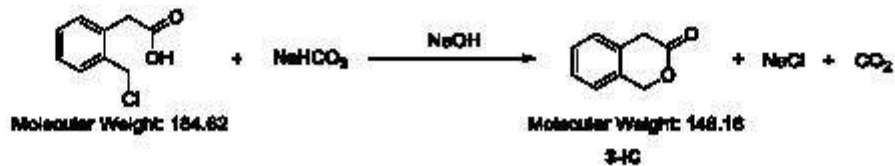


**Molecular Weight: 148.16**

5) **RAW MATERIALS:**

1	Ortho-Methyl phenyl acetic acid (OMPAA)
2	Mono-chlorobenzene (MCB)
3	Cat-X
4	Chlorine gas
5	Sodium hydroxide
6	Hydrochloric acid
7	Sodium bicarbonate
8	Toluene
9	Methanol

6) **CHEMICAL REACTION:**



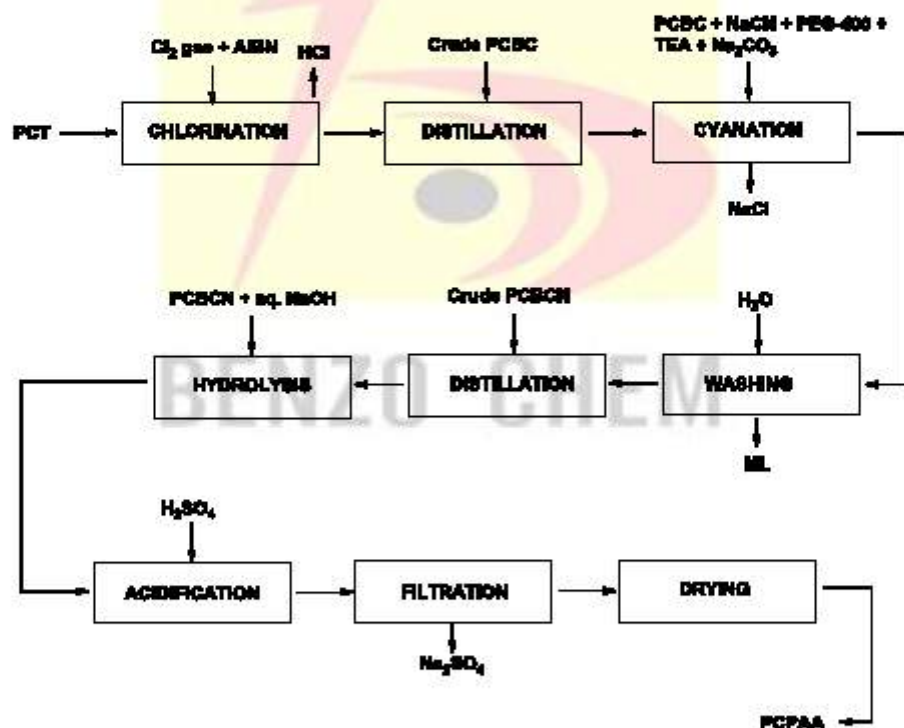
Head Office : M/S. Benzochem Industries Pvt. Ltd. / Gitanjali Chemicals Pvt. Ltd.  
26/28A, Cawasji Patel Street, Fort, Mumbai - 400 001, India.  
Phone: +91-22-43555888

1) **PRODUCT NAME:**           **PARA CHLOROR PHENYL ACETIC ACID (PCPAA)**

2) **RAW MATERIALS:**

1) Para-chloro toluene (PCT)	2) Chlorine gas (Cl <sub>2</sub> )
3) AIBN	4) Sodium cyanide (NaCN)
5) PEG-400	6) Triethyl amine (TEA)
7) Sodium carbonate (Na <sub>2</sub> CO <sub>3</sub> )	8) Sodium hydroxide (NaOH)
9) Sulphuric acid (H <sub>2</sub> SO <sub>4</sub> )	

3) **PROCESS FLOW CHART:**



4) **BRIEF PROCESS:**

Para chloro toluene (PCT) and AIBN catalyst is charged to GL reactor for chlorination. The crude product para chloro benzyl chloride (PCBC) is distilled to get pure PCBC. The cyanation of pure PCBC in MS reactor using sodium cyanide and catalytic PEG-400, TEA and soda ash to get crude PCBCN.



**BENZO CHEM INDUSTRIES PVT. LTD.**

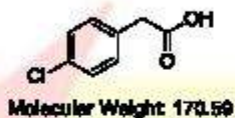
B-24/25, MIDC, Dasarkhed, Dist. Buldhana, Malkapur - 443101  
Phone : 0091-7267-262678/79/80

1) **PRODUCT NAME:** PARA CHLOROR PHENYL ACETIC ACID (PCPAA)

2) **CAS NUMBER:** 1878-66-6

3) **MOLECULAR FORMULA:** C<sub>8</sub>H<sub>7</sub>ClO<sub>2</sub>

4) **STRUCTURE:**



5) **RAW MATERIALS:**

1	Para-chloro toluene (PCT)
2	Chlorine gas
3	AIBN
4	Sodium cyanide
5	PEG-400
6	Triethyl amine (TEA)
7	Sodium carbonate
8	Sodium hydroxide
9	Sulphuric acid

6) **CHEMICAL REACTION:**

Head Office : M/S. Benzochem Industries Pvt. Ltd. / Gitanjali Chemicals Pvt. Ltd.  
26/28A, Cawasji Patel Street, Fort, Mumbai - 400 001, India.  
Phone: +91-22-43555888

**BENZO CHEM INDUSTRIES PVT. LTD.**

B-24/25, MIDC, Dasarkhed, Dist. Buldhana, Malkapur - 443101

Phone : 0091-7267-262678/79/80

1) **PRODUCT NAME:** 2-COUMARANONE (2-C)

2) **CAS NUMBER:** 553-86-6

3) **MOLECULAR FORMULA:** C<sub>9</sub>H<sub>6</sub>O<sub>2</sub>

4) **STRUCTURE:**

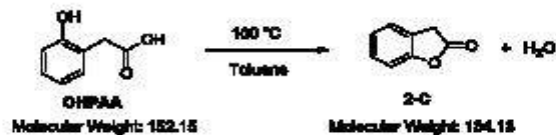
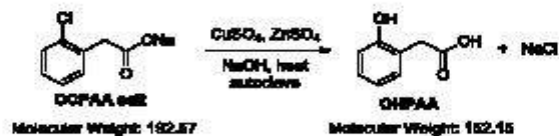
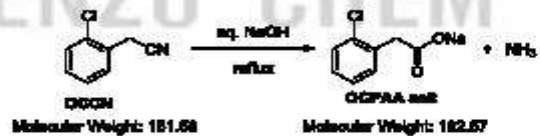


Molecular Weight: 134.13

5) **RAW MATERIALS:**

1	Ortho-chloro benzyl cyanide (OCCN)
2	Sodium hydroxide
3	Copper sulfate
4	Zinc sulfate
5	Toluene
6	30% Hydrochloric acid
7	Acetic anhydride

6) **CHEMICAL REACTION:**



Head Office : M/S. Benzochem Industries Pvt. Ltd. / Gitanjali Chemicals Pvt. Ltd.  
26/28A, Cawasji Patel Street, Fort, Mumbai - 400 001, India.  
Phone: +91-22-43555888

**BENZO CHEM INDUSTRIES PVT. LTD.**

B-24/25, MIDC, Dasarkhed, Dist. Buldhana, Malkapur – 443101

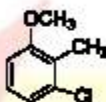
Phone : 0091-7267-262678/79/80

1) **PRODUCT NAME:** 3-CHLORO 2-METHYL ANISOL (3-CMA)

2) **CAS NUMBER:** 3260-88-6

3) **MOLECULAR FORMULA:** C<sub>8</sub>H<sub>7</sub>ClO

4) **STRUCTURE:**

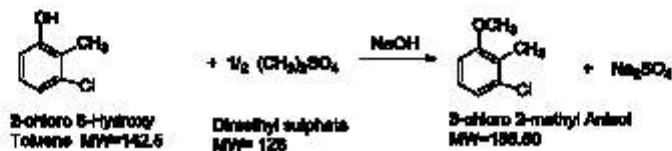
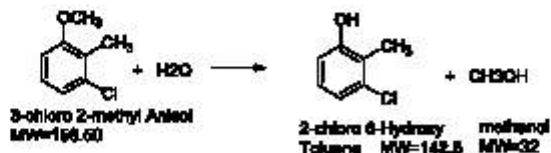


**Molecular Weight: 168.61**

5) **RAW MATERIALS:**

1	2,6-Dichloro toluene (2,6 DCT)
2	Sodium methoxide
3	DMSO
4	Dimethyl sulphate
5	30% HCl
6	Sodium hydroxide

6) **CHEMICAL REACTION:**



Head Office : M/S. Benzochem Industries Pvt. Ltd. / Gitanjali Chemicals Pvt. Ltd.

26/28A, Cawasji Patel Street, Fort, Mumbai - 400 001, India.

Phone: +91-22-43555888

List of products

<b>BENZO CHEM INDUSTRIES PVT. LTD., MALKAPUR (UNIT-2) - PRODUCTION STATEMENT 2019-2020 (ANNEXURE E-2 TO FORM 3 CD CLAUSE 35B)</b>		
<b>SR. NO.</b>	<b>PARTICULAR</b>	<b>QUANTITY MFG. In KG DURING THE YEAR</b>
1	2-COUMARANONE 30 % WITH ACETIC ANHYDRIDE 70 %	1600005
2	PARA CHLORO PHENYL ACETIC ACID	117000
3	3-ISO CHROMANONE	129735
4	3-CHLORO - 2 METHYL ANISOLE/2 methoxy 6-chlorotoluene	187917

Authorised signatory

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## B)ACKNOWLEDGEMENT

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Under the instructions from the Management of M/s Benzo Chem Industries Pvt.Ltd., MIDC, Dasarkhed, Tal-Malkapur ,Dist-Buldhana the Incidence Controller of Emergency Control Team had done survey with an objective to study the plans, procedures and methodologies available at site. Details of the study are provided in this Safety Audit/Compliance performance report.

The Co-operation extended by **Shri Sunil Nawal** [Occupier],**Shri M.A.Sapkal** (Plant Head),  
**Shri. Umesh Ladhe** [Assit. Manager EHS], **Mr.Atulkumar Das** [Maintenance In charge],**Mr.S,V.Chitnis**  
[ Manager- H.R ] **Hemant Talele** [Sr. Manager production],**Mr. Samadhan Ingale** [Security Officer] was greatly appreciated.

The purpose of the study is to carry out a systematic, objective, documented and independent evaluation to determine whether; the activities conform to the requirements of the occupational health and safety systems and procedures. The said safety audit has been carried out as per Bureau of Indian Standards 14489 code of practice.

**This Safety Audit plan is prepared as per the requirements mentioned in,**

- The Environment Protection Act, 1986
- A statutory requirement under the Maharashtra Factories (Safety Audit) Rules,2014
- The First Schedule of Section 2(cb) Factories Act, 1948
- The second Schedule of Section 41-F Factories Act-1948
- Rule 73-X of M.F.R. 1963
- Controller of Explosives Rule (PESO)

## C] GENERAL INFORMATION

---

1. **FACILITY NAME:** M/s Benzo Chem Industries Pvt.Ltd.  
Plot No.B-24,25 .M.I.D.C.Area,Dasarkhed  
Tal. Malkapur, Dist.Buldhana  
Maharashtra, Pin - 443101
2. **STUDY OBJECTIVE :** The objectives of the safety audit would be to review & Critically access existing safety programme to prevent & control the hazard in the plant with the view to suggest Improvement.  
  
The benefit of safety audit is to evaluate the quality & and Effectiveness of safety programme rather than to measure only quantitative failure.
3. **AIM :** The Aim of the plan is to reduce to loss of life and/or damage property of the Benzo Chem Industries Pvt. Ltd.,Malkapur
4. **SCOPE :** This standard establishes audit objectives, criteria & Practice provide guideline for establishing, planning, documenting and documenting audits of Occupational Health & safety system at the work place. It provides the guidelines to evaluating the effectiveness of the health & Safety objectives verifying the availability & implementation

of basic elements of OHSAS & ability to define safety objectives. This document focus on general OHSAS activities carried out in the industry which helps to carried out specific safety audit in the areas of high risk operations or when there is a very low frequency but very high of severity of accidents.

**5. AUDIT ANALYSIS :** The analysis of the audit is done in the manner to verify whether the planned and documented activities are performed in accordance with written procedure & to verify objectives.

**6. DOCUMENT NUMBER :** ML/OHASR/BUL-01-22/REV-05

#### **6.0 KEY POINTS WHERE ACTIONS NEEDED IS**

- a. Strict Implementation of OH&S policy
- b. Updating of On-site Emergency plan and its salient features
- c. Assigning duties and responsibilities assigned to the designated officials during Emergency
- d. Automatic Alarm System for Mfg. Area
- e Process safety for Thermal Runaway reaction in Reaction Vessels a kind of Uncontrolled positive feedback.
- f. Emergency process Control for Hazardous areas
- g. Single Line diagram of the plant e exhibited at the power distribution room along with chart of first aid of shock treatment

#### **D] INTRODUCTION TO SAFETY AUDIT**

---

Safety audit is a statutory requirement under the Maharashtra Factories (Safety Audit) Rules,2014 for upper layer of major accident hazard units.

It is necessary for an organization to conduct the Safety Audit of industrial activity with the help of an safety expert. This will be useful to know the weak points in the system and to take suitable timely remedial measures to avoid any major hazard.

The objectives of the safety audit would be to review & critically assess the existing safety programs to prevent & control the hazards in the plant with a view to suggest improvement. The benefit of safety



audit is to evaluate the quality & effectiveness of the safety program , rather than only quantitative measures of its failure.

**The specific objectives of the safety are:-**

- To verify existing systems procedures plants & programs on safety & health
- To review implementation status of the existing safety systems, procedures, & plans
- To recommend the measures for improving effectiveness for implementation of safety systems, procedures, plans and programs and also for improving the existing procedures/setting of new procedures if required.

**The overall methodology of safety audit will consist the following stages:-**

- Collection of preliminary information regarding manufacturing process & hazards etc.
- Examination of documents pertaining to Safety procedures/systems.
- Discussions with key personnel at various levels.
- Physical inspection of the plant.
- Preparation of report with recommendations.

The scope of the audit is to verify whether the Planned and Documented activities are performed in accordance with written procedures and to verify by examination and evaluation of objectives evidence that appropriate elements of a safety management systems have been developed, documented and implemented by units covered under The Manufacture Storage and Import of Hazardous Chemicals Rules,1989 (Amended 2000), under The E.P. Act,1986 and the Control of Industrial Major Accident Hazard Rules,2004 under The Factories Act,1948.

**As per IS-14489, 1998 some of the relevant Elements observed during safety audit are being listed below:**

**ANNEX. A (Clauses 2.1 and 4.2.4)**

**ELEMENTS OF OCCUPATIONAL SAFETY AND HEALTH SYSTEM (OS&H)**

- 1) Occupational Safety & Health Policy
- 2) OS&H organizational set-up
- 3) Education and training
- 4) Employees participation in OS&H Management
- 5) Motivational and promotional measures for OS&H
- 6) Safety manual and rules
- 7) Compliance with statutory requirements

- 8) New equipment review/inspection
- 9) Accident reporting analysis investigation and implementation of recommendations
- 10) Risk assessment including hazard identification
- 11) Safety inspections
- 12) Health and safety improvement plan/targets
- 13) First aid facilities - occupational health center
- 14) Personal protective equipment Good housekeeping
- 15) Good House Keeping
- 16) Machine & general area guarding
- 17) Material Handling Equipment's
- 18) Electrical & Personnel Safeguarding
- 19) Ventilation, illumination & noise
- 20) Work environment monitoring system
- 21) Prevention of occupational diseases
- 22) Safe Operating Procedures
- 23) Work Permit System
- 24) Fire Prevention, protection and fighting system
- 25) Emergency Preparedness Plans.(On Site /Off Site)
- 26) Process /plant modification procedure
- 27) Transportation of Hazardous Substances
- 28) Hazardous Waste Treatment
- 29) Safety in storage and Warehousing
- 30) Contractors Safety System
- 31) Safety For Customers (including material safety data sheets)

#### **ANNEX B (Clause 4.3.3.1) TYPES OF RECORDS TO BE EXAMINED DURING THE SAFETY AUDIT**

##### **OS&H policy**

- 1) OS & H Policy
- 2) Safety organization chart
- 3) Training records on safety fire and first-aid
- 4) Record of plant safety inspections
- 5) Accident investigation reports
- 6) Accidents and dangerous occurrences-- statistics and analysis

- 7) Compliance Record of tests and examinations of equipment and structures as per statutes
- 8) Safe operating procedures for various operations
- 9) Record of work permits
- 10) Record of monitoring of flammable and explosives substances at work place
- 11) Maintenance and testing records of fire detection and firefighting equipment
- 12) Medical records of employees
- 13) Records of industrial hygiene surveys (noise, ventilation and levels, illumination levels, Airborne and toxic substances, explosive gases)
- 14) Material safety data sheets
- 15) On-site emergency plans and record of Mock Drills
- 16) Records of waste disposal
- 17) Records of effluent discharges to the environment
- 18) Housekeeping inspection records
- 19) Minutes of safety committee meetings.
- 20) Approval of layouts; and other approval from statutory authorities
- 21) Records of any modifications carried out in plant or process
- 22) Maintenance procedure records
- 23) Calibration and testing records
- 24) Shut down maintenance procedures
- 25) In service inspection manuals, records including that of material handling
- 26) Safety budget
- 27) Inspection books and other statutory records
- 28) Records of previous audits
- 29) Safety in transportation of hazardous

#### Annexure C

(Clause 4.3.3.1)

Safety Audit Questionnaire- Verified & recommendations

### **E] SAFETY AUDIT PROCESS**

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#### **Initiating the OH&S Audit**

The scope and depth of the audit should be designed to meet the client's specific information needs.

Generally the audit is carried out to cover the following aspects:

1. Identification of areas of OH&S system, which require improvement.

2. Assessment of effectiveness of measures taken for controlling the hazards.
3. Recommendation of measures to strengthen the OH&S system.
4. Implementation of these measures.
5. Monitoring of the changes.

### **Executing the OH&S Audit**

#### **Field visit:**

Audit team carried out field visit along with the concerned department head for the survey of concerned department to access the safety measures & as guidance may be used for the audit purpose.

#### **Examination of records**

Information collected through examination of available documents and records which are in use. A list of documents and records to be examined must be noted in the checklist. Nonconformities noted.

#### **Interviews:**

The team is interacting with various levels of employees including the top management to gather information on the OH&S system and its implementation. Information collected through interviews should be verified from other sources such as physical observation and scrutiny of records.

#### **Audit Observations:**

All audit observations documented. After auditing all activities, the audit team should review all of their observations to determine which are to be reported as nonconformities. The audit team ensured that these are documented in a clear, concise manner and are supported by evidence. Nonconformities should be identified in terms of the specific requirements of the statutes, standards or other related documents against which the audit has been conducted. The leading team member reviewed observations with the responsible department head. All observations of nonconformities intimated to the Department head and acknowledged by them. When recording a non-conformance, enough details provided so that concerned department head can reconfirm the observations later.

#### **Audit Recommendations:**

The auditing team made recommendations specific to the concerned department for the improvements to the OH&S system. It would be sufficient to point out nonconformities with the requirement. However, when these are not well laid down, it becomes more important to make recommendations. These recommendations are of two types:

- for improvement in the system's specified requirements; and
- for more effective implementation of the specified requirements of the system.

**Note:** It is up to the Department head/ Safety Auditor to determine the ways and means of actions to improve the OH&S system as per recommendations of the audit team. However, the recommendations regarding compliance with statutory and legal requirements are to be fully implemented.

The audit team ensures that only the criteria are assessed, without considering what the intent is or may have been. Once compliance with each requirement has been assessed, the audit team leading member documents findings in a tabular form. This table seen below then is generally used as a basis for compiling the compliance audit report.




**Compliance Audit format:**


Activity/Process/ Criteria/Observation	Compliance Code	Comment/Remark	Action Needed

**F] COMPLIANCE STATUS AND COMPLIANCE VALUE**

**Compliance Status and Code:**

Status & Compliance Code	Criteria
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<b>Complied With/ Yes:</b> 	There is sufficient and appropriate evidence to demonstrate the particular requirement has been complied with and is within the scope of the audit.
<b>Not-Complied With:</b> 	Clear evidence has been collected to demonstrate the particular requirement has not been complied with and is within the scope of the audit.
<b>Not determined / Not Available :</b> 	<p>The necessary evidence has not been collected to enable an assessment of compliance to be made within the scope of the audit. There may be various reasons why the audit team could not collect the required information, including:</p> <p>The audit team was not on-site for the period covered by the scope of the audit, or there was insufficient information on the file relating to the period covered by the audit to enable an assessment of compliance to be made.</p> <p>The wording of the criteria meant that no evidence could be gathered or it was too difficult to gather the evidence.</p> <p>The environmental gains to be achieved through compliance and the environmental harm to be caused through noncompliance did not justify the use of resources necessary to make an accurate assessment (eg, an</p>

	auditor should not have to go to any length to assess compliance with a condition of a statutory instrument simply because the condition exists).
<b>Not applicable (not activated):</b> 	An invoking element in the criteria was not activated within the scope of the audit. The element of the criteria may require that a particular activity be carried out or that an event occur before the requirement needs to be complied with, eg, 'The licensee must notify of incidents causing or threatening environmental harm'. If there were no incidents that caused or threatened environmental harm within the scope of the audit, the requirements of this condition do not apply to the auditee.

**Overall Value for Performance Indicator (%) and Interpretation:**

Compliance value	Interpretation (all or some of the following may apply)
0-10 %	No controls in place. Significant breach of legislation. Not complying with policy and procedures. Not complying with best practice. Significant risk to the organization in terms of personal injury, civil or criminal litigation. Further action required immediately.
10-20 %	Part controls exist. Breach of legislation likely. Not complying with the policy and procedures. Not complying with best practice. Risk to the organization in terms of personal injury, civil or criminal litigation. Further action required within a short time period.
20-30 %	Controls inadequate. Breach of legislation possible. Part compliance with policy and procedures. Not complying with best practice. Possible risk of personal injury and civil litigation. Unlikely risk of criminal litigation, but possible risk of improvement notice being served by the enforcing authorities. Further action required within a short time period.
30-40 %	Controls not used. May be a breach of legislation. Part compliance with policy and procedures, but monitoring of workplace practices unlikely. Not complying with best practice. Possible risk of personal injury and civil litigation. Unlikely

	risk of criminal litigation, but possible risk of improvement notice being served by the enforcing authorities. Further action required within a medium time period.
<b>40-50 %</b>	Irregular use of controls. May be a breach of legislation, but is likely to centre around specific aspects of some regulations rather than a general breach. Part compliance with policy and procedures, but monitoring of workplace practices is carried out infrequently. Not complying with best practice. Possible risk of personal injury and civil litigation. Unlikely risk of criminal litigation and low risk of improvement notice being served by the enforcing authorities. Further action required within a medium time period.
<b>50-60 %</b>	Additional training/measures required. May be a breach of legislation, but is likely to centre around specific aspects of some regulations rather than a general breach. Part compliance with policy and procedures, but training is likely to be unsatisfactory. Not complying with best practice. Possible risk of personal injury and civil litigation. Unlikely risk of criminal litigation and low risk of improvement notice being served by the enforcing authorities. Further action required within a medium time period.
<b>60-70 %</b>	Basic legal compliance. Unlikely that a breach of legislation is occurring. Compliance with policy and procedures. Basic compliance with best practice. Unlikely risk of personal injury and civil litigation. Very unlikely that enforcing authorities would take action. Further action required, but should be programmed as part of the continuous improvement process.
<b>70-80 %</b>	Significant controls. Very unlikely that a breach of legislation is occurring. Compliance with policy and procedures. A good level of best practice is being achieved. Unlikely risk of personal injury and civil litigation. Highly unlikely that enforcing authorities would take action. Further action required, but should be programmed as part of the continuous improvement process.
<b>80-90 %</b>	Advanced control. Extremely unlikely that a breach of legislation is occurring. Compliance with policy and procedures is such that more than the minimum is

	being done, resulting in an excellent approach to health and safety matters. Best practice is being fully achieved. Unlikely risk of personal injury. If such injury occurred, it is unlikely that civil litigation against the FIRM would succeed. Negligible risk of action from enforcing authorities. Further action required, but should be programmed as part of the continuous improvement process.
90-100 %	Optimum controls. Extremely unlikely that a breach of legislation is occurring. Compliance with policy and procedures is such that more than the minimum is being done, resulting in an exemplary approach to health and safety matters. Best practice is being exceeded. Highly unlikely risk of personal injury. If such injury occurred, it is unlikely that civil litigation against the firm would succeed. If standard is maintained, no risk of action from enforcing authorities. No further action is required other than to maintain the exemplary standard being achieved in health and safety.

**Scope of the Audit:**

The scope of the safety audit is based on the Indian Standard 14489 Code of Practice on Occupational Safety and Health Audit.

A broad outline of the scope is given below.

**Safety Management**

- Review of Safety and Health Policy
- Safety Organization
- Contractor employee activities.
- Status of Regulatory Compliance (applicable to the factory concerning safety and health)
- Statistical information on losses and injuries
- Expansion, Modification and Work Permit systems
- Auditing of Systems for identifying risks, hazards and counter measures
- Review of various safety procedures and manuals



- Safety Training
- Accident/Incident reporting, investigation and analysis

**Fire Prevention and Protection**

- Fire Protection arrangements
- Fire emergency control procedures
- Personal Protective equipment

**Electrical Installations**

- Electrical safety issues like earthing, hand tools, protective devices, lightning protection, cables and cable routing etc.
- Sample review of hazardous area classification (areas where Acetone, Toluene and solvents are handled)

**Hazardous Chemicals Handling and Storage**

- Handling / Storage and Transfer procedures for handling hazardous chemicals in the plant

**Work Injury Prevention**

- Work injury prevention in areas where material handling (Manual handling and mechanical handling) is involved.

**Mechanical Equipment**

- Testing procedures for Pressure Vessels, Lifting tools and Tackles
- Sample audit of preventive maintenance schedule for the entire system, trips and interlocks.

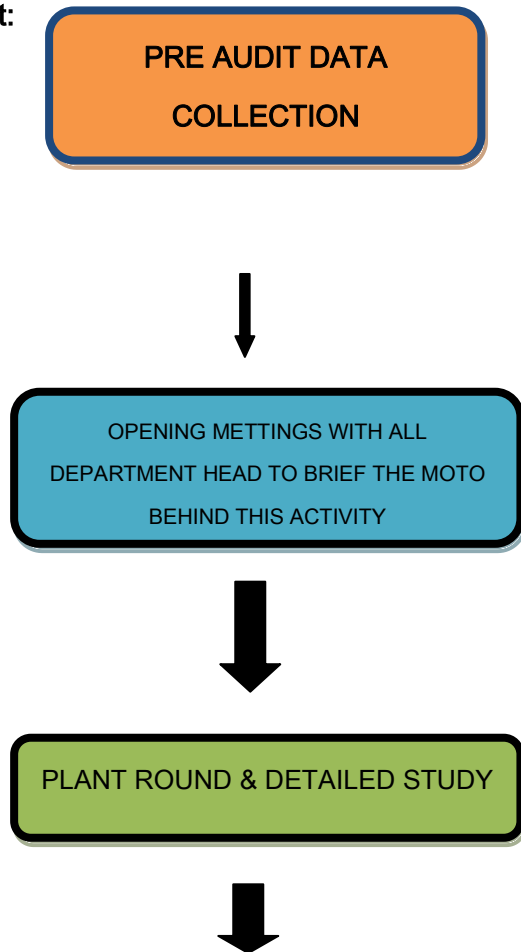
**Emergency Management**

- Review of availability of emergency equipment to handle major emergencies and review of systems associated with managing emergencies (Emergency communication system. Equipment and facilities at Emergency control Center etc)
- Review of Emergency Management Plan

**Methodology:** Safety Audit is conducted in four principal phases

- Preparation
- Onsite audit
- Reporting
- Follow up

G) Approaching an audit:



AUDIT FINDINGS AFTER INSPECTION



AUDIT REPORT CONTAINING  
RECOMMENDATIONS

**H) OCCUPATIONAL HEALTH & SAFETY (OH & S) MANAGEMENT: IS-14489-2018**  
Annexure-C-(Clause 5.3.4) Check List for Safety Audit C-1 OH & S MANAGEMENT

SR.No.	QUESTIONNAIRE	Observation	Recommendations
<b>C-1.1 OH &amp; S POLICY</b>			
a)	<b>Does the organization have OH &amp; S policy ?</b>	Written policy adapted and Displayed	Good
b)	<b>Who has signed the health and safety policy?</b>	Sunil Nawal (Director)	Good
c)	<b>Whether the OH &amp; S Policy is as per guidelines of the statutory provisions?</b>	Yes	This is as per requirement of Occupier's On Safety & Health Policy

d)	<b>When was the OH &amp; S policy declared and adapted?</b>	2009	The Safety Policy is Prepared as per guide line of the statutory provisions
e)	<b>Whether the OH &amp; S policy reviewed periodically?</b>	Yes	Good
f)	<b>Whether the OH &amp; S policy is available in local language &amp; made Known to all ?</b>	Yes	Satisfactory
g)	<b>What the last date was of updated?</b>	05/11/2020	Good
h)	<b>Does the policy find a place in the annual report?</b>	Yes	Good

## C-2 OH & S ORGANIZATION SET UP

### C-2.1 Safety Department

a)	<b>Does the Factory have a Safety department &amp; what is strength of safety department?</b>	Yes, 02 Persons	Satisfactory
b)	<b>Whether the strength and qualification of Safety Officer are as per the status?</b>	Yes	Good
c)	<b>Does the head of the safety Department reports to the chief Executive?</b>	Yes	Satisfactory
d)	<b>How often are the safety officers retrained in the latest techniques of total safety management? What is the frequency of retraining?</b>	Through Internet , Seminars & Literature Audio video training	Good
<b>SR.No.</b>	<b>QUESTIONNAIRE</b>	<b>Observation</b>	<b>Recommendations</b>
e)	<b>What additional duties the safety officer is required to do?</b>	Work Permit System, Power to improve every Safety aspects & Proper Advise, Investigation of industrial accidents and Diseases & all the works related to SHE	Satisfactory
f)	<b>What is the power of Safety Officer vis-à-vis unsafe condition or unsafe act?</b>	Every near miss is recorded and followed in safety meetings to avoid unsafe conditions and unsafe Acts	All the Departments monitoring & safety Environment motivation will be done

**C-2.2 Safety Committee(s)**

a)	<b>Does the Factory has a Safety Committee(s)? What are the types, structures and terms of reference Of the committee?</b>	Yes Shri M.A. Sapkal Chairman Shri Umesh Ladhe Asst.Manager-EHS.( Secretary)	Satisfactory
b)	<b>Is the constitution of the safety committee(s) as per the statute?</b>	Yes, 2 years	Experienced persons in Safety' Maintenance and Quality Control Will be included
c)	<b>How are the members of safety committee(s) selected? ( elected / nominated )</b>	Nominated	Good
d)	<b>How often are the meetings of safety committee(s) held?</b>	As per requirement	Satisfactory
e)	<b>Are the recommendations of the committee(s) implemented?</b>	Yes as per requirement	Satisfactory
f)	<b>Are the minutes of the safety Committee(s) meetings circulated among the members?</b>	Yes, After group discussion with safety Committee Chairman	Good
g)	<b>Are the minutes forwarded to the trade union(s) and Chief Executive and Occupier?</b>	Yes, Also Provided to Higher Management	Good
h)	<b>Whether the management and trade union play their active roles in supporting and accepting the committee(s) recommendations?</b>	Yes	Satisfactory
i)	<b>How are the safety committee(s) members apprised of the latest development in safety Health and environment?</b>	Through Awareness Training, Meeting, Verbal Information etc. Through actual practices and Audio Visual Training	Good

**C-2.3 Safety Budget**

SR.No.	QUESTIONNAIRE	Observation	Recommendations
a)	<b>What is the Annual Safety Budget?</b>	Rs. 80,00,00	Good
b)	<b>How much percentage is this budget of the total turnover of the Factory?</b>	4%	Good
c)	<b>How much budget has been</b>		

	<b>utilized in the last budget?</b>	100%	Good
d)	<b>Is the safety budget adequate?</b>	Yes	Good
e)	<b>How is the safety budget arrived at?</b>	By separate Account for Safety expenses	Good
f)	<b>What is the pattern of expenditure for the last five years?</b>	As per requirements of Safety Probabilities	Good
g)	<b>What are the approved sanctions for the expenditure in this budget?</b>	100 %.	Good
h)	<b>Does this budget get reflected in the annual report of the company?</b>	Yes	Good

### **C-3 SAFETY MANUAL**

a)	<b>What is the periodicity of updating / review of safety manual?</b>	Every One Year and according to process changes	Good
b)	<b>Does the safety manual adequately address all the hazards in the plant?</b>	Yes	Good
c)	<b>Are the employees made aware of safety rules / instructions mentioned in the safety manual?</b>	Yes, it is practiced	Good

### **C-4 STANDARD OPERATING PROCEDURES ( SOP )**

a)	<b>Are written standard / safe operating procedures available for all operations and processes?</b>	Yes, it is practiced	Good
b)	<b>Whether the written standard / safe operating procedures are displayed or made available and explained in the local language to the workers?</b>	Yes Since 2009	Good
c)	<b>Whether concerned section and safety department prepares standard / safe operating procedure jointly?</b>	Yes , Safety Dept.& HR Dept.	Near missed incidences will be recorded
d)	<b>Are standard / safe operating procedures reviews and updates?</b>	Yes, By Internal Communication/ Meetings	Satisfactory
e)	<b>Have the workers been</b>	Yes, previous	Good

	<b>informed of the consequences of failure to observe the standard / safe operating procedures?</b>	experience & Suggestions	
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**C-5 PLANT MODIFICATION PROCEDURES**

a)	<b>What is the system for effecting any change in the existing plant, equipment or process?</b>	Planning and approvals of plans from All government departments and follow up procedures	Good
b)	<b>Whether the P &amp; I diagrams and other related documents are updated accordingly?</b>	Yes as per requirement and changes in plant, P & I diagrams are updated.	All the parameters for process shall be calculated before start of work
c)	<b>Whether hazard assessment done before implementation or modification ?</b>	Yes, Hazop Study conducted	Good

**C-6 WORK PERMIT SYSTEM**

a)	<b>What types of work permits exist in the factory?</b>	Hot Work, Confined Space Entry, Electrical Lockout & Tag Out, Electrical Temporary Connection, Height Work & Excavation Work Permit.	Good
b)	<b>Are the necessary forms detailing required safety precautions have been prepared and used for each type of work permit?</b>	Yes, Formats are available for all types of work permits & are used for all non-routine activities	Time bound action plan will be observed by management
c)	<b>Is the responsibility assigned to authorize person for issuing of safety work permit?</b>	Supervisor / In Charge of Concerned Department Safety officer.	Need to create and maintain safety culture and motivation for continuous training
d)	<b>Is the copy of safe work permit sent to safety officer before execution of the job?</b>	Yes	Good
e)	<b>Is validity period specified in the safety work permit?</b>	Yes Valid time imposed according to nature of work	Satisfactory

f)	Are the records of work permit available and maintained in proper order?	Yes	Good
<b>C-6.1 Control Measures for Work at Height</b>			
a)	Is adequate safe access provided to all places where workers need to work?	Yes Procedures Unique to the Plants	Hazards related to work at height will be maintained
b)	Are all such access in good condition?	Yes	Satisfactory
c)	Are all scaffolds properly designed and erected?	Yes As per requirement and SOP	Good
d)	Are scaffolds inspected every day before work begins?	Yes	Good
e)	Are ladders securely clamped or lashed in place?	Yes, Specialized team of workers is available	Good
f)	Are planks in good condition?	Yes	Good
g)	Are scaffold walkways, platforms, runs or stairs free of debris, grease, any unnecessary obstruction and projecting nails?	Yes, Every aspects and unnecessary obstructions are removed before start of work	Satisfactory
h)	Are the scaffolds higher than 20m? If yes, is a netting or intermediate railing provided between toe-boards and hand railings?	No Less than 20 m	Satisfactory
i)	Are folding stepladders properly used?	Yes	Satisfactory
j)	Are ladders set up at the proper slope of about 1:4 ?	Yes, Maintained	Good
k)	Do workers use hand line to lift tools or materials?	Ralling Provided & used	Satisfactory
l)	Are proper ladders used around electrical hazards?	Yes, protected ladders will be used	Good
m)	On sloping roofs, crawling boards, lifelines, safety belts and edge protection are provided where needed?	Yes, Full process of roof safety will be implemented	Good
n)	Whether the weak spots, skylights or deteriorated asbestos-cement boards through which a worker might fall while working in the roof has been identified and safety net provided appropriately?	Yes all unsafe conditions are identified & all necessary equipment are provided & roof safety permit is issued	Good



o)	<b>Are the workers being medically examined for their fitness to work at height?</b>	Yes, Workers are examined medically before start of work	Good
<b>C-6.2 Work in Confined Space</b>			
a)	<b>Is work permit system followed for working in confined space?</b>	Yes, followed for confined space.	Good
b)	<b>Whether monitoring of the atmosphere inside the confined space is carried out and ensured that there is no flammable or toxic gas in the area ?</b>	Yes, we monitor LEL & UEL & O2% in the confined space & ensure it is within limit before man entry in it. all monitoring equipment like oxygen meter, batteries, safety belt and SOP for the same will be effectively implemented	Full motivation will be supported to workers
c)	<b>Whether the person entering the confined space is using suitable protective personal equipment ( ppe ) ?</b>	Yes, all necessary PPEs are provided & used by person working in confined space.	Good
d)	<b>Is rescue team available in case of any emergency ?</b>	Yes, Trained persons are appointed	Good

**C-7 CONTRACTOR'S SAFETY SYSTEM**

a)	<b>Is there any system for selection of contractors?</b>	Yes, Interviews and awareness from previous experience will be verified	Good
b)	<b>Are there any guidelines on contractor's safety and training?</b>	All contractor workers are trained with mainstream	Good
c)	<b>Whether contract document includes necessary safety and welfare clauses as per statuses?</b>	Yes	Good
d)	<b>Is there any program to ensure use of ppe by contractors personnel?</b>	Yes, compulsion and penalty is charged in case of violation	Good
e)	<b>Do the contractors have their own safety organization?</b>	No	Good
f)	<b>Are the contractors reporting all accidents and</b>	Yes & It is made compulsory	Good

	<b>injuries?</b>		
g)	<b>Are contractor workers trained to observe safety at work place?</b>	Yes	All trainings related to work of contractors is maintained
h)	<b>Whether contractor workers are engaged in process / operations? If yes, are they aware of safety operating procedures?</b>	Yes, Contractor Workers are used only for labor work	Good

### C-8 PLANT DESIGN AND LAYOUT

a)	<b>Whether hazardous operations in the plant are segregated?</b>	Yes	Good
b)	<b>Whether occupational safety &amp; hazard aspects are considered during the design?</b>	Yes, Evacuation plan and on site plan prepared with training to workers	Good
c)	<b>Are all the equipment provided with adequate space for working, maintenance, etc.?</b>	Yes, as per the norms of safety designing	Good
d)	<b>Are the storage tanks provided with enough space / clearance between them?</b>	Yes ,Maintained Well	Good
e)	<b>Whether the plant layout has taken care of the movement of the firefighting equipment and emergency exits?</b>	Yes, Emergency exit plan prepared	Good

### C-9 MEDICAL MANAGEMENT OF ACCIDENTS

a)	<b>Are medical facilities available with trained first and staff equipment in round the clock shift for all including contractors?</b>	Yes, Trained First Aider in all shift & Occupational Health Center with all facilities is available within factory premises	Good
b)	<b>Is the ambulance van available for round the clock basis with the dedicated driver?</b>	Yes	Good
c)	<b>Is there any mutual aid scheme available with the nearest hospital to manage and treat injuries during emergency?</b>	<u>Yes. GOJIRI HOSPITAL Chalis Bigha ,Malkapur &amp; PSC Dasarkhed.</u>	Good

d)	<b>Are the workers / contractor workers aware of emergency medical facilities?</b>	Yes	Good
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### C-10 MANAGEMENT OF EMERGENCIES ( NATURAL / MAN-MADE )

a)	<b>Does the system exist to detect and control these emergencies?</b>	EHS Dept. contact all govt. departments and MARG	On Site Mock Drill and control on site will be planed according to hazard s –Good initiative
b)	<b>Are the employees aware of the measures to be taken during emergencies?</b>	Yes, employee trained for Emergency and their response.	Good

### C-11 EMPLOYEES SELECTION AND PLACEMENT

a)	<b>Whether norms are available for selection of different category of employees?</b>	Yes, Minimum Qualification Criteria is in place-	Good.
b)	<b>Whether pre-employment medical examination being conducted for employees?</b>	Yes ,Adequate facilities' provided	Good
c)	<b>Is there any procedure to evaluate safety awareness and record of the employees during their promotion?</b>	Yes, performance of employee based on achievement of yearly Safety Objective defined by the management is considered at the time of his promotion	Satisfactory

### C-12 SAFETY CULTURE

#### C-12.1 Attitudes of Managers

a)	<b>Do the managers follow the plant safety rules at all times?</b>	Yes	Good
b)	<b>What are their attitudes towards safety reviews and audits?</b>	Positive attitude	Good
c)	<b>What is the response of management to safety violations?</b>	Penalties and memo for violations	Satisfactory
d)	<b>Whether safety related decisions are taken in consultation with the workers?</b>	Yes, Feedback of worker is considered in safety related decision making.	Suggestions of workers will be Highlighted.

e)	<b>What is the attitude of the managers towards nonuse of personal protective equipment?</b>	Memo and punishment	Good
<b>C-12.2 Attitudes of Workers</b>			
a)	<b>Whether workers are aware of the consequences of their wrong actions?</b>	Yes, subjects added in safety training	Good
b)	<b>Are laid down safe working laid down procedures followed Strictly?</b>	Yes, All SOP is followed.	Good
c)	<b>What is the attitude of workers towards their own mistake, which can prejudice safety?</b>	Accepting violations and learn a lesson	Good
d)	<b>Do the workers report near miss incidents and suggest safety improvements?</b>	Yes, All near miss incidences are recorded and discussed in meetings	Good
e)	<b>Are the workers aware of the system of rewards and sanctions relating to safety matters?</b>	Yes ,through notice boards	Good
f)	<b>What is the attitude of works towards use of personal protective equipment?</b>	Good awareness.	Satisfactory

### C-13 STATUTORY LICENSES, APPROVALS AND RECORS

a)	<b>Whether all the safety related acts / Rules (with latest amendments) applicable to your organization identified, informed to all employees and complies?</b>	Yes, communicated with follow-up & Circular	Good
b)	<b>Whether the licenses have been validated?</b>	Yes Licenses are valid up to 31.12.2024	Good

### C-14 MOTIVATIONAL AND PROMOTIONAL MEASURES FOR OH & S

a)	<b>Does the factory have occupational health and safety suggestion scheme?</b>	Yes. Suggestion Box provided	Good
b)	<b>Are the occupational health and safety contests</b>	Yes ,during Safety Week	Good

	<b>organized in the factory?</b>		
c)	<b>Does the factory participate in National Awards?</b>	No	Nil
d)	<b>Has the factory been awarded during last five years?</b>	No	Nil
e)	<b>Does the organization publish safety bulletin / newsletters?</b>	Newsletters not available.	Good
f)	<b>Whether the safety bulletins are widely distributed?</b>	Yes	Good
g)	<b>How is the occupational health and safety information including accident statistics disseminated in the factory? (Bulletin, Boards, Newsletter, etc.)</b>	Boards & poster, slogan newsletters	Good
h)	<b>What are the activities conducted during national safety day / week?</b>	Slogan ,Posters, Poem competition & awards for good work	Good
i)	<b>What is the percentage of workers participating in the various safety promotional activities?</b>	90 %	Satisfactory

### C-15 HAZARD IDENTIFICATION AND JOB SAFETY ANALYSIS

a)	<b>Was an initial process hazard analysis (PHA) completed?</b>	Yes, Done by qualified trained persons of Safety & professionals	Good
b)	<b>What are the stages of PHA? Whether a dedicated group is identified for PHA ?</b>	Yes, separate team of safety is identified for PHA	Good
c)	<b>Was the PHA appropriate for the complexity of the process and identify, evaluate and control the hazards involved in the process?</b>	Yes, Done by experts in all fields, Hazop study conducted by experts and all hazards are identified accordingly.	Good
d)	<b>Does the hazard evaluation use one or more of the following PHA methodologies: What if analysis, process checklist, Hazard and Operability Study (HAZOP ), Failure Mode and Effects</b>	Included in Hazop Study & Risk Analysis	Good

	<b>Critically Analysis (FMECA), Fault Tree Analysis (FTA) or any other appropriate equivalent methodologies ?</b>		
e)	<b>Does PHA assures addressing issues of inherent safety features with respect to material and their properties</b>	Yes, MSDS of the materials has been identified & derived for its handling and control measures	Good
f)	<b>Does the PHA address the hazard identification, incidents history, consequences of failures (engineering and administrative controls), human factors, consequent analysis with respect to possible safety and health effects of failure of controls?</b>	Yes, Done in Risk Analysis	Good
g)	<b>Does the system exist to properly address findings and recommendations of PHA?</b>	Yes ,Done by follow up procedures by Safety Department	Good
h)	<b>Are the PHA's updated and revalidated at least five years by a qualified team to assure that the PHA is consistent with the current process?</b>	Yes Updated regularly	Good
i)	<b>Whether the activities requiring job safety analysis have been identified?</b>	Yes, identified	Good
j)	<b>Whether the identified jobs for Hazzard Identification have been carried out by trained and experienced persons?</b>	Yes, Done by third party experts	Good
k)	<b>Whether the checklists have been prepared on each Job Safety Analysis and are being used while carrying out the job ?</b>	Yes, according to requirement	Good

**C-16 PRODUCT SAFETY**

a)	<b>Whether hazards arising from use of the products are identified?</b>	Yes, Discussion done With Top Management	Satisfactory
b)	<b>Whether material safety data sheet prepared for products?</b>	Yes, Available for all the chemicals and gases	Good
c)	<b>Are all the products labeled and packed appropriately?</b>	Yes, By requisition approved by Dept. Head with Labelling and hazards	Satisfactory
d)	<b>Whether safety instructions are given along with products?</b>	Yes ,made compulsory	Satisfactory
e)	<b>Whether policy exists for recall of products?</b>	Yes, As per SOP	Good

**C-17 SAFETY TRAINING**

a)	<b>Whether training needs have been identified?</b>	Yes, By experts and Safety Department	Good
b)	<b>Is there any program of induction training, its duration and topics covered?</b>	Yes, Implemented with topics like health .Hazards and motivation of SHE	Good
c)	<b>Whether the assessment of the trainees have been carried out?</b>	Yes, Assessment conducted	Good
d)	<b>What are the infra-structural facilities available for training?</b>	Conference Room, projectors and audio-Visual training	Records verified
e)	<b>Whether training is conducted by qualified person?</b>	Yes ,By proper qualified person appointed for training	It will be complied with the relevant standard
f)	<b>Whether trainers are being re-trained from time to time?</b>	Yes	Good
g)	<b>Whether proper records of training program conducted are maintained?</b>	Yes, recording and analysis done	Good
h)	<b>How training programs are evaluated?</b>	By rating of experts	Good Initiative
i)	<b>Whether schedule for training on occupational health and safety is available and maintained?</b>	Yes	Satisfactory
j)	<b>Whether the training programs are reviewed?</b>	Yes, with group discussion	Good

k)	<b>Are all employees periodically trained / retrained and what is the frequency of such training?</b>	Yes, As per the training Calendar or On need basis	Satisfactory
l)	<b>Are the retraining needs identified whenever a new process / products and change in existing process introduced?</b>	Yes, retraining is given to concerned persons whenever new process, equipment's, SOP is adopted or changes in existing system are done.	Satisfactory.
m)	<b>Whether training covers top management?</b>	Yes	Good
n)	<b>How many hours of safety training is given to different employees?</b>	Yes 02 to 08 hours	Proper schedule will be conducted

### C-18 CHANGE MANAGEMENT

#### C-18.1 Management of Change

a)	<b>Are there written procedures for managing change to process chemicals, technology, equipment and procedures and changes to facilities that affect the plant process / system operations?</b>	Yes, verified approved procedure for Change Management & is adequate.	Good
b)	<b>Do the procedures assure that the technical basis for the proposed change addressed prior to any change?</b>	Yes, All relevant technical procedures are studied before implementation	Good
c)	<b>Do the procedures assure that the impact of the change on safety and health addressed prior to any change?</b>	Yes, Impact is studied and system is changed accordingly	Satisfactory
d)	<b>Do the procedure assure that modification to operating procedure are addressed prior to any change?</b>	Yes, Procedure /is changed accordingly	Good
e)	<b>Do the procedures assure that the necessary time period for the change is addressed prior to any change?</b>	Yes, the time & process parameters monitored prior to any change	Good,
f)	<b>Do the procedures assure</b>	Yes, Head Technical	Any deviations reported will be



	<b>that the authorization requirements for the proposed change are addressed prior to any change?</b>	Finally approved & Authorized Proposed Changes. Safety team is authorized	used to identify proposed changes.
g)	<b>Are employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by change informed of and trained in the change prior to the startup of process or affected part of process / operations?</b>	Yes, Operating processes are carried out only by trained workers and engineers ,Contract workers are not allowed for process	Good
h)	<b>Is the safety information reviewed and updated on changes?</b>	Yes	Good
i)	<b>Are the operating procedures or practices updated?</b>	Yes updated.	

**C-18.2 Mechanical Integrity**

<b>SR.No.</b>	<b>QUESTIONNAIRE</b>	<b>Observation</b>	<b>Recommendations</b>
a)	<b>Does the mechanical integrity program , include for all mechanical equipment including pressure vessels and storage tanks, piping and components, relief devices and vent systems, emergency shutdown systems , pumps, controls systems ?</b>	Yes ,all pressure vessels, storage Tanks, piping and components, relief devices and vent systems, emergency shutdown systems , pumps, controls systems will be tested for integrity according to factories Rules	Satisfactory
b)	<b>Are there written procedures to maintain the ongoing integrity of process equipment?</b>	Yes	Good
c)	<b>Whether training has been provided to each employee involved in maintaining the ongoing integrity of process equipment?</b>	Yes	Good
d)	<b>Are inspections and tests performed on each item of</b>	Yes	Satisfactory

	<b>process equipment included in the program?</b>		
e)	<b>Does the inspections and tests frequencies meet the manufacturer's recommendation and good engineering practice?</b>	Yes, According to Rules of Govt. departments	Good
f)	<b>Are inspections and tests performed more frequently if determined necessary by operating experience?</b>	Yes, performed & maintained	Good
g)	<b>Are deficiencies in equipment that are outside limits corrected before further use so as to assure safe operations?</b>	Yes, Maintenance team Identifies weak equipment and safe operation is generated	Good Practice
h)	<b>In the construction of new plants and equipment whether quality assurance program is implemented to assure that equipment fabricated is suitable for the process?</b>	Yes ,Quality Assurance dept. looks for suitability of process	Procedures followed-Good
i)	<b>Are appropriate checks and inspections made during equipment installation stage?</b>	Yes, performance of new equipment's and plants are checked thoroughly	Very Good
j)	<b>Are the suitability of maintenance materials, spare part and equipment ensured during maintenance?</b>	Yes, inspection done & record Maintained	Records available

### **C-19 PHYSICAL HAZARD**

#### **C-19.1 Housekeeping**

a)	<b>Are all the passages, floors and the stairways in good condition ?</b>	Yes,	Good
b)	<b>Is glass door tapped or otherwise marked to make it visible to workers?</b>	It is identified and procedure is followed	Good
c)	<b>Do you have the system to deal with the spillage?</b>	Yes, Cleaning is done as per SOP using spill	Satisfactory

		control kit.	
d)	<b>Do you have sufficient disposable bins clearly marked and whether these are suitable located? Are containers of refuse (waste) and trash emptied at the end of every day or soon after they are full? Are the containers or bins regularly cleaned?</b>	Yes, are emptied & cleaned every Day	Good
e)	<b>Are drip trays positioned whenever necessary?</b>	Yes	Good
f)	<b>Do you have adequate localized extraction and scrubbing facilities for dust, fumes and gases? Please specify.</b>	Yes, All are adequate	Good
g)	<b>Whether walkaways are clearly marked and free from obstruction?</b>	Yes	Satisfactory
h)	<b>Do you have any inter-departmental competition for good housekeeping?</b>	Yes, during safety week program	Good
i)	<b>Has your organization elaborated good housekeeping practices and standards and made them known to the employees?</b>	Yes	Records maintained
j)	<b>Are there any working conditions which makes the floor slippery? If so what measures are taken to make them safe?</b>	No	Good
k)	<b>Does the company have adequate measures to suppress polluting dust arising out of materials stored on the road side?</b>	Yes, Material stored only in warehouse & not on roadside	Satisfactory
<b>C-19.2 Machine and General Area Guarding</b>			
a)	<b>Whether machinery and equipment which can cause physical injuries to operate have been identified?</b>	Yes	Good
b)	<b>Are all moving parts and point of operation of machinery adequately guarded?</b>	Yes	Good

c)	<b>Are all fixed guards securely bolted in position and in good condition?</b>	Yes	Good
d)	<b>Are all interlock guards for prevention of physical injury in good condition?</b>	Yes, Provided	Good
e)	<b>Are all emergency stop button effective and clearly label?</b>	Yes	Good
f)	<b>Are the operators for machines having moving parts aware of the danger of working with lose clothing?</b>	Yes	Good
g)	<b>Are the openings where there is free fall hazards covered or fenced securely?</b>	Yes, all such areas are covered / secured with rigid fencing	Good
<b>C-19.3 Material Handling</b>			
a)	<b>Are adequate equipment available for handling materials?</b>	Yes	Good
b)	<b>Are the workers aware of the hazards associated with materials being handles?</b>	Yes	Good
c)	<b>Where manual handling is necessary, are the workers been trained? Do they practice this? Are workers warned for lifting of excessive weight? ( Maximum weight of material for adult male and female are 55 kg and 30 kg respectively )</b>	Yes, managed through proper supervision	Good
d)	<b>Do workers follow safe procedures for storage of materials?</b>	Yes	Good
e)	<b>Is the register maintained to record particulars of examination of all lifting machines, tools and tackles ?</b>	Yes, records in form-11 maintained	Good
f)	<b>Are all the statutory examinations and tests carried out and certified by competent person(s) ?</b>	Yes, records in form-11	Good
g)	<b>Are the operators of cranes, lifts hoists and other mechanized operations</b>	Yes	Good

	<b>adequately qualified?</b>		
h)	<b>Is the safe working load clearly marked?</b>	Yes	Good
i)	<b>Has the person employed to operate crane, forklift, or to give signals to crane been medically examine for eyesight and color vision?</b>	Yes, Yearly Medical examination includes eye sight and color vision is done	Good
k)	<b>Is the frequency of eyesight and colour vision examined as per the latest rules?</b>	Yes	Good
<b>C-19.4 Electrical Safeguarding</b>			
a)	<b>Are licensed electricians available for electrical work?</b>	Yes	Good
b)	<b>Whether area classification for electrical equipment has been carried out?</b>	Yes,	Good
c)	<b>Do the electrical fittings conform to area classification for electrical equipment?</b>	Yes	Good
d)	<b>Is a ground fault current interrupter system (ELCB) in use?</b>	Yes, MCB and ELCB are provided as per requirement of electrical Safety	Good
e)	<b>Are all connections made by using appropriate plugs, receptacles or enclosures? Are fuses provided?</b>	Yes, done by electrical contractors and workers	Good
f)	<b>Are there any make shift connections bare wire damaged cables?</b>	Not Observed	Good
g)	<b>Is there a system of ensuring periodic inspection of hand tools, extension boards used for electrical work?</b>	Yes, done	Records maintained
h)	<b>Do the workers use proper type of PPE during working on live line?</b>	Yes, Electrical Shockproof Hand gloves, Rubber Sole shoes are used.	Good
i)	<b>Whether the process(s) and equipment that generate and accumulate static charge have been identified?</b>	Yes, identified & Jumpers are provided to flanges	Good

j)	<b>Whether all such equipment including pipelines for flammable materials are properly bonded and earthed?</b>	Yes, Flame Proof Fittings & bonding is done appropriately	Satisfactory
k)	<b>Whether earth pit resistance is measured and the record maintained?</b>	Yes, Done by electrical department & recorded	Good
l)	<b>Whether lighting arrestor has been installed and is adequate?</b>	Yes Installed properly & are adequate	Good

**C-19.5 Safety in Storage and Warehousing**

a)	<b>Whether the material safety data sheet for all chemicals is available?</b>	Yes, maintained	Good
b)	<b>Are the chemicals stored as per their hazardous properties including the incompatibility?</b>	Yes	Good
c)	<b>Are all containers clearly, indelibly labeled? Are all chemicals stored as per safety regulations?</b>	Yes, labelling and precautions with hazards are displayed	Good
d)	<b>Whether all racks and steel cages have sufficient load bearing capacity ?</b>	Yes	Good
e)	<b>Is adequate natural ventilation provided to store room ? Is there any emergency exit ?</b>	Yes	Good
f)	<b>Whether adequate firefighting arrangement existing in flammable chemical storage?</b>	Yes, as per norms	Good
g)	<b>Whether methodology for handling spillages of hazardous chemical available along with the equipment required handling the spillage?</b>	Spillage is controlled through tripping devices and hooter system	Good
h)	<b>Whether aisles are marked and emergency exits displayed?</b>	Work in progress	To be done

**C-19.6 Hazard Assessment For New Equipment**

a)	<b>What is the system for</b>	Pre examination,	Good
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	<b>effecting any change in the existing plant , equipment ?</b>	Safety features ,Parameters calculation with hazop study and risk involved therein	
b)	<b>Is there system for evaluating hazards from new equipment?</b>	Yes, implemented compulsory	Good
c)	<b>Whether the P &amp; I diagrams and other related documents are updated accordingly?</b>	Yes ,before start of work .	Good
d)	<b>Is any Job Hazard Analysis (JHA) carried out after installation of new equipment ?</b>	Yes	Satisfactory

**C-19.7 Hazards from Radiation Sources**

a)	<b>Whether licenses have been obtained for storage / handling of radioactive materials?</b>	Not Applicable	Nil
b)	<b>Whether approved radiological Safety Officer appointed ?</b>	Not Applicable	Nil
c)	<b>Whether appropriate PPEs are used against radiation hazards ?</b>	Not Applicable	Nil
d)	<b>Is the flooring of the radioactive material handling area amenable for proper decontamination?</b>	Not Applicable	Nil
e)	<b>Is the storage room of radiation sources as per the license condition ?</b>	Not Applicable	Nil
f)	<b>Are all persons working in the facility have radiation safety training ?</b>	Not Applicable	Nil
g)	<b>Is the operators handling devices using radioactive materials qualified and posses the necessary certificate ?</b>	Not Applicable	Nil
h)	<b>Is the periodical radiation monitoring carried out ?</b>	Not Applicable	Nil
i)	<b>Are the records of inventory of radioactive material maintained in the standard format and submitted in the competent authority as per</b>	Not Applicable	Nil

	the period specified ?		
j)	Are emergency handling tools available ?	Not Applicable	Nil
k)	Are the personnel monitoring badges (TLD, Pocket dosimeter, etc) assigned and worn by each radiation worker ?	Not Applicable	Nil
l)	Are the radiation symbol and red light displayed as required ?	Not Applicable	Nil

**C-20 CHEMICAL HAZARD**

**C-20.1 Transportation of Hazardous Substances**

a)	What potentially hazardous materials are transported to or from the site ( including wastes)	As per list of Raw Materials	Care shall be taken for handling as per M.S.D.S. and S.O.P.
b)	What mode of transport are used? 1) Road 2) Rail, and 3) Pipelines	Yes No No	Good.
	1) Road	Outside Sources	Good.
	i) Does the company employ licensed vehicle of its own / outside sources?		
	ii) Are the loading / unloading procedures in place and safety precautions displayed?	Yes, maintained	Good.
	iii) Is there a provision to check the healthiness of road tanker with respect to explosives rules?	Yes, System for explosives rules are adapted strictly	Good.
iv) Are loaded tankers or trucks	Parking Area Provided separately for loaded tankers	Good.	
		Yes	Good



	parked in a specified area on-site?		
v)	Do all truck and tanker drivers carry transport emergency (TREM) card or instruction booklet?	Yes, it is made compulsory	Good
		Yes labeling and instructions with Haz. Code adapted	Satisfactory
vi)	Do all truck and tanker drivers get training in handling emergencies during transport?	Not Applicable	Nil
vii)	Are all the tankers marked for proper Haz chem code ?		
<b>2) Rail</b>			
i)	What hazardous materials are transported by rails ?	Not Applicable	Nil
ii)	Does the company have a direct siding on site ?		
iii)	Are tankers or other wagons used in transportation ?		
<b>3) Pipelines</b>			
i)	What materials are transported to and fro from the site by pipelines ?	Not Applicable	Nil
ii)	Are the pipelines underground or over ground ?		
iii)	Are corrosion protection measures employed in pipelines ?		
iv)	Whether		

	intermediate booster bumps are used ?		
v)	What is the maximum, minimum and average transfer rate ?		
vi)	Are the pipelines extended in the public domain ?		
vii)	Are the pipelines dedicated for each type of chemical ?	Not Applicable	Nil
viii)	Are the pipelines fitted with safety equipment such as leak detectors, automatic shut off valves etc.		
ix)	What is the frequency and method of testing the pipeline?		
x)	Is there a written procedure for tackling leakages in pipelines?		

**C-20.2 Handling of hazardous substances**

a)	<b>What are the hazardous substance handled in the factory?</b>	As per the list of raw Materials	Labels & Holdings Are to be Displayed all over the unit
b)	<b>Whether quantity of hazardous substances is above the threshold limit specified in the manufacture, storage and handling of <i>Hazardous Substances Rule, 1989</i> ? If yes, then required documentation is available as per the rule.</b>	Yes, Toluene	Area of parking is identified and all rules of explosive substances are verified in regular schedule

c)	<b>Whether written procedures for handling the hazardous substance is available and operators are trained for handling such substances including actions required in such case of leakages and spillages ?</b>	Yes, as per the norms of explosives Dep't.	Procedure shall be followed for PESO instructions
d)	<b>Are the employees aware of the hazard arising from hazardous substances and safety precautions to be taken during handling of these?</b>	Yes, all related workers are trained for Explosives storage and handling	

#### **C-20.3 Material Safety Data Sheets (MSDS)**

a)	<b>Are the material safety data sheets available for all the chemicals handled, used and manufactured in the factory?</b>	All haz. Chemicals MSDS available	Good
b)	<b>Whether the latest MSDS are displayed at strategic location?</b>	Work in progress.	Good
c)	<b>Is it available in local language?</b>	Yes	Good

#### **C-20.4 Spill Control Measures**

a)	<b>Whether spill control procedure is available?</b>	Yes	Good
b)	<b>Whether spill collection pit / sump is available at the workplace?</b>	Yes	Good
c)	<b>Whether methodology for recovery /disposal of collected material has been established?</b>	Yes Hazardous materials are handled according to MPCB Rules	Good

#### **C-20.5 Storage of Hazardous Substances**

a)	<b>Whether storage vessels are identified with the capacity as required under <i>MSIHC, Rules 1989</i>?</b>	Yes	Good
b)	<b>What are storage pressure and temperature?</b>	Atmospheric Pressure & Ambient Temp.	Good
c)	<b>Whether vessels are above ground or underground?</b>	Underground	Good
d)	<b>If any of the tanks storing</b>	As per norms of PESO	Good

	<b>flammable material whether electrical equipment and fittings are as per electrical area classification?</b>		
e)	<b>Is the bounded area takes into account the total quantity of the largest tank?</b>	Yes	Good
f)	<b>Whether the bund perimeter takes into account consideration of trajectory of leak from tank?</b>	Yes	Good
g)	<b>Are the vessels properly bonded and earthed and whether periodically checked and record maintained?</b>	Yes	Good
h)	<b>Are the vessels fitted with remotely controlled isolation valves?</b>	<b>No</b>	<b>Not Applicable</b>
i)	<b>Are vessels provided with emergency vent, relief valve, bursting disc, level indicator, pressure gauge, and overflow line?</b>	All fittings and fixtures are as per standards of safety	Good
j)	<b>Where such do vents discharge?</b>	To vent valve	Good
k)	<b>Are the vessels provided with alarms for high level, high temperature and high pressure?</b>	No	Not Applicable
l)	<b>Are standby empty tanks or any other alternate systems provided for emptying / transfer in case of emergency?</b>	Yes, System provided	Good
m)	<b>What are the provisions made for firefighting / tackling emergency situation around the storage vessels?</b>	Hydrant system with foam monitors. provided	Good
n)	<b>Has any consequence analysis for loss of containment been carried out?</b>	Yes	Good
o)	<b>Whether the vessels are tested as per stature?</b>	Yes ,Periodically by competent person	Good
p)	<b>Whether log sheets are filled up on daily basis for recording the parameter of</b>	Yes Maintained	Good

	these vessels?		
q)	Whether monitors for detection of leakage of flammable / toxic material installed?	Yes, provided	Good
r)	Whether chemicals stored as per their compatibility?	Yes	Good

#### C-20.6 Gas Cylinders

a)	What are the various gas cylinders used in the plant?	O2,N2, & LPG	Good
b)	Are valid licenses available for storing all these cylinders?	Yes	Good
c)	Are the cylinders stored and segregated as per their compatibility?	Yes	Good
d)	What are the measures taken for combating any emergency in the cylinders storage area?	Cylinders are protected by chains with specific stand with fire extinguishers.	Good Practice
e)	Whether integrity test certificates are obtained from the suppliers of the cylinders?	Yes	Good
f)	Are the cylinders chained and secured properly along with the valves caps and proper identification color code?	Yes, As per norms	Good
g)	Are the cylinders protected from heat or sun and rain?	Yes, Shed provided.	Good
h)	Whether monitors for detection of leakage of flammable / toxic gas installed?	Yes, No	Good, To be Done

#### C-20.7 Labeling and Color Coding

a)	Are all the containers, vessels and storage tanks labeled for its contents and capacity ?	Yes, properly labeled and hazards are displayed.	Good
b)	Whether the pipelines are color coded as per IS 2379?	Yes	Good
c)	Is any plant specific color code followed ?	Yes as per attached sheet	Good
d)	Whether the color codes are displayed conspicuously in the working areas ?	Yes	Good

**C-20.8 Hazardous Waste Management**

a)	<b>Is identification done for various types of hazardous wastes ?</b>	Yes	Good
b)	<b>Are those quantities less than those specified by the Hazardous Wastes (Management &amp; Handling) Rules, 1989?</b>	Controlled by ETP.	Good
c)	<b>What are their disposal modes ?</b>	Licensed Vehicle of Common Hazardous Waste Facility	Good
d)	<b>What are the systems / measures adopted for controlling air / water / land pollution ?</b>	Make compliance as per MPCB norm and applicable rule.	Attached
e)	<b>Whether solid waste like combustibles, plastic, metal, etc segregated ?</b>	Yes	Good

**C-21 FIRE AND EXPLOSION HAZARD****C-21.1 Organizational Set-up For Fire Fighting**

a)	<b>What is the total strength of fire station and fire crew ?</b>	09	Good
b)	<b>How many fire crews are available in each shift ?</b>	03	Good
c)	<b>Is there fire squad identified in each squad ?</b>	Yes, by dress code	Good
d)	<b>Standing fire order is available with latest revision</b>	Yes available with standing instructions	Good
e)	<b>How is the communication with fire station?</b>	Through ECC	Good
f)	<b>Does fire safety inspections carried out?</b>	Yes Fire Audit is conducted at regular intervals	Good
g)	<b>Does emergency procedure available for leakage or combustion or flammables?</b>	Yes provision is made	Good
h)	<b>What measures are available to control the fire load in the plant area?</b>	Hydrant System Sprinkler system provided to each section with Extinguishers	Good
i)	<b>Whether technical knowledge and skills of the manager and staff responsible for overall fire</b>	Team of qualified experts With mock drill on Fire	Good

	<b>safety of the plant adequate?</b>		
j)	<b>How many major and minor incidents / fires were there in the factory during the last five years ? Give department / plant wise.</b>	No fire	Good
k)	<b>Have all the fires / incidents investigated and corrective actions taken? Give break up.</b>	00	Good
l)	<b>Resources :</b> 1) Adequacy of protective clothing (coat, trouser, gloves, boots and helmets); 2) Availability of SCBA for firefighting operations and spare cylinders (at least 2 for each SCBA) ; 3) Adequacy of hose, nozzles, ladders, lighting equipment and pumps; and 4) Communication facility at fire station, walki talki sets during fire fighting.	Provided  Provided  Provided  Provided	Good

**C-21.2 Built in Safety in Civil Design and Construction**

a)	<b>Whether the two safe means of escape available? Are they in separate directions?</b>	Yes, emergency exits provided to each department	Satisfactory
b)	<b>Are emergency exits provided to the building handling flammables?</b>	Yes	Good
c)	<b>Whether fire / smoke detectors are installed in fire prone areas?</b>	Smoke detectors with fire call points provided	Good
d)	<b>Whether fire or smoke detectors installed in fire prone area?</b>	Yes	Good
e)	<b>Whether fire call points provided in different areas?</b>	Yes	Good
f)	<b>Whether fire hydrants are provided near the buildings?</b>	Yes with emergency backup of D. G. Set	Good
g)	<b>Is ventilation system in plants handling flammables</b>	Good ventilation provided	satisfactory

	is adequate to prevent formation of flammable mixture?		
h)	Is adequate separation provided between combustible / flammable materials and other material to restrict the fire growth?	Segregation is done	Good
i)	Access routes for firefighting operations is available for areas having high fire load	Fire access and evacuation plan is derived	It shall be displayed at proper places
j)	Whether building changes interfere with fire detection and / or fire suppression systems?	Yes, system is updated	Good
k)	Whether building changes cause unreasonable fire loading / opening in the fire rated walls?	Fire load is calculated according to changes.	Good

**C-21.3 Built in Safety for Electrical Circuit and Equipment**

a)	Are the electrical equipment in areas where flammable mixture is likely to be present of flame-proof type?	Yes flameproof equipment provided.	Good
b)	Are lightning arrestors provided to the building or structures storing flammable materials?	Yes. Provided	Good
c)	Whether adequate bonding and grounding of electrical equipment / pipeline provide?	The whole plant is grounded properly.	Good

**C-21.4 Explosive Substances**

a)	Whether necessary license or approval taken from concerned statutory bodies?	Yes, From Controller of Explosives	Good
b)	Whether systems for explosion suppression, high speed fire detection with deluge, sprinklers explosion venting etc are provided?	Yes, Fire Detection and Sprinkler system available all over the plant	Good
c)	Whether explosion resistant walls or barricades are provided around explosive storage?	No	To be Done



d)	<b>Whether explosive substance storage areas are restricted for entry?</b>	Yes, protected by fencing and declared as Hazardous zone	System as per PESO rules is present
e)	<b>Whether only trained persons are handling explosive substances?</b>	Yes, Only Skilled / Trained persons are handling explosive substances.	Good
f)	<b>Whether explosive substances are stored and transported in approved containers only?</b>	Yes	Good
g)	<b>Whether electrical fixtures in the areas handling explosives are explosion proof type?</b>	Yes, maintained	Good
h)	<b>Whether adequate measures are taken to prevent any source of ignition where explosive substances are handled?</b>	Yes, sprinklers, detectors, alarm ,and awareness	Good

**C-21.5 Fire Safety in Handling Flammable and Explosive Materials**

a)	<b>Whether emergency procedure is available for control of leakage?</b>	Yes	Good
b)	<b>Whether emergency measures are displayed locally in case of accidental spillage / leakage?</b>	Yes Displayed	
c)	<b>Whether facility is provided for safe drainage of combustible or flammable liquids in case of leakages?</b>	Yes, Drainage System available	Good
d)	<b>Whether highly flammable liquids are stored under inert atmosphere?</b>	Yes	Good
e)	<b>Whether flammable storage tanks are provided with flame arrestors?</b>	Yes provided	Good Improvement
f)	<b>Whether suitable PPEs are provided?</b>	yes	Good

**C-21.6 Fire Detection and Alarm System**

a)	<b>What type of fire detection and alarm system provided?</b>	Hooters and alarms provided	All the detector systems are to be maintained periodically
b)	<b>Whether all fire prone areas of the plant are covered with a fire detection system?</b>	Yes	Good
c)	<b>Whether fire detection</b>	Yes	Good

	equipment and smoke alarms in good operating conditions?		
d)	Whether the number of fire call points adequate and free from obstruction?	Yes, Sufficient	Good
e)	Whether regular inspection / maintenance / testing of fire detection and alarm system carried out and records maintained?	Yes, maintained well	Good
f)	Whether any atmospheric monitoring is carried out for explosive mixture of gases or vapor?	Yes	Good
g)	Whether emergency power supplies are provided to fire detection and fire alarm system?	Yes. D.G.Sets available 1100 KVA	Good
h)	Whether smoke detectors are located considering ventilation pattern?	Yes, good System	Good
i)	Whether annunciation of fire is local or in the control room or in both places?	Control Room	Good
j)	Whether fire panel is constantly attended?	Yes, By operators	Good

**C-21.7 Passive and Active Fire Protection System**

a)	What are the passive fire protection measures available? ( barriers, doors, dampers, etc.)	Fire Door, Fire Blanket available Not available	Good
b)	Are the areas requiring fire barriers identified?	Not Applicable	Nil
c)	Whether the fire barrier provided is of adequate ratings?	Not Applicable	Nil
d)	Whether ventilation ducts in flammable areas have been provided with isolation dampers of suitable fire ratings?	Not Applicable	Nil
e)	Whether sprinklers / deluge are installed wherever necessary?	Yes, sprinkler system provided to whole plant	Good
f)	Whether regular inspection /	Yes,	Good

	<b>maintenance / Testing of fire protection system carried out and records maintained?</b>		
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**C-21.8 Fixed Fire Extinguishing System**

a)	<b>What are the sources of fire water and whether they are dedicated to the fire extinguishing system?</b>	Fire water tank Capacity of 3.5 lakh lit provided.	Good
b)	<b>Whether the capacity of dedicated water reservoir is adequate to supply to hydrants for minimum 2 h ?</b>	Yes, 2.5 hr.	Good
c)	<b>Whether uninterrupted power supply is provided to the fire water pumps ?</b>	Yes	Good
d)	<b>Whether the extinguishing medium selected is appropriate to the class of fire? (Water, gaseous. Foam, dry powder) ?</b>	Yes, as per requirement	Good
e)	<b>Whether fire hydrant layout is available?</b>	Yes	Prepared
f)	<b>Whether additional ( Over minimum requirement ) fire hoses, nozzles are available ?</b>	Yes additional hoses and nozzles available	Good
g)	<b>Whether the hydrant lines are kept pressurized?</b>	Yes ,always	Good
h)	<b>Whether regular inspection / maintenance / testing of fixed fire extinguishing system carried out and records maintained?</b>	Yes, Done regularly with mock drill	Good

**C-21.9 Portable Fire Extinguishing System**

a)	<b>Whether suitable type and number of fire extinguisher provided ?</b>	Yes, adequate nos. provided	Good
b)	<b>Whether the fire extinguishers are located at conspicuous position and easily accessible ? Are the fully charged and tagged ?</b>	Yes, as per list attached	Good
c)	<b>Whether the fire extinguishers periodically inspected, tested, refilled and records maintained ?</b>	Yes , inspected & maintained as per requirement.	Good
d)	<b>Whether defective /</b>	No	Good

	<b>unchecked fire extinguishers present at sight ?</b>		
e)	<b>Whether additional fire extinguishers are available?</b>	Yes	Good
<b>C-21.10 Fire Fighting Equipment and Facilities</b>			
a)	<b>Whether fire tenders (water / foam ) are available?</b>	Yes	Good
b)	<b>Whether the firefighting system and equipment approved, tested and maintained as per relevant standard?</b>	Yes maintained	Good
c)	<b>Whether the SCBA / fire suite provided to firefighting team for immediate action?</b>	Yes	Good
d)	<b>What is system for maintenance / recharge of SCBA ?</b>	Periodic cleaning & Maintenance done	Good
e)	<b>Is proper access available for firefighting equipment?</b>	Yes, access to the fire extinguisher is always kept obstacle free.	Good
f)	<b>Whether fire hose cabinets are in good condition, easily visible, and accessible?</b>	Yes	Good
g)	<b>Whether drill tower is available? Are fire personnel carrying out regular fire drill?</b>	Yes, fire drill conducted at regular interval as per mock drill schedule. regular training schedule	Good
h)	<b>What is the communication facility at fire station ? Is it adequate ?</b>	Mobile and internet	Good
<b>C-21.11 Fire Drill</b>			
a)	<b>Whether mock fire drills are conducted? What is the frequency of drills?</b>	Yes, Six monthly.	Good
b)	<b>Whether fire drills are also performed in night shift?</b>	Yes	Good
c)	<b>Whether feedback of fire drill is documented?</b>	Yes	Good
d)	<b>What is the system of mutual aid scheme?</b>	Fire, Police & Hospital Nos. are displayed in the premises & agreement done with hospital for immediate treatment in case of	Good

any emergency.

#### C-21.12 Fire Fighting Training

a)	<b>Whether there is a system of providing firefighting training to plant personnel?</b>	Yes, Training & Mock drill from Fire experts	Good
b)	<b>What is the frequency and duration of such training? Whether training records are maintained?</b>	Monthly	Good
c)	<b>Whether fire squads are identified for different areas for first aid firefighting and rescue and suitably trained ?</b>	Yes, Trained First aiders-15 Nos. Available, Fire Fighting-20 Nos. Rescue operations -20 Nos.	Good
d)	<b>Are all personnel conversant with the fire prevention and protection measures?</b>	Yes	Good
e)	<b>Whether the fire staff are sent for refresher / advanced training courses ?</b>	Yes ,regularly	Good

#### C-21.13 Static Electricity and Lightning

a)	<b>Whether all vessels and pipes provided with suitable bonding and grounding?</b>	Yes	Good
b)	<b>Whether arrangement has been made for grounding the tanker containing flammable liquid during loading / unloading?</b>	Yes, system for earthing & grounding & checklist followed for Loading/Unloading of flammable material	Good
c)	<b>Whether spark resistant tools are provided?</b>	Yes	Good
d)	<b>Whether lightning protection is provided and is adequate?</b>	Lightning Arresters provided to Plants, MEE etc.	Good
e)	<b>Whether anti-static clothing, hand gloves and foot wear provided?</b>	Yes	Good

#### C-21.14 Pressure Relief System

a)	<b>Whether the listing of all 'pressure plants' [ as defined under factories act ] has been done ?</b>	All pressure vessels are listed.	Good
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## C-22 INDUSTRIAL HYGIENE / OCCUPATIONAL HEALTH

### C-22.1 Ventilation, Illumination, Noise, Vibration, Heat Stress and Non-ionizing Radiations

#### C-22.1.1 Ventilation

a)	<b>Whether any ventilation study has been carried out ?</b>	Yes	Good
b)	<b>Whether natural ventilation is adequate or not ?</b>	Yes, adequate	Good
c)	<b>Whether dust / fumes / hot air is generated in the process?</b>	Yes, T.F.H. & production area	Scrubber and chimney provided with sufficient drought
d)	<b>Is there any exhaust ventilation system in any section of the plant?</b>	Yes, Cyclones, Scrubber, Chimney with FD fan provided	Good
e)	<b>Is periodic / preventive maintenance of ventilation system carried out and record is maintained?</b>	Maintained regularly	Good
f)	<b>Does nay ventilation system recirculate the exhausted air in work areas ?</b>	Not applicable	Nil
g)	<b>Is the work environment accessed and monitored for chemical and physical hazards?</b>	Yes By MOEF approved labs and MPCB.	Good
h)	<b>Whether PPE are provided to workers exposed to dust / fumes and gases?</b>	Yes	Good

#### C-22.1.2 Illumination

a)	<b>Whether illumination study has been carried out for the assessment of illumination level?</b>	Yes	Good
b)	<b>Is there any system of periodical training and replacing the light fittings / lamps in order to ensure that they give them an intended illumination level?</b>	Yes, System of cleaning /maintenance available	Good
c)	<b>Are the workers subject to periodic optometric test and records maintained?</b>	Done in medical Examination	Good
d)	<b>Are emergency lighting available at first aid center?</b>	Yes, Available	Good

#### C-22.1.3 Noise

a)	<b>Whether any noise study conducted?</b>	Yes	Good
b)	<b>Are there any machines / processes generating high noise?</b>	Thermic fluid area & Production area	Good
c)	<b>Whether engineering and administrative controls been implemented to reduce noise exposure below the permissible limits ?</b>	Yes, Vibration reduction & regular maintenance is done	Good
d)	<b>Is there a system of subjecting all those employees to periodic audiometric test who work in high level noise areas?</b>	Yes, during Examination	Good
e)	<b>Whether the workers are made aware of the ill effect of high noise ?</b>	Yes,	Training was conducted on Noise induced hearing loss.
f)	<b>Whether ear muffs / plugs are provided and used ?</b>	No Higher noise	Not Applicable

C-22.1.4 Vibration

a)	<b>Are there equipment which contribute excess level of vibrations and whether they are identified?</b>	Not Excess level	Good
b)	<b>Whether any vibration study has been carried out ?</b>	No	Good
c)	<b>Are the majors taken to combat vibrations to acceptable levels ?</b>	Vibrating pads and regular maintenance	Good
d)	<b>What is the frequency for measurement of vibrations?</b>	Below 80 dB	Good
e)	<b>Are the records of measurements and maintenance of equipment / system maintained?</b>	Yes, Maintained	Satisfactory

C-22.1.5 Heat Stress / Cold Stress ( Extremes of Temperature )

a)	<b>Are there sources from equipment increasing the heat load in work places?</b>	Yes	Good
b)	<b>Whether evaluation of heat stress is carried out?</b>	Yes Generated	Good
c)	<b>Whether natural ventilation is adequate to minimize the heat stress in work environment?</b>	Yes	Good

d)	<b>Are resources available to deal with very hot or very cold conditions? (drinking water, gloves, insulated boots ) ?</b>	Yes drinking water, gloves, insulated boots provided.	Good
e)	<b>Do workers know the systems of heat cramps / heart stroke or frost bite / hypothermia?</b>	Yes, awareness training is given to workers. Occupational Health Center provided.	Good
f)	<b>Are the PPE suitable for reducing the effect of heat stress available?</b>	Fire Dress, Insulated Boots and Gloves provided.	Good

**C-22.1.6 Non-ionising Radiations**

a)	<b>Does the work involve likely exposure to non-ionising radiations ( ultraviolet, infrared, radiofrequency, microwaves, lasers etc )</b>	Not Applicable	Nil
b)	<b>Whether risk assessment have been done for all wok areas involving presence of non-ionising radiations ?</b>	Not Applicable	Nil
c)	<b>Are the work areas displayed with relevant safet signs ?</b>	Not Applicable	Nil
d)	<b>Are the employees aware about the hazards of non-ionising radiations?</b>	Not Applicable	Nil
e)	<b>Does written procedures exists for working in non-ionising radiations?</b>	Not Applicable	Nil
f)	<b>Is the work environment monitored periodically for physically hazards and control measures initiated whenever deviation and permissible values is observed?</b>	Not Applicable	Nil
g)	<b>Whether suitable PPE provided to workers exposed to non-ionizing radiations?</b>	Not Applicable	Nil

**C-22.2 Work place Monitoring for Hazardous Chemicals**

a)	<b>Whether the dust, fumes, smoke aerosols and mist are monitored as per statute and records</b>	As per Pollution Board Norms.	Good
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b)	<b>What are the types of detectors used for monitoring Concentration of hazardous chemicals?</b>	Yes, Digital Detector e. g. Chlorine Detector, LEL/UEL & Oxygen Monitoring Meter etc.	Good
c)	<b>Is any alarm system installed for any leakage of hazardous chemicals?</b>	Yes detectors with hooter available	Good
d)	<b>Are antidotes available for toxic chemicals?</b>	Yes	Good
e)	<b>Are control measures initiated whenever deviation From permissible values is observed?</b>	Yes	Good
<b>C-22.3 First Aid Facilities and Occupational Health Centre (OHC)</b>			
a)	<b>Are adequate numbers of first aid boxes provided? Give location details?</b>	Yes, 11 nos. presently Security , Office, OHC Room, Maintenance, Store, Plant, QC Lab	Good
b)	<b>Are qualified / trained first aiders available in each shift?</b>	Yes	Good
c)	<b>How many qualified / trained first aiders are available at each plant / department?</b>	12 Nos.	Good
d)	<b>How many persons are trained / given refreshers training in first aid in a year?</b>	12	Good
e)	<b>Whether occupational health centre is provided?</b>	Yes ,Good provision	Good
f)	<b>Does OHC conform to the provisions of the existing statutes?</b>	Yes	Good
g)	<b>Are the Medical Attendants / Doctors available in each shift?</b>	Yes	Good
h)	<b>What facilities are available for transportation of the injured to hospital?</b>	Ambulance	Good
i)	<b>Are the names of the trained first aiders displayed?</b>	Yes	Good
j)	<b>Are the name of nearest hospitals and its telephone number available in OHC?</b>	Yes	Good
k)	<b>Does the plant have any special preventive medicine program?</b>	No	Nil

l)	<b>Is ambulance posted in proper place and is it available whenever required?</b>	Yes	Nil
m)	<b>Are sufficient numbers of anti-dotes available in case of any emergency?</b>	Yes	Good
n)	<b>Are fire safety measures provided in first aid centre?</b>	Yes	Good
o)	<b>Are emergency lighting arrangements available at First aid centre?</b>	Yes	Good

**C-22.4 Periodic Medical Examination**

a)	<b>Whether the periodical medical examination of employees, required under relevant statute is carried out?</b>	Yes ,Done by Certifying Surgeon	Good
b)	<b>Whether it is ensured that contractors employee are medically examined during pre-employment as well as during the course of employment?</b>	Yes	Good practice
c)	<b>During the periodical medical examination of the workers, are they examined as per the hazardous process in which they work? (First schedule of The Factories Act, 1948)</b>	Yes As per First Schedule	Good
d)	<b>Are the records of all such examination maintained?</b>	Yes	Good

**C-22.5 Personal Protective Equipment and Emergency Equipment**

a)	<b>Whether list of required PPE for each hazardous activity is available?</b>	Yes, List Maintained	Good
b)	<b>Whether feedback from workers obtained during selection of PPE?</b>	Yes,	Good
c)	<b>Have the workers been trained in proper use of PPE including BA sets?</b>	Yes & Periodic Practical Training is Provided	Good
d)	<b>What is the system of procurement, inspection, issue, maintenance and</b>	Need of PPEs is identified by each dept. On the basis of need	Good

	<b>replacement of PPE?</b>	identified Procurement is done by safety dept. Safety dept. monitor condition of PPEs available on the monthly basis & replaced damaged PPEs immediately.	
e)	<b>Whether qualitative and quantitative fit-check for Respirators is ensured prior to use?</b>	Yes done periodically	Good
f)	<b>What are the arrangements for safe custody and storage of PPE?</b>	Separate Rack Provided	Good
g)	<b>Are the contractor's workers provided with the required PPE?</b>	Yes, Provided	Good
h)	<b>Do the PPE conform to any standard?</b>	ISI Standard	Satisfactory
i)	<b>Are sufficient eye wash fountains and safety showers available?</b>	Yes Provided in the plant & near chemical stores.	Good
j)	<b>Whether appropriate respiratory protective devices are available in accordance to the hazard potential?</b>	Yes Nose mask & Breathing Apparatus provided.	Good
k)	<b>Are the staff members trained in the right uses of respiratory protective devices?</b>	Yes	Good

**C-22.6 Occupational Diseases**

a)	<b>Whether pre-employment medical check-up data available?</b>	Yes	Done by Certifying Surgeon
b)	<b>During the medical check-up, is any person found having occupational diseases mentioned in 3<sup>rd</sup> Schedule of The Factories Act, 1948?</b>	No	Nil
c)	<b>Whether the medical practitioner informed the Chief Inspector of Factories</b>	No	Nil

	about the occurrence of the occupational disease?		
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**C-23 ACCIDENT / INCIDENT REPORTING, INVESTIGATION AND ANALYSIS**

**C-23.1 Accident Reporting and Database Management**

a)	<b>What is the procedure for accident / incident /dangerous occurrence reporting?</b>	As per schedule 3 of Hazardous Rule.	Good
b)	<b>Whether the accident data for the last five years for reportable and non-reportable accidents are Available?</b>	Yes, Accident Register is Updated.	Good

**C-23.2 Accident Investigation**

a)	<b>Are all the accidents investigated?</b>	Yes	Good
b)	<b>Whether accident investigation procedure is documented?</b>	Yes	Good
c)	<b>Whether accident investigation reports are submitted to top management?</b>	Yes	Good
d)	<b>How are the findings from accident investigation reports communicated to workers?</b>	Verbally by supervisor & display on board.	Good

**C-23.3 Analysis of Accidents**

a)	<b>Whether accident analysis is done as per IS 3786?</b>	Yes	Good
b)	<b>Whether root causes of accidents are analysed?</b>	Yes	Good
c)	<b>Is the accident statistics effectively utilized? If yes,</b>	Yes	Good

	how?		
d)	<b>What nature of injuries occurred during the last five years?</b>	Yes, First Aid injuries only.	Nil
<b>C-23.4 Implementation of Recommendations</b>			
a)	<b>How does the management ensure implementation of the recommendations to avoid recurrence of accidents and incidents?</b>	Training and follow-up practices and lesson from previous accidents.	Good
<b>C-23.5 Reporting and Investigation of Near-miss Incidents</b>			
a)	<b>Are all near-miss incidents reported and investigated?</b>	Yes , Good analysis	Good
b)	<b>Is there any system of classifying and analysing the near-miss incidents?</b>	Separate register is maintained	Good

## **C-24 EMERGENCY PREPAREDNESS**

<b>C-24.1 Site Specific Details</b>			
a)	<b>Are the site area maps (including layout, access roads and assembly points) available in control Room / emergency control centre?</b>	Yes,	Mock drill of the same will be conducted periodically.
<b>C-24.2 Duties and Responsibilities of Key Personnel</b>			
a)	<b>Is the hierarchy of emergency response personnel right from site emergency controller downward, and alternative officials identified?</b>	Yes, in On Site Emergency Plan, Team of safety and SHE Implementation is engaged	Satisfactory
b)	<b>Are the duties and responsibilities assigned to the designated officials during emergency, both during and outside normal working hours clearly</b>	Yes, On site plan prepared and duties .responsibilities are distributed	Good

	Identified and understood by them?		
<b>C-24.3 Identification of Emergencies and Accident Scenario</b>			
a)	Are the possible accident scenarios leading to emergency identified and known to the operating personnel?	Yes, Work done from previous experience	Good
b)	Are approved emergency preparedness plans (on-Site and off-site) in place?	Yes maintained and implemented	Good
<b>C-24.4 Declaration and Termination of Emergency</b>			
a)	Is the list of designated officials who are to be communicated about declaration and termination of emergency available in the control room /emergency control centre?	Yes, Emergency squad is available including security personnel.	Good
b)	Are the methods of communication (siren, public address system etc.) for declaration and termination of an emergency known to all the Workers?	Yes, through siren of emergency	Good
<b>C-24.5 Resources-evacuation / Transport</b>			
a)	Are the following resources (equipment, personnel and procedures) required to handle emergency available? 1) Communications, 2) Public announcement systems 3) Monitoring of hazardous releases into the environment, 4)Emergency shelters at the facility, 5) Emergency exits with proper illumination, with uninterrupted power supply 6) Direction for emergency	Yes Available Available  Provided  Provided  Provided	All the procedures are to be followed seriously.

	<b>exit / escape route marked in haulage / Alleyways</b> <b>7) Transport for evacuation of plant personnel,</b> <b>8) Medical care including administration of antidotes, and</b> <b>9) Security / maintenance of law and order.</b>	Maintained  Maintained	
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**C-24.6 Communication Facilities**

a)	<b>Does the emergency control centre have direct communication links with the fire station and the Plant control room?</b>	ECC present	Good
b)	<b>Are there adequate alarm points from which an emergency alarm can be raised?</b>	Yes	Good practice
c)	<b>Is there infrastructure available for ensuring backup electric power supply for communication links where required</b>	Back up facility ensured and maintained	Good

**C-24.7 Medical Care**

a)	<b>Is the procedure for emergency medical care available?</b>	Yes Occupational Health center provided with experience ,trained people	Good
b)	<b>Whether the system has been tested at regular frequency through mock drill / exercises for its Adequacy?</b>	Yes, procedure s unique to the plans	Good
c)	<b>Does the system of periodic replacement of antidotes and medicines required in emergency Exist?</b>	Yes, antidotes available	Good

**C-24.8 Updating of Emergency Plan**

a)	<b>Is the emergency plan updated based on the feedback from the periodic drills / exercises?</b>	Yes	Good
b)	<b>Are the contact details of all concerned officials kept updated in the emergency plan?</b>	Emergency contact list prepared	Good

**C-24.9 Periodic Drills / Exercises**

a)	<b>Are mock-exercises conducted at stipulated intervals?</b>	Yes	Good
b)	<b>Are the scenarios varied in the mock-exercises to ensure that all possible factors including Meteorological conditions, affected plant personnel covered?</b>	Yes, done by chemical engineers	Good
c)	<b>Whether emergency preparedness Plans have been tested and reviewed at regular frequency through mock drill for its adequacy</b>	Yes mock drill is conducted at regular interval	Good

**C-24.10 Training of Plant Personnel**

a)	<b>Are the plant personnel trained in handling emergency equipment?</b>	All technical personnel's Are aware of handling emergency & are trained in it	Good
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**C-24.11 Public Awareness Programmes**

a)	<b>Are public awareness programs conducted for the people around the site regarding the actions to be taken in case of off-site emergency?</b>	Done with mutual aid groups	Good
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**C-24.12 Mutual-aid Programme**

a)	<b>Are the types of accidents where external organizations would be involved in remedial actions identified? Are their responsibilities Defined?</b>	Yes	Nature of activities at the vicinity will be studied carefully
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b)	<b>Is the plant responsible for rendering mutual aid Assistance to any other external organizations? Does this assistance effect the plant's emergency Preparedness?</b>	Yes, MIDC Dasarkhed.	Good
c)	<b>Whether the communication channels for mutual assistance identified and known with and between two organizations?</b>	Yes with mutual understanding	Good

**C-24.13 Emergency Control Centre**

a)	<b>Is the emergency control centre located beyond the effective distances of identified emergency Scenarios?</b>	Yes, but Within the premises	Good
b)	<b>If the emergency control centre is located within the effect distance, is it suitably protected that it Will be available in case of emergency?</b>	Yes, protected & maintained	Satisfactory

**C-25 SAFETY INSPECTION**

**C-25.1 Inspection Programme**

**Are checklists available for inspections? For example availability of checklists like:**

a)	<b>Handling, Storage and Transportation of hazardous chemicals;</b>	Available	Good
b)	<b>Electrical hazards;</b>	Available	Good
c)	<b>Fire safety;</b>	Available	Good
d)	<b>Hand and portable power tools;</b>	Available	Good
e)	<b>Machine hazards;</b>	Available	Good
f)	<b>Lifting equipment;</b>	Available	Good
g)	<b>Ladders and scaffolding;</b>	Available	Good

h)	<b>Environmental Monitoring;</b>	Available	Good
i)	<b>Civil structure;</b>	Available	Good
j)	<b>Housekeeping;</b>	Available	Good
k)	<b>Emergency equipment; and</b>	Available	Good
l)	<b>Gas cylinder and other pressure vessels used / Available in the organization.</b>	Available	Good

**C-25.2 Safety Related Deficiency (SRD) Report**

a)	<b>Are SRDs generated based on the area wise checklists?</b>	Yes, done by SHE Team	Good
b)	<b>What is the procedure for resolving the SRDs?</b>	By identifying & implementing action plan which eliminate root cause of SRDs	Good
c)	<b>Whether the procedure exists for notification and root cause analysis of non-conformities and action Taken on them?</b>	Yes, Route cause and non conformities are included in regular schedule	Good

**C-25.3 Safety Inspection Records**

<b>Are the safety inspection records maintained?</b>	Yes, separate file maintained	Records observed	
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**C-25.4 Methodology and Inspection Team**

<b>Is there written procedure for safety inspection?</b>	Yes	Good	
<b>Whether safety inspection is carried out by a designated team?</b>	Yes	Good	
<b>What is the frequency of safety inspections?</b>	Six Monthly	Good	
<b>Whether an inspection report is generated?</b>	Yes	Satisfactory	

**C-25.5 Compliance of Recommendations**

<b>To whom the recommendations are submitted</b>	Management and SHE Team	Good
<b>Are recommendations of safety inspections complied in time?</b>	As early as possible	Good
<b>Is compliance of recommendations sent to top management?</b>	Yes for recommendations	Satisfactory
<b>Is compliance of recommendations reviewed by safety committee?</b>	Yes	Good
<b>Does top management follows-up the compliance?</b>	Yes on priority basis	Satisfactory

Place:Dasarkhed,Malakapur  
Date :02.03.2022

Shekhar L. Nikumbh  
Name and Signature of Safety Auditor

I Mr. M.A.Sapkal

Plant In charge of the factory

M/s. BENZOCEM INDUSTRIES PVT.LTD., Certify that the above said Safety Auditor has personally visited the factory on date 02.03.2022 and carried out Safety Audit in my presence.

Place : Dasarkhed,Malakapur

Date :02.03.2022

Name and Signature of Factory Manager/Occupier


### **I) EXECUTIVE SUMMARY**

- 1) Since explosion is an extremely rapid chemical transformation of fuel accompanied by release of energy and compression of gases capable of producing mechanical work, the detection system of non-visible smoke through ionization detectors photoelectric detectors and infrared detection system will be utilized effectively in the plant.
- 2) Accumulation of Scrap & waste material (Derbies) around the Plant shall be discarded
- 3) Single Line diagram of the plant to be exhibited at the MCC room and at the power distribution room.

- 4) Nut bolts & Welding done for earthing are maintained properly in regular Schedule. Earth resistance measurement is done regularly & record is maintained
- 5) Daily Housekeeping done at All places
- 6) Couple /Belt guards are provided to the pumps and motors particularly in all the Sections & ETP Pond Etc.
- 7) Intensive Care shall be taken for emergency process control (Process Plant)
- 8) To every Main Panel & Control Panel Circuit Breaker is provided with Tripping Relays
- 9) In, HR, Production, Supply Chain, PQA,& Commercial section Personnel Protective Equipment's like Nose mask, Uniform, hand gloves & Goggles, List of PPE are to be made compulsory to workers
- 10) Daily Housekeeping & Weekly inspections of electrical equipment's is done by Factory .
- 11) Written procedure for leakage of pipelines and vessels to be maintained.
- 12) P & I. Diagram are updated according to the change in process.
- 13) Transformer Oil Filtration & Testing shall be done yearly.
- 14) All electrical Panels shall be free from obstructions.
- 15) Proper Housekeeping will be initiated, Gunny bags, Scrap around the plant shall be separated
- 16) Lighting Arrester for Chimney & All sections is provided suitably. Monitoring and Earth resistance shall be maintained periodically
- 17) Double Earthing For all the Storage Tanks is provided.
- 18) Unsafe Condition-Electrical connections are found temporary connected.
- 19) Display of electrical Safety & First Aid of Shock Treatment to be maintained at all electrical Sections.
- 20) Provision of wind Direction assembly shall be maintained.
- 21) Care shall be taken for dispersion of Chlorine gas generated during process
- 22) Second exit for Electrical Panel Room & Lab R & D shall be provided.

- 23) It is advised to maintain all the scrubbers with full efficiency.
- 24) Care shall be taken for Thermal explosion or runaway reaction. It is a process by which an exothermic reaction goes out of control. Thermal runaway may result from unwanted exothermic side reaction that begins at high temp.
- & Reaction mixture is vented into the environment after the rupture disk burst.
- 25) Gangways (Walk Ways) shall be marked with yellow Line.
- 26) Grass accumulated nearby transformer yard shall be removed and cleanliness to be maintained.
- 27) High Volume Long Range (HVLR) Water/Foam monitors are provided for fire safety.
- 28) Dyke wall is provided to all the storage tanks suitably for safety.
- 29) Separate access/store will be provided to Air, Hydrogen ,Ammonia and Oxygen Cylinders.
- \*Hazards in gas cylinder usage
- Exposure to high concentrations of toxic or corrosive gases in case of leakage.
  - Gas cylinders can explode when exposed to high temperatures, e.g., in case of fire.
  - If the valve breaks, the sudden release of compressed gas can turn it into a lethal projectile.
- 30) Fumes of acids for galvanizing, welding & any hot work will be illuminated.
- 31) Gas Exhaust system shall be Improved
- 32) All the Hazardous Chemicals where proper body protection aprons & helmets will be provided for Safety. Awareness will be given to the workers

## J) Safety Committee



**BENZO CHEM**

### BENZO CHEM INDUSTRIES PRIVATE LIMITED

Works: B-24, 25, M.J.D.C. Area, Dasarkhed,  
Malkapur - 443 112, (Dist. Buldhana)  
Phone No. : (07267) 262678/79/81,  
Fax: (07267) 262680

Registered Office: Ground Floor, Madhu Kunj,  
Shankar Ghanekar Marg, Off Sayani Road,  
Prabhadevi, Mumbai - 400 025.  
Phone No. : (022) 24352683, 24370553, 24320921/22/23  
Fax : (022) 24320924

Corporate Identity No. U24100MH1986PTC041751  
E-mail : benzoecou@rediffmail.com Website: www.bcipl.com


**EHS/03/2020**

**August 31, 2020**

#### MINUTES OF THE PLANT SAFETY COMMITTEE MEETING

The plant safety committee meeting was conducted on 26.08.2020 at 4.00 PM. at conference hall and following members attended the meeting.

Sr.No.	Name	Designation	Dept.
1.	Shri M.A.Sapkal	Chairman	Plant Head
2.	Shri Umesh Ladhe	Secretary	EHS
3.	Shri Suhas Narkhede	Member	Maint.
4.	Shri Kailash Chaudhari	Member	QC
5.	Shri Rajesh Sonone	Member	Production
6.	Shri Shyam Patil	Member	Store
7.	Shri Harish Chuadhari	Member	Production
8.	Shri Lalit Jangale	Member	Production
9.	Shri Gopal deshमुख	Member	Production
10.	Shri Govind Sarode	Member	Production
11.	Shri Mahendra Patil	Member	Production
12.	Shri Vinod Bharambe	Member	Maint.
13.	Shri Pranav Patil	Member	EHS
14.	Dr.V.R.Patil	Member	R & D
15.	Shri Amol Karande	Member	Maint.
16.	Shri Vipul Ladhe	Member	EHS
17.	Shri Ankush Patil	Member	Store
18.	Shri Samadhan Ingale	Member	Security
19.	Shri Rajesh Wagh	Member	HR & Admin



ISO 9001, 14001 & 18001 Certified Unit



**BENZO CHEM**

## **BENZO CHEM INDUSTRIES PRIVATE LIMITED**

**Works:** B-24, 25, M.I.D.C. Area, Dasarkhed,  
Malkapur - 443 112, (Dist. Buldhana)  
Phone No. : (07267) 262678/79/81,  
Fax: (07267) 262680

**Registered Office:** Ground Floor, Madhu Kunj,  
Shankar Ghanekar Marg, Off Sayani Road,  
Prabhadevi, Mumbai - 400 025.  
Phone No. : (022) 24362683, 24370553, 24320921/22/23  
Fax : (022) 24320924

**Corporate Identity No. U24100MH1986PTC041751**  
E-mail : benzo@rediffmail.com Website: www.bcipl.com

The Secretary has reviewed Points of last safety committee meeting.

### **MINUTES OF THE MEETING:**

1. Mr. Secretary informs to house please take precaution for Covid and maintain social distance at time of work.
2. Mr. Secretary informs to committee member we are focus on awareness on Covid and Promotes awareness among employee.
3. Mr. Pranav inform to committee member the pressure of hydrant system in maintain at 7 kg/cm<sup>2</sup> after installation of pressure release valve
4. Mr. Chairman Focus & discuss on the incoming periodic maintainces of plant. Instruct committee member & employee followed strictly safety at work during mainatnce.
5. Mr. Ankush Patil also inform main gate of solvent storage area is change as per requirement.
6. Mr. secretary focus on strict implementation of safety rules at work place i.e work permit, safe practices.
7. Mr. Govind sarode point out poor lighting arrangement in factory premises .
8. Mr. Secretary point out large numbers drum inside and outside plant creating unsafe condition.
9. The steam condensate overflows creating slippery and unsafe condition near autoclave area as point out by suhas Narkhede.
10. The Mr. Wagh explain participates of each employee is very much important for overall housekeeping of plant.

The meeting was concluded with thanks to chairman and members present.





## K) Fire Extinguisher as per Number

	Location	Extinguisher Type	Capacity
1	Security Cabin	DCP	5 Kg
2		CO <sub>2</sub>	4.5 Kg
3	11 KV H.T Room	CO <sub>2</sub>	4.5 Kg
4	L.T. Panel Room	CO <sub>2</sub>	4.5 Kg
5		DCP	5 Kg
6	Boiler House	Foam	9 Lit
7		DCP	5 Kg
8		DCP	5 Kg
9		Foam	9 Lit
10		Foam	50 Lit
11		DCP	5 Kg
12		DCP	5 Kg
13		DCP	5 Kg
14		DCP	5 Kg
15		DCP	5 Kg
16	Quality Control	ABC Pressure type	2 Kg
17		ABC Pressure type	2 Kg
18	Electrical Room	DCP	5 Kg
19		CO <sub>2</sub>	4.5 Kg
20	Production	DCP	50 Kg
21		DCP	50 Kg
22		DCP	10 Kg
23		Foam	9 lit
24		DCP	5 Kg
25		DCP	10 Kg
26		Foam	9 Lit
27		DCP	10 Kg
28		Foam	9 Lit
29		Foam	9 Lit
30		Foam	9 Lit
31		DCP	5 Kg
32		DCP	5 Kg
33		DCP	5 Kg

## L) Gas Cylinder Details

Sr.No.	Types Of Gas Cylinders	Cylinder capacity	Available filled cylinders	Location
(Depending upon material state)				
1)	zero Air Cylinder	135 to 140 Kg/Cm <sup>2</sup> Or 7m <sup>3</sup>	02 Cylinders	At Cylinder Yard adjacent of Engineering store
2)	Nitrogen Cylinder (UHP Grade)	135 to 140 Kg/Cm <sup>2</sup> Or 7m <sup>3</sup>	02 Cylinders	At Cylinder Yard adjacent of Engineering store
3)	Hydrogen Cylinder (UHP Grade)	135 to 140 Kg/Cm <sup>2</sup> Or 7m <sup>3</sup>	03 Cylinders	At Cylinder Yard adjacent of Engineering store
4)	Ammonia Cylinder 50Kg		01 Cylinder	At Cylinder Yard adjacent of Engineering store
5)	Oxygen Cylinder	135 to 140 Kg/Cm <sup>2</sup> Or 7m <sup>3</sup>	01 Cylinder	At Cylinder Yard adjacent of Engineering store

M) Training Calendar for Yr-2020-21

COPY  
Sign: J.P.L.L.  
Date: 17-10-18

**BENZO CHEM INDUSTRIES PVT. LIMITED**

SOP No. : QA/005/R02	Version No. : 02	Effective Date : 20.11.2018
Format No. : QA005/F07-02	Effective Date : 20.11.2018	Page No. : 1 of 1

**ANNUAL TRAINING SCHEDULE FOR SAFETY, HEALTH & ENVIRONMENT**

S. No.	Topics	Faculty	Scheduled Month	To attended by
1	Training & Development	Dr. Umesh Lohar	Apr-20	
2	Accident Investigation	- - -	May-20	
3	Housekeeping	- - -	Jun-20	
4	ISO 9001-2015	- - -	July-20	
5	MSDS of Material	- - -	Aug-20	
6	First Aid	- - -	Sep-20	
7	Safety in Chemical Plant	- - -	Oct-20	
8	Leadership/Supervisory skill	- - -	Nov-20	
9	Fire & Safety	- - -	Dec-20	
10	Environment Safety	- - -	Jan-21	
11	Communication skill	- - -	Feb-21	
12	Chlorine Safety	- - -	March-21	

Prepared by (Concerned Department)	Checked By (Manager - Concerned Department)
Name HR / Admin	
Sign/Date <i>[Signature]</i> 17/10/2018	<i>[Signature]</i> M.A. Sapkal Plant Head

Format	Prepared By	Approved By	Authorized By
Name	Kailas Chaudhari	Gopal Chaudhari	Madhukar Sapkal
Designation	Chemist - QA	Manager - QA/QC	Plant Head
Signature/Date	<i>[Signature]</i> 17.10.18	<i>[Signature]</i> 17.10.18	<i>[Signature]</i> 17.10.18

Scanned by CamScanner

## Colour Coding



**BENZO CHEM INDUSTRIES PVT. LTD.**  
Plot No B -24,25, MIDC, Dasarkhed, Malkapur

**Telephone Numbers in Emergency situation**

Fire Brigade		
1)	Khamgaon	07263-254101
2)	Deepnagar	02582-250012
		02582-250088
3)	Bhusawal	02582-222660
4)	Jalgaon	0257-2221044
		0257- 2224444

Hospitals		
1)	Dr. Kolte hospital	07267222484
2)	Civil Hospital, Malkapur	07267-222443

Blood Banks		
1)	Babasaheb Topale Memorial Blood Bank, Akola	0724-2420214
2)	Indian Red Cross Society, District Blood Bank, Jalgaon.	0257-2226233

Management		
Sr.No.	Name	Contact No.
1)	Mr. K.Mohan	022 43555888
		8978870305
2)	Mr. M.A.Sapkal	9623367814
3)	Dr. Umesh Ladhe	9766438879
4)	Mr. Suhas Narkhede	9325485172
5)	Mr. Hemant Talele	9765011807
6)	Mr. Rajesh wagh	9320882626
7)	Mr. P.N.Zope	9370327217

Ambulance		
1)	Civil	07267-222443
2)	Life line	-

Police Station		
1)	Malkapur City	07267-222018
2)	M.I.D.C. Area	07267-262340

## **BENZO CHEM INDUSTRIES PVT LTD, MALKAPUR**

Plot.no.B-24, 25 MIDC Dasarkhed, Malkapur

### **List of Emergency life supporting equipment**

Sr.no	Name of life supporting equipment's	Locations	Numbers
1	Self-containing breathing apparatus	Q.C	1
2	Self-containing breathing apparatus	Production (Supervisor cabin)	1
3	Self-containing breathing apparatus	Security cabin	1
4	Self-containing breathing apparatus	Engg store	1
5	Breathing apparatus	Health center	1
6	Cyanide antidote kit	Q.C	1
7	Chlorine leak prevention kit	Production	1

## BENZO CHEM INDUSTRIES PVT LTD ,MALKAPUR.

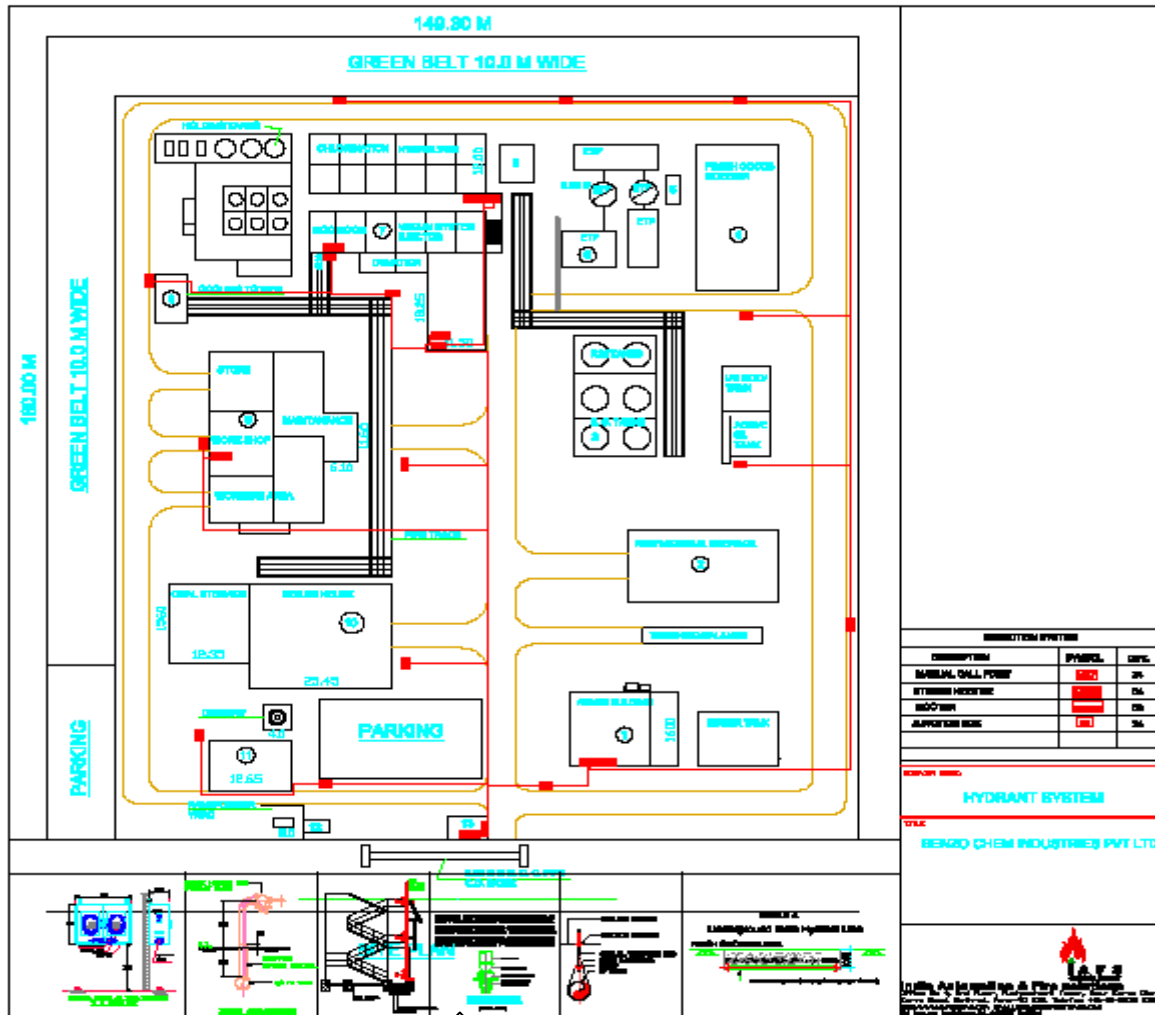


### FIRST AID TEAM



Sr.No	Name	Department
1	Mr.Pradip Chuadhari	Production
2	Mr. M.B.Bhangale	Production
3	Mr. R.M.patil	Production
4	Mr.Mehendra Patil	Production
5	Mr.Sanjay Mahajan	Production
6	Mr. D.B.patil	Production
7	Mr.Sudesh Naik	Enggnering
8	Mr.Vijay Kolte	Enggnering
9	Mr.Gopal Chuadhari	Q.C
10	Mr. Suhas Lokhande	Q.C
11	Mr.Sandesh Patil	Store & Purchase
12	Mr.Shyam Patil	Store & Purchase
13	Mr.Govind Chandak	Admin
14	Mr.Sagar Rajapure	Excise

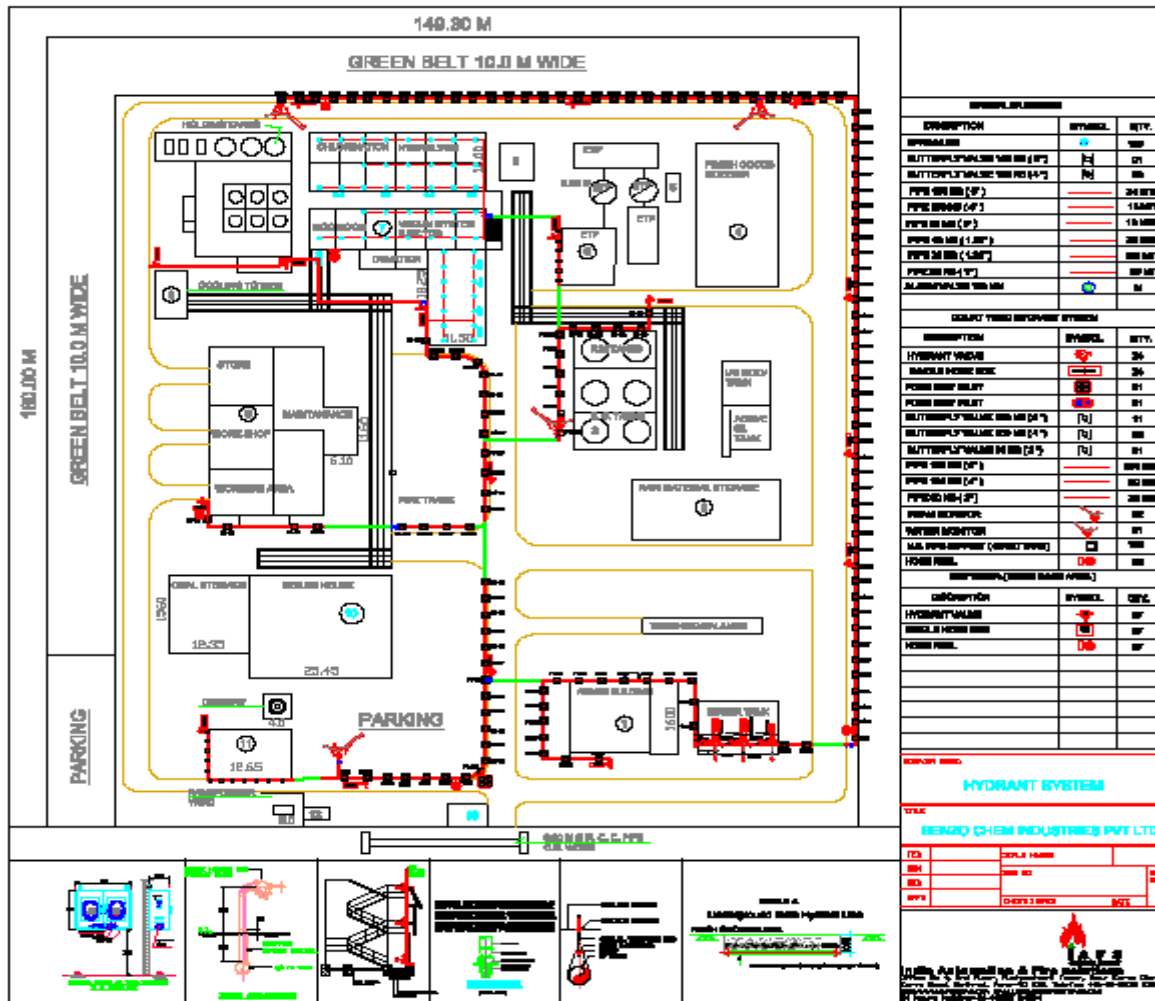
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Manual Alarm Model



# Hydrant System



DESCRIPTION	SYMBOL	QTY.
HYDRANT MAIN	—	100
BUTTERFLY VALVE 150 MM (6")	—	01
BUTTERFLY VALVE 100 MM (4")	—	02
PIPE 150 MM (6")	—	240 METERS
PIPE 100 MM (4")	—	150 METERS
PIPE 75 MM (3")	—	200 METERS
PIPE 50 MM (2")	—	100 METERS
PIPE 25 MM (1")	—	500 METERS
HYDRANT EQUIPMENT	—	01
HYDRANT CONNECTION TO WATER MAIN	—	01

DESCRIPTION	SYMBOL	QTY.
HYDRANT MAIN	—	25
BRANCH HYDRANT MAIN	—	25
HYDRANT VALVE	—	01
BUTTERFLY VALVE 150 MM (6")	—	01
BUTTERFLY VALVE 100 MM (4")	—	01
BUTTERFLY VALVE 75 MM (3")	—	01
PIPE 150 MM (6")	—	100 METERS
PIPE 100 MM (4")	—	100 METERS
PIPE 75 MM (3")	—	200 METERS
HYDRANT EQUIPMENT	—	01
HYDRANT CONNECTION TO WATER MAIN	—	01
HYDRANT CONNECTION TO OTHER SYSTEM	—	01
HYDRANT CONNECTION TO WATER MAIN	—	01

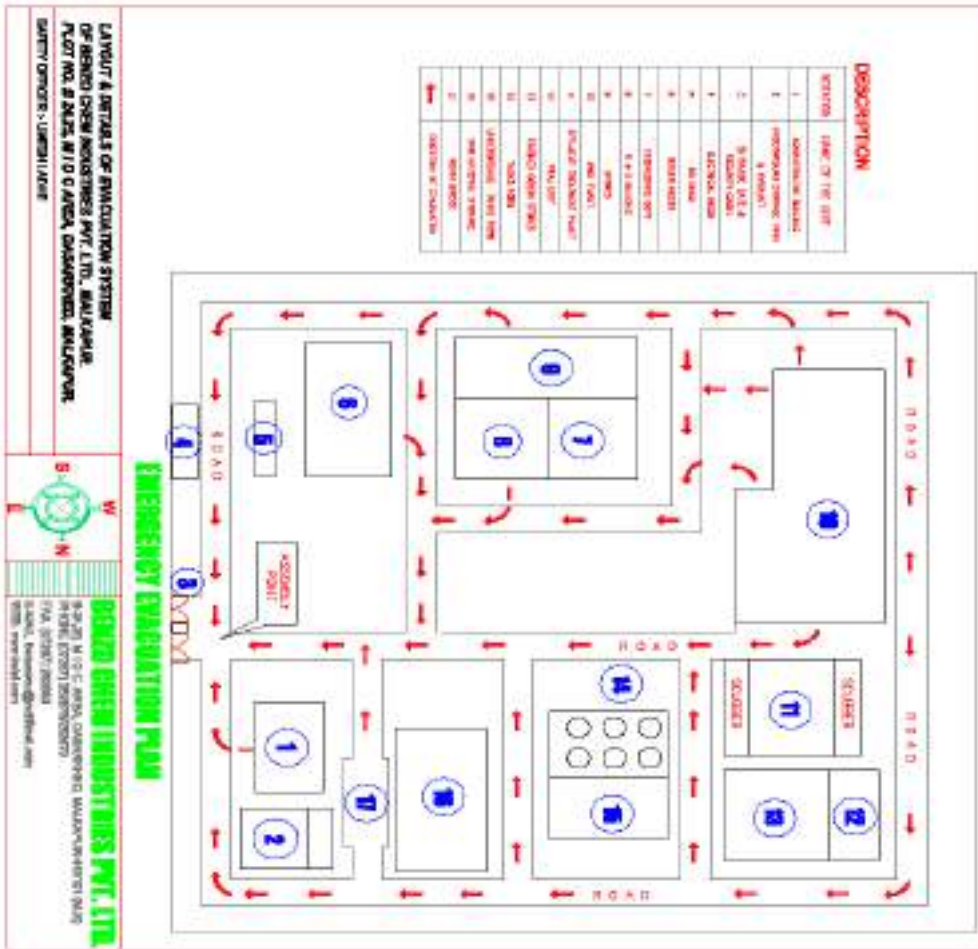
DESCRIPTION	SYMBOL	QTY.
HYDRANT MAIN	—	01
BRANCH HYDRANT MAIN	—	01
HYDRANT VALVE	—	01

**HYDRANT SYSTEM**

BEACON CHEM INDUSTRIES PVT. LTD.

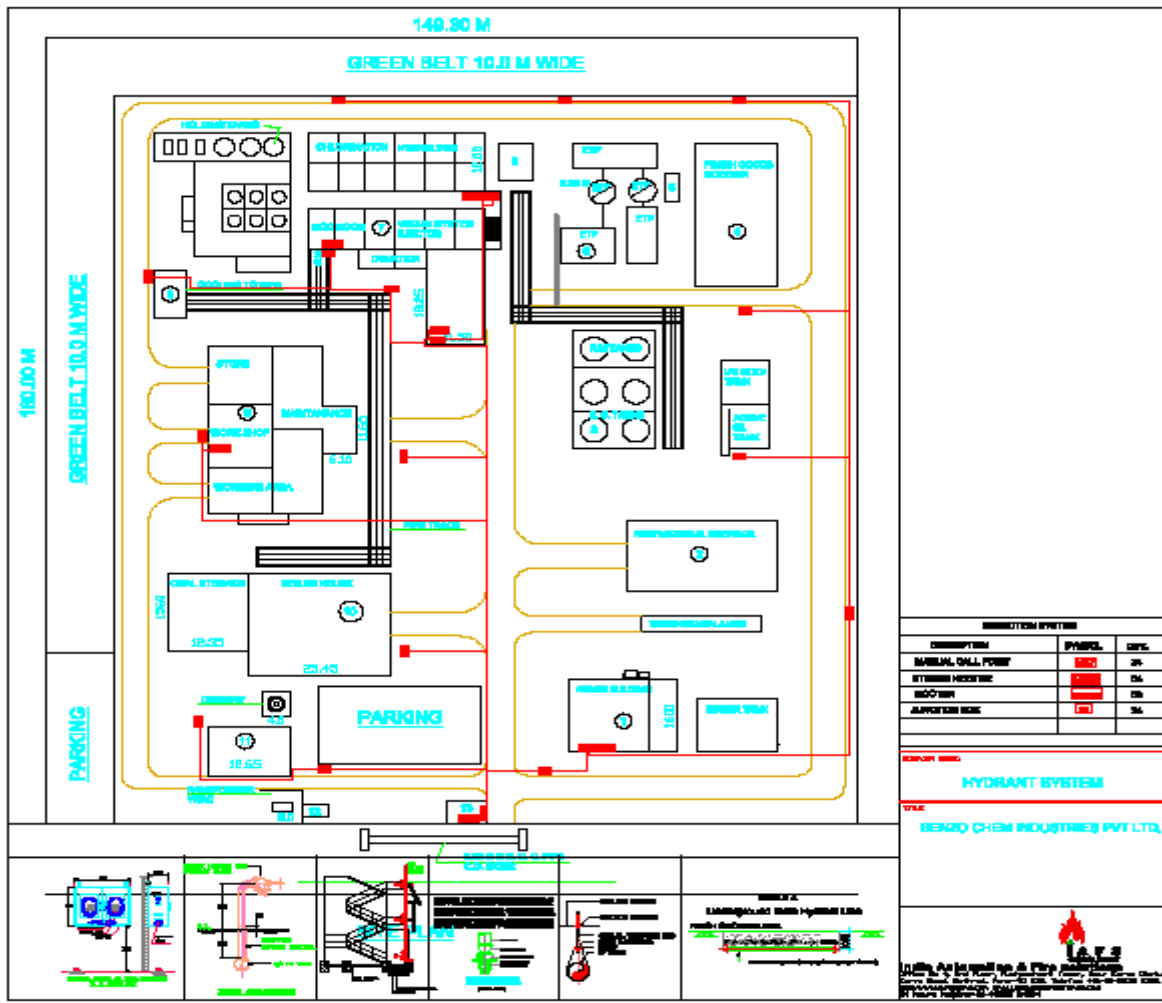
DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

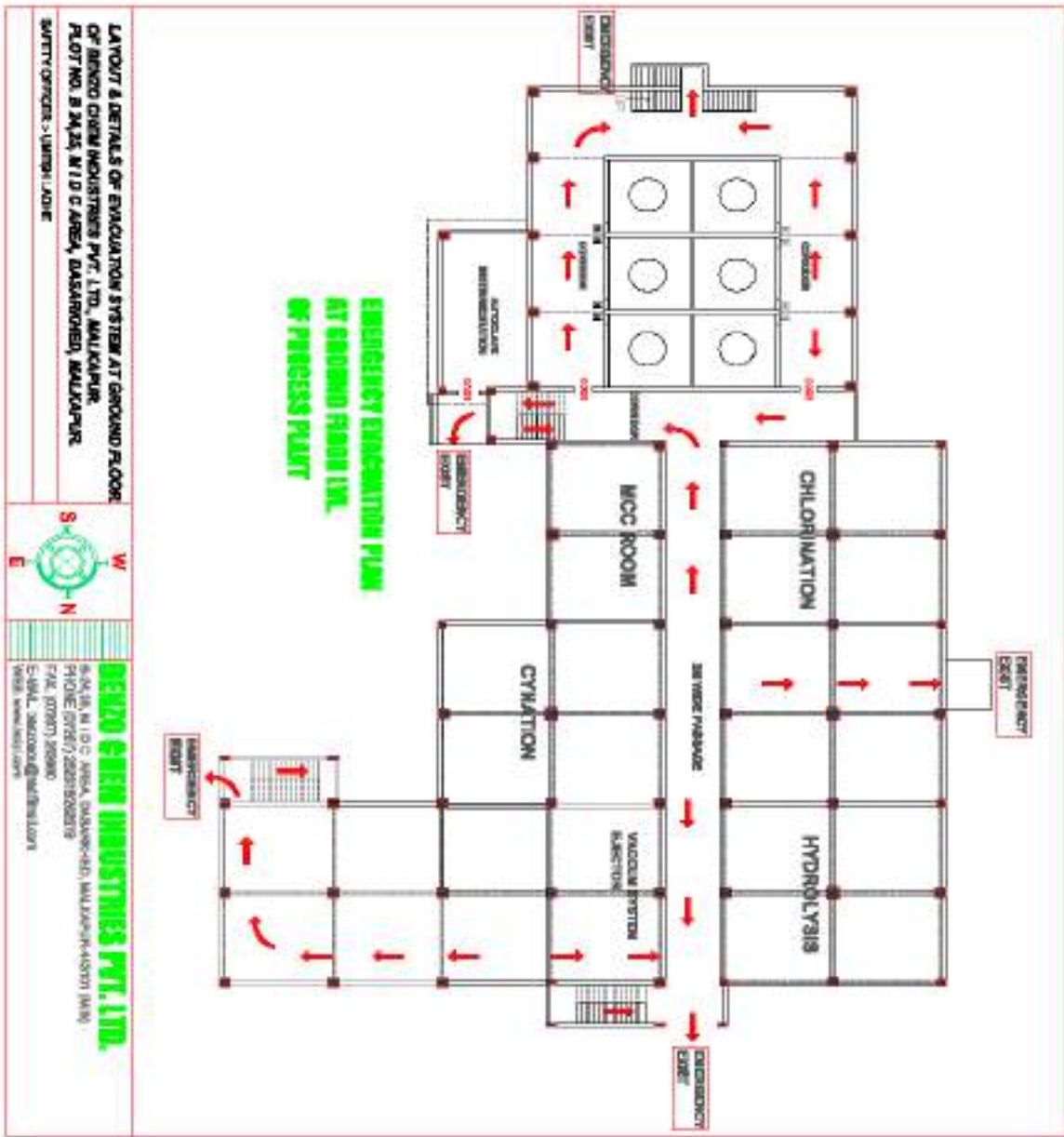




Evacuation Plant

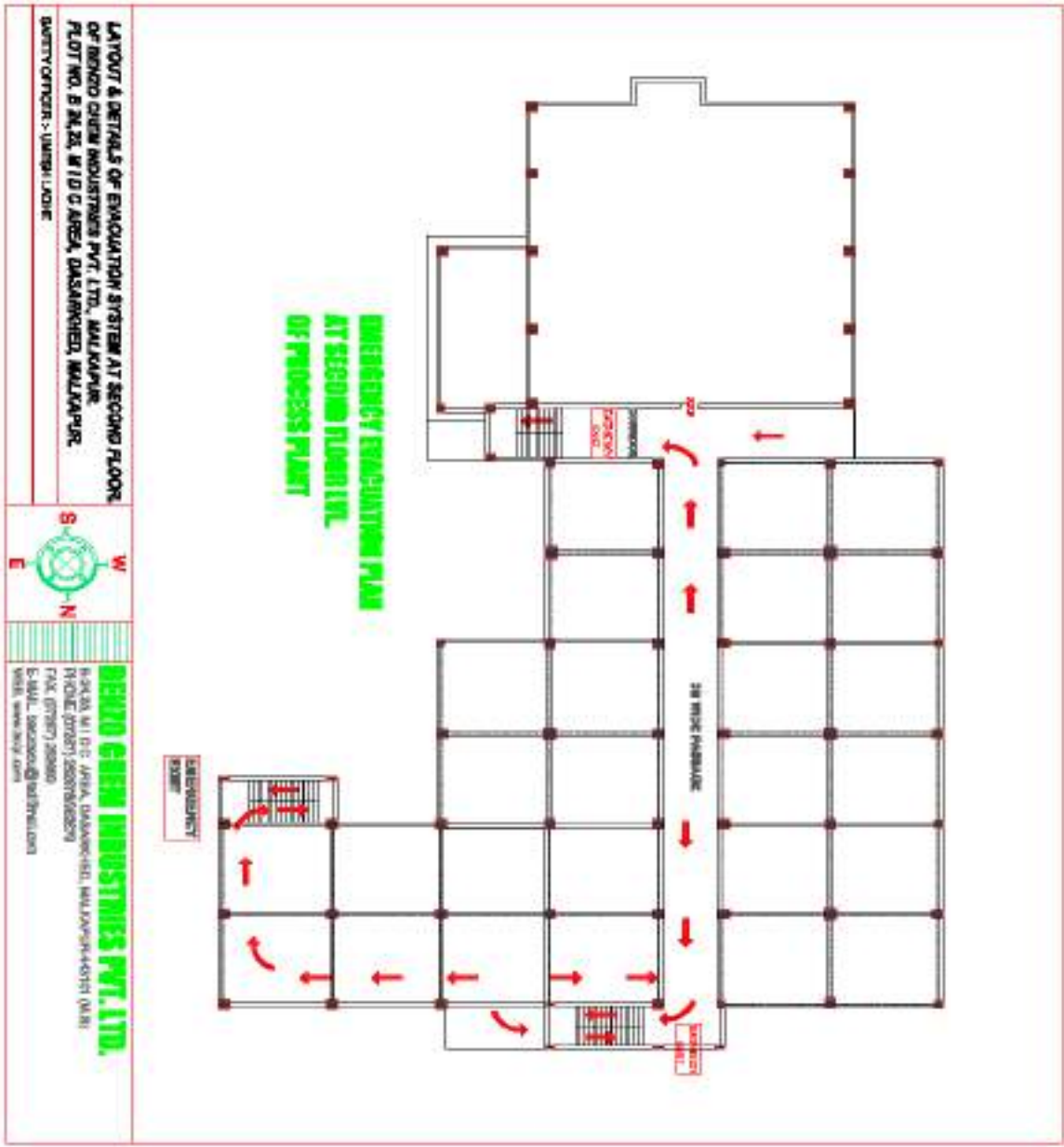
# DETECTION SYSTEM





GROUND FLOOR REVISED





SECOND FLOOR REVISED

Note: This Safety Audit has been prepared on the basis of information made available by client, available resources and experience of maker. As the facilities available, manufacturing process/product, or any other criteria changes so will change the Safety Audit. So it is strongly recommended to review this periodically so as to make it perfect. Further effectiveness of this Audit is beyond control of maker of this Audit for oblivious reasons.

Date-02.03.2022

NIKI TECHNO SERVICES

DHULE

**EXECUTIVE SUMMARY-ACTION TAKEN REPORT**

<b>Sr No.</b>	<b>Recommendations of Safety Audit</b>	<b>Action Taken Report</b>
1	Gangways shall be exhibited with yellow marking for proper evacuation process	We will be starting the work within one week

2	Eye wash & Body Shower shall be maintained properly	Maintenance of showers is under schedule within 15 Days
3	Proper Housekeeping will be initiated, Gunny bags, Scrap around the plant shall be separated	We will take good efforts for Housekeeping in regular schedule
4	Care shall be taken for dispersion of Chlorine gas generated during process	We have a proper instrument and S.O.P. for handling Chlorine gas leakages
5	In Toluene Yard Fibre drums shall be replaced by M.S. Drum for avoiding Static Charge generation	Plastic drums are used along with proper earthing rod inserted inside the drum while filling and handling Toluene & Methanol
6	Pipelines/ gaskets are periodically replaced to reduce probability of failure. Mechanical seal of pumps are to be provided to eliminate leakage problem	All the leakages will be tackled through our experts of maintenance day to day & efforts will be derived
7	Heat exchangers design should be appropriate to handle the heat load of scrubbing system	The heat exchangers are installed as per standard requirement by considering heat load.
8	Separate access/store will be provided to LPG and Oxygen Cylinders.	Separate arrangement provides for oxygen cylinders. & LPG Cylinder.
9	Safety operation for all the hazardous chemicals is executed while Transportation & Delivery. Safe filling of products procedure is followed with SOP for Chlorine & CO2 Gas & De canteen procedure under explosives Rules	SOP is following up during hazardous chemical loading and unloading.
10	Preventive maintenance schedule of Reactors, Distillation Vessel, pipelines, Receivers, Heat Exchangers, Centrifuge etc. Should be strictly followed.	Preventive maintenance schedule is strictly followed.
11	It is suggested to be prepare spill control procedure for reactors and heat Exchangers. If possible, reactors will be provided with bursting disc.	Spill control procedure and spill control kit is available, Autoclaves are provided with rupture disk with proper safety arrangement.
12	Care shall be taken for Thermal explosion or runaway reaction. It is a process by which an exothermic reaction goes out of control. Thermal runaway may result from unwanted exothermic side reaction that begins at high temp & Reaction mixture is vented into the environment after the rupture disk burst.	The trained supervisors and operators are controlling reaction. Safety provision like collection tanks provided out side plant.
13	For handling of Sodium Cyanide always use trained personnel & displayed Sodium Cyanide handling SOP in Local language	Provided.
14	Roads form outer side of implemented effectively along with Hydrant System with water cap of 3 Lack	Hydrant system is installed as per fire norms and maintain properly.



	lit.	
15	Display of electrical Safety & First Aid of Shock Treatment to be maintained at all electrical Sections. All the safety Posters & Banners of Safety shall be Maintained at appropriate places	In all department the shock treatment and electrical shock prevention care boards are provided.
16	The arrangements for the storage of chemicals including charging of chemicals in reaction vessels containers shall be such as to prevent any risk of fire or explosion or formation of toxic concentration of substances above the limits specified in second Schedule of the Act.	We will take additional precautions to maintain risk of explosion under second Schedule

Signature of Occupier

**Annexure – 17**

**Latest updated Onsite  
Emergency Plan**

# ON - SITE EMERGENCY MANAGEMENT PLAN



M/S BENTOLISHIM INDUSTRIES PVT.LTD.

W-17, P.O. SAKAR, JALGAON-382004

OFFICE: BENTOLISHIM PVT. LTD.

INDIA



SI No	Content
1.0	General Information
2.0	Name & address of the person furnishing the information
3.0	Key Personnel of the Organization & Responsibilities assigned in case of an emergency
4.0	Information on the Preliminary Hazard Analysis
5.0	Details about the site
6.0	Description of the hazardous chemicals stored at site
7.0	Likely dangers to the plant
8.0	Enumerate effects of stress & strain during normal operations & effects of Fire and Explosion
9.0	Details regarding alarm & safety systems/Hazard control Plan/Reliable measuring instruments/Design & foundation of buildings/Continuous surveillance of operations
10.0	Details of Communication facilities available at site
11.0	Details of Fire Fighting Equipment
12.0	Details of First Aid and Hospital services available
13.0	Emergency contact list

**Annexure :**

Details of Liaison Arrangement between the organization  
Material Safety Data Sheet  
List of Emergency Contact Number  
List of Internal Telephone Number  
Fire Hydrant plan  
Emergency Evacuation plan

## 1.0 GENERAL INFORMATION

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i	FACILITY NAME & ADDRESS	:	<b>BENZO CHEM INDUSTRIES PVT.LTD.</b> B-24-25, MIDC Industrial Area, Dasarkhed, Malkapur, District Buldhana - 443 101 Maharashtra State  Ph: +91-7267-262679 <a href="http://www.bcipl.com">www.bcipl.com</a>
ii	CORPORATE OFFICE ADDRESS	:	<b>BENZO CHEM INDUSTRIES PVT.LTD.</b> 26/28-A, Cawasji Patel Street, Fort, MUMBAI 400001, Maharashtra State  Ph.: 022-43555888, Fax No. 022- 40057327, E-mail: <a href="mailto:gcpl@bom3.vsnl.net.in">gcpl@bom3.vsnl.net.in</a> , Website: <a href="http://www.bcipl.com">www.bcipl.com</a>
iii	STUDY OBJECTIVE	:	Emergency Planning or preparedness is a comprehensive response plan to react to a number of foreseeable emergencies anticipated in the works and to contain the loss of human life, property and provide speedy and effective remedial measures. Important prerequisite for emergency planning is to foresee an accident scenario which leads to a major fire, explosion, toxic release, their spread or extent and their damage potential. These information are used in conjunction with layout of the units in the works, and adjacent communities in the preparation of the contingency plan.
iv	AIM	:	The main aim of the emergency plan is -  1) to control and contain the incidents/ accident and if possible, eliminate it and 2) to minimize the effects of the incident on person, property and environment.
v	PROPERTY IDENTIFICATION	:	The Property [Chemical Manufacturing Unit] is located at Plot No: B-24-25 & B-16,17, MIDC Industrial Area, Dasarkhed, Malkapur.  The total area under the plot is 31988 m <sup>2</sup> and has a permissible Built up area of 80%. The main production block occupies an area of 3457.21 m <sup>2</sup>
vi	AUTHORITY	:	This study has been authorized by Mr.M.A.Sapkal [Plant Head] of Benzo chem Industries Pvt. Ltd. E-mail: <a href="mailto:productioneou@benzochem.co.in">productioneou@benzochem.co.in</a>
vii	TYPE OF ACTIVITY	:	The activity at the site is “Manufacturing of Chemicals” using

class “A” Petroleum Chemicals, flash point range < 23<sup>o</sup> C

These potential uncontrollable parameters give the plant operators an indication of consequences in advance of actual occurrence. The important elements of emergency planning can be broadly classified as follows.

- 1) Identifying the disaster potential scenarios and advance planning to combat and minimise the damage.
- 2) Disaster phase i.e. warning, protective action like evacuation of personnel etc.
- 3) Containment of disaster by isolating, fire fighting etc.
- 4) Rescue, relief assistance to the people affected in the works / community effectively and efficiently based on the actual needs and on the information collected locally both in advance of the disaster and as soon as possible after the disaster occurred.
- 5) Finally when the situation is contained, efforts are to be return back to near normal conditions.

Emergency planning is an integral and essential part of loss prevention strategy. The type of emergency primarily considered here is the major emergency which may be defined as one which has the potential to cause serious danger to persons and or damage to property and which tends to cause disruption inside and or outside the site and may require the use of outside resources.

Prepari+ng On Site Emergency Plan Is A Statutory Requirement Under

- The Factories Act 1948: section 41-b (4).
- Maharashtra factories (control of industrial major accident hazards) rules, 2003. Schedule - 6, [rule 12(1)]
- Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989:rule 13(1), schedule xi
- The Environment (Protection) Act, 1986

viii SCOPE OF STUDY

:

ix STATUTORY PROVISIONS

:

x PREPARED BY

:

XI VERSION NUMBER

:

Umesh Vishnu Ladhe (Assistant Manager- EHS)

5 (April 17, 2022)

## 2.0] NAME & ADDRESS OF THE PERSON FURNISHING THE INFORMATION

---

**Name** : Mr. M.A.Sapkal

**Designation** : Plant Head

**Address:** : BENZOCHEM INDUSTRIES PVT.LTD.  
B-24-25, MIDC Industrial Area,  
Dasarkhed, Malkapur  
District Buldhana - 443 101  
Maharashtra State

Ph: +91-7267-262679

**Residence** : Sai Samarth residency  
Anand Society  
Malkapur, Dist- Buldhana.  
+91 7559367814

### **3.0] KEY PERSONNEL OF THE ORGANISATION & RESPONSIBILITIES ASSIGNED IN CASE OF AN EMERGENCY**

---

#### **KEY PERSONNEL:**

- i. Site controller / Chief controlling Authority-CCA
- ii. Main Controller
- iii. Incident controller
- iv. Advisory committee
- v. Technical team
- vi. Evacuation team
- vii. Emergency Squad—Fire fighters & First Aiders
- viii. EHS Risk Assessment Team

#### **RESPONSIBILITIES ASSIGNED TO VARIOUS KEY PERSONNEL:**

##### **FIRST OBSERVER:**

- He is a person who observes the emergency at the first.
- He will try to handle the situation using facilities, available to him. If situation is beyond his control, he will press nearby hooter button and inform immediately to his shift production officer (SPO).
- If SPO is not available in the vicinity, he can directly phone to Security on Emergency Phone Number giving information -
- His NAME, LOCATION of emergency and; TYPE of emergency.
- He will give information about the happenings to Incidence Controller.
- Further he will act as per the instructions of Incidence Controller.

##### **INCIDENT CONTROLLER / SHIFT IN CHARGE:**

- GENERAL SHIFT - Officer on duty under whose charge the area of incidence comes will act as incidence controller.
- SILENT HOURS - Some of the sections of various departments work only during General shift and close their working at after 18.00 hrs.
- In case of such areas the responsibility of incidence controller, if any emergency arises in that the Shift Incharge will take up area during silent hours.
- SHIFT INCHARGE: Security Officer on Duty displays Names of the SPO on duty at Gate. Factory premise must be divided into zones to fix the area of responsibility for these Shift In-charges, in case of emergency.

##### **DUTIES OF INCIDENT CONTROLLER:**

- After receiving the information of the emergency he will reach to the spot of incidence.
- Assess the emergency situation and instruct the workforce to bring the plant operations in shutdown mode, if required.
- Stopping the vessel entry / hot work jobs in the plant.
- Direct Emergency squad, first aiders and technical team.
- Seek help from the respective key person.



- Give continuous feedback to the main controller and receive his instructions.
- Once the emergency is brought under control, inform the main controller.

#### **MAIN CONTROLLER -**

- On hearing siren, he is to reach near the site and take over the charge of the situation.
- Communicate with the Incident controller and assess the situation.
- Instruct the Incident controller, Communication team, and Evacuation team.
- Take advice from the advisory team, if required.
- Ask for and to get Mutual Aid from other industries, if required.
- Give feed back to the site controller during or after the emergency is brought under control.
- Instruct communication team to declare all clear by sounding ALL CLEAR siren once the emergency is brought under control.
- Organise investigation after bringing emergency under control.
- Incorporate corrective measures to avoid further accident /incident.

#### **ADVISORY TEAM -**

- To assemble around Main controller for consultation & providing essential information and render all help required.
- Act under the instruction of Main Controller to mitigate the emergency situation.

#### **COMMUNICATION TEAM / SECURITY:**

- On hearing siren, take position in Security office. Telephone board should be continuously manned.
- Give ALERT siren & do announcement on Public Address System or Megaphone.
- On the instructions from the main controller, communicate concern personnel as well as outside agencies and authorities (fire brigade, ambulance, hospitals, other industries, and site controller), Government officials.
- Restrict the vehicles from coming inside the factory except the vehicles of the emergency organisation members. Also to remove the vehicles, if required from inside.
- Keep the entrance road clear for emergency vehicles.
- On the instruction from the Main Controller open the additional exits.
- Arrange for the Ambulance van or vehicles.
- Send one security guard to the emergency site with Main controller's helmet & walkie-talkie sets.
- As per the instructions of main controller, they will inform about status of emergency to all people present in the premises.
- They will sound ALL CLEAR siren once they get signal from the main controller.

#### **EMERGENCY SQUAD:**

- After hearing the siren & information about the emergency, they will give charge of their jobs to the SPO or other employees as per the SPO's instructions.
- Reach at the spot of emergency with proper PPE's.

#### **FIRE FIGHTING TEAM:**

- After reaching the spot, to act as per the instructions of the Incident Controller.

The following jobs are assigned to Firefighters during emergency

- a. Fire fighting
- b. Area cordoning
- c. Rescue operation
- d. Traffic control
- e. Guiding the ambulance
- f. Stopping work permit activity.
- g. Containment of spillage etc.

After handling the emergency, to be engaged in salvage operation if required, otherwise in normal case to go back to the plant and resume the work.

**FIRST AID TEAM:**

- After receiving the information, the doctor and medical assistant to remain in Occupational Health Centre only.
- First Aiders to go to the site. If required provide first aid treatment, Remove the casualties from the place, shift them to OHC for required treatment
- Provide assistance to Doctor / Medical Assistant.

**EVACUATION TEAM:**

- Identify the Wind direction. Evacuate people from emergency location.
- Guide them towards the assembly points. Carry out head count operation.
- Give feed back to main controller.
- In case of Off-site implications, Government officials, Police, and other officials shall be informed immediately.

**TECHNICAL TEAM:**

- Utility Operator to provide assistance for use of extinguishers, and other fire fighting facilities.
- Maintenance Engineer shall go to the emergency spot & give necessary support as per the Incident controller's instructions.
- Electrical Engineer / Electrician: if required, cut off electrical supply of that area on the instructions of Incident / Main Controller and provide portable lights / extension lights.
- Instrumentation Engineer / Technician: act as per instructions by incident / main controller.
- Boiler attendant: not to leave boiler-house till he receives further instructions from Incident / Main controller and act accordingly.

**EHS Risk Assessment Team:**

- Assess over all Environmental, safety & health risk after of incident & accident.
- After assessment of Environmental, safety & health risk, suggested action plan for control measure, which includes corrective and prevention measure.
- Guide for appropriate action after suggestion of action plan and follow up for completion of action plan.

**SAFETY MANAGER / SAFETY OFFICER:**

- Should lead emergency squad & control the emergency in co-ordination with Incident Controller.
- Co-ordinate the activities & help from technical team members as per the requirement.
- Ask for mutual aid through respective key persons.
- After controlling emergency, safety officer should carry out salvage operations under the guidance of Manager (Safety).

## NAMES OF KEY PERSONNEL

SI No	Name of the Person	Responsibility Assigned
A	Mr.M.A.sapkal	Site Controller / Chief Controlling Authority-CCA
B	Mr.Hemant Talele	Main Controller
C	Mr.Umesh Ladhe	Incident controller
D	Mr.Atul Kumar Das	Technical Team
E	Mr.Gopal Chaudhari	Advisory committee
F	Mr.S.V.Chitnis	Communication Team
G	Mr.Pradip Chaudhary	Evacuation Team
H	Mr.Shailesh More	Emergency squad
I	Mr.Suraj Sharma	EHS risk assessment team

#### 4.0] OUTSIDE ORGANIZATION IF INVOLVED IN ASSISTING DURING ONSITE EMERGENCY:

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- Benzo chem Industries Pvt Ltd.  
Plot No B26, 27, MIDC Area Dasarkhed,  
Tal- Malkapur, Dist- Buldhana.
  
- Gajanan paper Mill Pvt Ltd.  
MIDC Area Dasarkhed,  
Tal- Malkapur, Dist- Buldhana.
  
- Anantkrupa paper mill Pvt Ltd.  
MIDC Area Dasarkhed,  
Tal- Malkapur, Dist- Buldhana.
  
- Shrinivasha Protein Pvt Ltd.  
Kund, B.K, Opposite MSCB  
Sub- station, National High way No 6  
Malkapur.

**5.0] Details of Liaison arrangement between the organization:**

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**As per annexure**

## 6.0] INFORMATION ON THE PRELIMINARY HAZARD ANALYSIS

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### TYPE OF ACCIDENTS:

#### FIRE/EXPLOSION:

- Release of flammable liquid / vapour which is stored in tank farm / catches fire when it comes in contact with source of ignition (e.g. Small spark from tanker exhaust, spark due to static charge etc.).
- Spillage of flammable liquids such as Xylene, Methanol, and Toluene in large quantity inside the plants /while loading by tankers and catches fire either by spark, reacting with oxidizing materials etc.
- Release of flammable gases from storage / process, or release of flammable liquid above its boiling point from process to atmosphere, forming vapour cloud.

#### TOXIC DISPERSION:

- Leakage & dispersion of toxic gases like Chlorine and Ammonia from toner or scrubber or from process vessels.

#### SYSTEM ELEMENTS OR EVENT THAT LEAD TO MAJOR ACCIDENT:

- Human-error
- Run away reactions leading to rupture of reaction vessel or tank.
- Equipment / Instrument Failures.
- Rupture of flange joint gasket.
- Puncture of reaction vessel or tank due to corrosion.

#### HAZARDS:

- Release of toxic or / and flammable / explosive gas affecting the people on site.
- Release of toxic / flammable gas & if Ignition source is available then lead to fire / explosion leading to property damage.

#### SAFETY RELEVANT COMPONENTS:

- Rupture discs & safety release valves are provided on such vessels. Various systems interlocks provided. Autoclaves vents taken to disaster vessel or Dum tank for holding the toxic / explosive gases resulting due to rupture & popping up of RD & SRV respectively.
- Correct material of construction is provided, for both, the gasket & the vessels.
- Automatic process control with emergency handling arrangements, high safety margins and inherently safe designs to autoclaves shall be provided soon.
- Safe designs & maintenance practices, periodic inspections of systems are done.
- Safety work permit system, work area monitoring, accident reporting systems, Hazop analysis, safety audits,
- Induction and refresher training to employees Adequate number of employees is trained in handling emergency as per the On site emergency plan.

#### Special design criteria:

- Adequate factor of safety; design for extreme conditions, follows standard codes.

#### Controls and alarms:

- Various controls and alarms interlocked with the operating system are provided to make the system intrinsically safe. Also various sensors must be provided to detect the presence of toxic and / or flammable gases.

**Special relief systems:**

- Rupture disks and safety release valves are provided in the system

**Quick acting valves:**

- Excess flow check valves are provided on critical systems.

**Collecting tanks / dump tank:**

- Disaster vessels (Collecting tank / dump tank) are provided to collect the toxic / flammable gases from Autoclave.

**Fire fighting:**

- Fire fighting devices like fire extinguishers, water & foam are also made available. Hydrant system shall be made available. Risers and Auto- Sprinkler installed at all levels of the main plant.

**HAZARD IDENTIFICATION TECHNIQUES USED:**

Hazard Identification & risk assessment of each activity, Internal and external audits, Hazop studies, fire & Explosion indices (DOW Index) etc. are carried out to assess and identify the hazard. Committee meetings must be held to identify the probable causes of hazards. Safety inspection is carried out by safety function to identify the hazards.

**Compliance of the applicable statutory requirements**

- Equipments are selected based on process requirements with sufficient safety margins. In built safety features are insisted at the time of purchase.
- Drawings have been approved by statutory authorities such as MIDC, etc.
- Licensed premises are as per approvals from respective authorities.
- Precise Preventive and Predictive Maintenance Inspection schedules.
- Scrubbing & neutralising facilities are provided for likely failure.
- Detail on Site Emergency plan is prepared & revised time to time when there is any change in process/ product/ operating conditions.
- Effluent treatment facilities provided in the factory.
- M.S.D.S. (Material safety data sheets) of all chemicals used in plant is available for ready reference. Abstracts of the MSDS are displayed in plants.
- Cautionary boards are displayed at relevant places.
- Mock drills are to be conducted periodically to practice the plan and to refresh the emergency handling procedures.

**GENERAL INFORMATION**  
-----**What is fire?**

Fire is a major hazard in any industry but is also a very necessary servant in the industry for imparting heat energy for the various process streams. As helpful as fire is, when property controlled, it can destroy both men and material when uncontrolled. Fire is a chemical reaction between oxygen and carbon in which heat and light energies are released. Three things are required before a fire can occur. These are fuel, oxygen and source of ignition. This is referred to as the fire triangle.

If all the three of these necessary elements are present in proper proportions, fire will occur. If any one of the three is removed, fire is impossible. It is, however, more advisable to remove at least two sides, only the fuel and oxygen sides of fire triangle can be easily removed. Fuel may consist carbon or hydrocarbon. The fuel

side of the fire triangle is removed by removing the combustible materials, or by preventing hydrocarbon from leaking or spilling into an atmosphere of air. This will prevent open fire.



The oxygen side of the fire triangle is removed by preventing air from getting into system containing combustible materials, carbon or hydrocarbon. The ignition side of the fire triangle is controlled to some extent by proper guarding and a number of other mean, but there are so many sources of ignition that it must be assumed that this side of the triangle is always present.

**Types of Fire:** Fire has been classified into fire categories - A, B, C, D, E & K

- CLASS A** : Fire involving ordinary combustible materials like wood, paper, textiles, etc., where one cooling effect of water is essential for the extinction of fires.
- CLASS B** : Fires in inflammable liquids like Oils, Solvents, Paints, etc, where a blanketing effect is essential.
- CLASS C** : Fires involving gaseous substances under pressure, where it is necessary to dilute the entering gas at a very fast rate within.
- CLASS D** : Fires involving metals like magnesium, aluminum, zinc, potassium etc., where the burning metal is reactive to water and which require special extinguishing media or technique.
- CLASS E** : **Electrical fires are fires involving potentially energised electrical equipment. This sort of fire** may be caused by, for example, short-circuiting machinery or overloaded electrical cables.
- CLASS K** : Fires that involve cooking oils or fats are designated "Class K"

**FIRE FIGHTING EXTINGUISHERS:**

Fire fighting first aids comprise of water or sand buckets, portable fire extinguishers and hose reels. These from the first line of defence and are useful only in the initial stages of a fire. Water and sand should be used judiciously so as not to further harm the machinery / equipment. Portable fire extinguishers are mainly of 6 types.

Type	Old Code	Colour Code	Fire Class					
Water	Signal Red	Signal Red	A					
Foam	Cream	Red with a Cream panel above the operating instructions	A	B				
Dry powder	French Blue	Red with a Blue panel above the operating instructions	A	B	C		E	
Carbon dioxide CO <sub>2</sub>	Black	Red with a Black panel above the operating instructions	A	B	C		E	
Wet chemical	Not Applicable	Red with a Canary Yellow panel above the operating instructions	A	B				F
Class D powder	French Blue	Red with a Blue panel above the operating instructions					D	



## 7.0] DETAILS ABOUT THE SITE

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### (a) LOCATION OF DANGEROUS SUBSTANCES:

All the dangerous substances are stored in the underground storage tanks, tank farms/ godown as per the approval from the respective licensing authorities.

### (b) SEAT OF KEY PERSONNEL:

All key personnel i.e. Site Controller, Main Controller, Key persons, Advisory Team members are available at site.

### (c) EMERGENCY CONTROL ROOM/CENTRE (ECC):

Following material is normally kept available in Emergency Control Center:

- Telephone set for quick communication with telephone directory.
- Mega-phone to warn population in the vicinity about imminent danger, if any.
- Process flow charts.
- Factory Layout.
- Torch and Emergency Lamps.
- Wiring material
- Medicines for first-aid
- Self-Contained breathing apparatus sets
- Spare Cylinder for SCBA.
- Safety Helmets/Gloves/Goggles
- Copy of the on-site emergency management plan.
- M. S. D. S. of Chemicals.
- Onsite emergency plan hard copy

Address with telephone numbers and key personnel, and essential employees, Government agencies, neighboring industries and sources of help, outside experts, as per annexure.

Emergency Control Centre is located at the Security Gate which is at safe distance from process plants. In case of Emergency all activities can be controlled from ECC.

## 8.0] DESCRIPTION OF THE HAZARDOUS CHEMICALS USED AND PRODUCTS MANUFACTURED

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Raw Materials to be used at site:

SR.NO	NAME OF RAW MATERIALS	REMARKS
1	Caustic Soda Flakes	
2	Caustic soda lye	
3	Acetic anhydride	
4	OCCN	
5	Copper Sulphate	
6	Toluene	
7	HCL	
8	OMPAA	
9	MCB	
10	Liquid Chlorine	
11	Sodium Bi carbonates	
12	OCPAA	
13	Sodium Hypo chloride	
14	Sulphuric Acid	
15	Nitric Acid	
16	Methanol	
17	2,2'-AZOBISISOBUTYRONITRILE	
18	Hydrogen Peroxide Solution	
19	Gulf Rock Drill Oil 320	
20	2,6,DCT	
21	DMSO (Dimethyl Sulphoxide )	
22	Sodium Methoxide	

**Major Products and Estimated Quantity to be produced at the plant:**

<b>Sr. No</b>	<b>Name of Product</b>	<b>Total (MT/M)</b>
1.	ParaCholoro Phenyl Acetic Acid	40
2.	Alpha Bromo Ortho Chloro Phenyl Acetic Acid Methyl Ester	05
3.	Alpha Bromo Para Chloro Phenyl Acetic Acid	05
4.	2-Methyl Phentl Acetic / Ortho Methyl Phenyl Acetic Acid	40
5.	2-Coumaranone 30% with Acetic Anthydride 70%	400
6.	Propargyl-CM-Estaer 55% Monochloro Benzene	20
7.	4-Chloro Phenethyl Alcohol 2-(4 Chlorophenyl) Ethanol	20
8.	Ortho Chloro Phenyl Acetic Acid	150
9.	3 – ISO Chromanone	60
10.	2,4,6 Trimethyl Benzaldehyde 84% in Acetone	25
11.	2-Chloro- 4,6 Dimethoxy – 1,3,5 Triazine (CDMT)	15
12.	3-CHLORO 2-METHYL ANISOL	40
13.	ISOPROPYL-3-CHLORO 4-METHYL BENZOATE (ICMB)	(20
14.	ORTHO HYDROXY PHENYL ACETIC ACID (OHPAA )	30
15.	Methyl 2- ( 2-Chloromethyl ) phenyl Acetate (MCPMA)	15
16.	Methyl (E) 3-Methoxy-2-( 2-Chloromethyl Phenyl)-2-Propenoate (METHYL ACRELATE)	5
17.	TRISPHENOL	5
	<b>TOTAL</b>	<b>895</b>

\* For Toxicological Data, Transformation if any which could occur of the chemicals, please refer material safety data sheet attached as annexure

## 9.0] LIKELY DANGERS TO THE PLANT

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### Likely causes of fire and/or explosion are as follows:

Release of flammable liquid / vapour which is stored in Explosive /Petroleum Tank Farm and catches fire when it comes in contact with source of ignition. Leakage is possible from;

- Leakage from body of the tank, Drain/ sampling point kept in open position
- Failure of pipeline, Spillage of hold up from unloading hoses
- Overflow from the tanks.

Source of ignition could be:

- Spark due to accumulation of static charge,
- Spark from exhaust of the tanker,
- Lightning,
- Smoking,
- Hammering, chiselling, welding, cutting etc.

Spillage of flammable liquids such as Methonal, Hexane, Toluene in large quantity inside the plants and catches fire either by spark, reacting with oxidising materials etc.

Release of flammable gases from storage/ process, or release of flammable liquid above its boiling point from process to atmosphere, forming vapour cloud.

Decomposition of chemicals leads to fire. e.g. Sulphur dichloride etc.

Combustible material comes in contact with hot surfaces, which rises temperature of the material at ignition point and catches fire. (e.g. hot oil pipeline comes in contact with cotton, wood etc.).

### Likely causes of Toxic gas release:

During Hydrolysis and Chlorination operation, Ammonia and Chlorine gas is evolved, the gas is scrubbed to form anhydrous ammonia and HCl. Failure of Ammonia and Chlorine scrubber could result in accumulation of gas in the column and thereby by escaping to the atmosphere.

## 10.0] ENUMERATE EFFECTS OF:

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### STRESS & STRAIN CAUSED DURING NORMAL

#### OPERATION a : Component failure:

Causes of failure may be -

- Inappropriate design against internal pressure, external forces, corrosive media & temperature.
- Mechanical failure of vessels & pipe-work due to corrosion or external impact.
- Failure of components such as pumps, compressors, blowers and agitators.
- Failure of control systems (pressure & temperature sensors, level controllers, flow meters, control units, process computers).
- Failure of safety systems (safety valves, bursting discs, pressure relief systems, neutralisation systems).
- Failure of welds and flanges.

#### b : Deviation from normal operating conditions:

Following failures can occur, leading to deviations from normal operating conditions:-

- Failure in the monitoring of crucial process parameters (pressure, temperature, flow, quantity, mixing ratios and in the processing of these parameters).
- Failure in the utilities, such as : Cooling Water/Electricity etc
- Insufficient coolant for exothermic reactions
- Insufficient steam or heating medium/Excess steam flow
- No electricity
- No nitrogen
- No instrument air
- Failures in the shut down or start up procedures, which could lead to an explosive atmosphere within the plant.
- Formation of side products/residues/impurities which can cause side reactions.

#### c : Other reasons

- Human and organisational errors
- Operator error ( wrong button, wrong valve)
- Disconnected safety systems because of frequent false alarms
- Mix up of hazardous substances (material identification check).
- Communication errors
- Incorrect repair or maintenance work, Work without permit.

#### d : Natural forces:

- a) Wind    b) Earthquakes    c) Lightning    d) Heavy rains    e) Cyclone

#### e: Measures Taken To Avoid Stress & Strain:

- All the Autoclaves are designed for 20 kg/cm<sup>2</sup> & 240° c. where as operating pressure & temperature is maximum 15-16 kg/cm<sup>2</sup> & 200° c respectively.
- Reactors are stress relieved at all the stages of fabrication.
- While erecting the equipments, lifting lugs are strictly used

## ii) Effects of Fire & Explosion inside the plant & Effect, if any, of Fire, Explosion outside

### a] Details of bulk chemical storage

Material	Nos of Tanks	Type	Capacity	
Sr.No	Raw material	Tank MOC	Tank capacity	Tank numbers
1	2-COUMARANONE 30% WITH ACETIC ANHYDRIDE 70%	SS	60 KL	01
2	ACETIC ANHYDRIDE	SS	60 kL	01
3	Caustic Lye	MS	50 kL	01
4	Sulphuric Acid	MS	50 KL	01
5	Ortho Chloro Benzyl Cyanide	MS	50KL	02
6	Toluene	MS	20 KL	01
7	Methanol	MS	20 KL	02
8	2,6 DCT	SS	60 KI	01
9	Dimethy sulphate	MS	40 kl	01

### b) Effects/consequence:

All chemicals listed are highly flammables, Fire on small quantity of spillage and at preliminary stage can be easily extinguished by portable fire extinguishers but if fire spreads and gets more fuel from surrounding, it will rapidly accelerate and lead to disaster. Fires can take several different forms, including jet fires, pool fires, flash fires. Boiling Liquid Expanding Vapour Explosions (BLEVEs) are unlikely, because no flammable pressurised gases used at site.

A jet fire would appear as a long narrow flame produced, for example, from an ignited gas pipeline leak. A pool fire would be produced, e.g. if a release of flammable liquid from a storage tank into a dyke ignited. A flash fire could occur if an escape of gas reached a source of ignition and rapidly burns back to the source of release.

The BLEVE, sometimes referred to as a fire ball is generally far more serious than the other fires. It is a combination of fire & explosion with an intense radiant heat emission within relatively short time interval. It occurs within a vessel or tank in which a liquefied gas is kept above its atmospheric boiling point. Such a scenario is unlikely to occur.

If a pressure vessel fails as a result of a weakening of its structure, the contents are instantaneously released from the vessel as a turbulent mixture of liquid & gas, expanding rapidly and dispersing in air as a cloud. When this cloud is ignited, a fireball occurs causing enormous heat radiation intensity within a few seconds.

Health effects arising from exposure to the fumes generated as a result of fire are also to be considered during fire fighting. Also effects of fire on people take the form of skin burns due to exposure to thermal radiation.

### c] Preventive Measures:

- Security guard ensures that, the Spark arrestors (mufflers) are attached to the smoke exhaust pipes of the vehicles.
- Earthing is always connected to a tanker while unloading to take care of static electricity.
- Lightning arrestors is provided to cover entire tank farm area.
- Dike walls are constructed around the tank to contain flammables in case of puncture/leak.
- No activities like hammering, chiselling, cutting, welding by which spark can occur will be carried out without safety permits.
- Adequate fire extinguishers & foam monitor are provided in the vicinity.
- Flame arrestors are provided in vent line of each tank.

- Trained personnel are employed in the tank farm.
- The transferring is generally carried out by pump instead of compressed air so that equipment is not required to be pressurised and subsequent leakage through equipment can be avoided. Both equipment's are equalised during transferring so that overflow in to atmosphere can be prevented.
- Vent of all tanks and reactors extended 2 metres above the terrace so that flammable vapours can be dispersed easily and accumulation of vapours inside the plant avoided.
- Pipelines/ gaskets are periodically replaced to reduce probability of failure.
- Mechanical seal pumps are provided to eliminate leakage problem.
- Loose handling of flammables (in buckets, drums) are as far as possible avoided.

**d] Actions To Be Taken In Case Of Emergency (In Addition To Normal Emergency Procedures Explained In the Plan).**

- Immediately stop the leakage from source by closing isolation valve or applying vacuum.
- Spray absorbent like KCC (Kerala China Clay). If quantity of spill is large, recover from drains and pits, do not allow it to outside the plant because most of the flammable in the plants are lighter than water and can be easily spread through drain and flash back if source is available any where even very far away from the plant.
- Use DCP/ foam extinguishers when fire is at preliminary stage. If fire is big it is better to use hydrant system and same time cool the surrounding area.
- Stop all unloading/loading operations in the tank farm.
- Connect foam monitor with hydrant hose and apply over pool of spillage.

## **11. DETAILS REGARDING:**

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### **(i) WARNING, ALARM, SAFETY & SECURITY SYSTEMS:**

#### **Emergency sirens:**

Sirens are provided in the premises to cover the complete site, and beyond

**ALERT: Continuous plain siren for 0.5 minute**

**EMERGENCY EVACUATION: Waning and Waxing for 1.5 minutes**

**ALL CLEAR: Continuous plain siren for 1 minute**

#### **Safety systems:**

##### *- Self-contained breathing air sets*

Four Breathing Air Sets are provided at various locations for emergency use. It can be used in all type of toxic gas leakage even at higher concentrations.

##### *- Wind Socks*

For showing the direction of wind. To evacuate people, it will guide to which direction one should go.

##### *- Employees' blood group list*

It is very necessary to have the blood group of individuals in case of emergency. For this list of blood group of all employees is available with Occupational Health Centre.

##### *- Emergency addresses*

List of present address of employee and address of the persons to who should inform in case of emergency are available with personnel and safety depts.

## **(ii) ALARMS AND HAZARD CONTROL PLANS:**

These are systems, which, on the basis of sensors, allow the plant people to determine the causes of a malfunction as soon as it has occurred. Such alarm systems must be made available for:

- Monitoring process parameters (pressure, temperature, flow rate, quantity, level, mixing ratio etc.).
- Leakage of toxic & flammable gases like Chlorine, Ammonia, Hydrogen chloride, etc.
- Detection of failures of safety related component like pumps, compressors, stirrers, blowers etc.).
- Detection of Smoke & heat
- Bursting of Rupture disc or popping up of safety valves.
- Besides giving alarm, if the necessary steps are not taken, secondary control systems will initiate actions automatically to bring the operation in safe mode & to control the hazards. Even though, if the process could not come under control then operation goes to safe shut down mode.

### **Emergency handling procedure in night time (5.30p.m. To 8.30a.m.):**

- On hearing alert siren and announcement, all key personnel present in the premises, EMT members, and other team members will rush to their nominated location and take position for further action.
- The Incident controller (Shift Incharge) of the Plant/area will remain at the spot of emergency. He will act as Main Controller also if EMT members/Main controller is not available.
- If they are available then, EMT member (senior), will act as a Main controller till the Main controller arrives at site. He will take his position near the site but not on the spot of emergency because he is assigned for overall functions. He has to monitor emergency and take further step accordingly.
- The security guard will rush with Main controller's helmet and walkie-talkie sets and hand over to EMT members and incident controller.
- The security officer will act as a communication team leader, he will inform to all key persons in the factory. He will send vehicle to bring the key persons from residences.
- All first aiders, fire fighters and technical team members will delegate their jobs to their co-workers, which they were doing. They will rush to the spot of emergency and report to the Incident controller.
- All other employees of the plant will stop their activities, bring the all operations in shut down mode. They are not required to vacate the plant unless the incident controller /Main controller instructs or conditions have become unbearable.
- The EMT member (senior) will continuously assess the situation by taking feed back from the incident controller. Accordingly he will instruct communication team members. He will contact advisory team members to get essential information but if required. In case, he does not require help from advisory team, he can assign any other jobs to advisory team. The option is completely left to the main controller.
- Once the emergency is brought under control, EMT member (senior) will inform to communication team to sound `ALL CLEAR' (siren and announce on PAS about completion of emergency).
- In the mean time if main controller and other team members arrived, they will replace the present members and take charge of the emergency.

### **Evacuation Procedure :**

Once the main controller realises that the emergency is not controllable easily, he will instruct communication team to sound siren (waning and waxing) and subsequently announcement for evacuation on Public Address System or Megaphone. On hearing evacuation message on Public Address System, Evacuation Team will guide personnel towards assembly point, which will be declared, by communication team. After guiding the personnel to assembly point Team will physically confirm evacuation then only they will leave for assembly point. At the assembly point they will carry out HEAD COUNT (attendance) to ensure complete evacuation. It is essential that they should know number of persons present in that area prior to the emergency.



## **Assembly Points**

In the premises three assembly points are identified and declared as follows,

ASSEMBLY POINT 1 - At security Gate

ASSEMBLY POINT 2 - At security Gate of B-16,17.

Selection of assembly point in particular case of emergency will be entirely dependent on the nature and gravity of the emergency as well as wind direction. Communication team will announce safe assembly point after consulting the main controller.

### **Procedure in case of emergency tends to cause off site implications:**

As per the site plan and wind direction at the time of emergency, the likely affected area will be identified and population within will be estimated.

- The police at Dasarkhed as well as at Malkapur will be informed so that incoming traffic can be controlled from both the ends.
- The police force will be helpful in evacuation of personnel from surrounding factories or other public place in the vicinity.
- The Fire Brigade will be informed and ambulances will be called and kept ready to meet any
- Eventualities
- The communication team members and evacuation team members will quickly move around the likely affected area and will send message of evacuation through megaphone available in ECC. (All Members should keep PPE with them to avoid toxic gas exposure to them).
- The District Collector and Govt. authorities (DISH) will be informed.

### **(iv) RELIABLE MEASURING INSTRUMENTS, CONTROL UNITS & SERVICING OF SUCH EQUIPMENTS:**

- Process variables like temperature, pressure, flow rate, mixing ratio of certain components, the rate of temperature or an increase or decrease in pressure etc. are monitored & controlled by using sophisticated instruments.
- Temperature/pressure/flow sensors: in the process initiates alarms & actions such as emergency cooling, stopping the input of a reaction, starting the scrubbing system etc.
- System preventing overflow: Level controls prevent vessels from being overfilled; they cut off the flow of material or divert it.
- Emergency shut down system: shut down the process (i.e. cut off pumps, close or open quick acting valves, apply emergency cooling).
- Utilities: Safety related utility supplies, such as electricity supply to control systems, compressed air for instruments or nitrogen supply as an inert gas have second source like generator supply, UPS, buffer storage tank.)
- Pressure-relief systems: Rupture discs & safety valves are provided on the vessels operating or may exceed the atmospheric pressure. Their outlets are connected to efficient scrubbing systems.
- To ensure continuous working of the instruments & control units, maintenance schedules are prepared & documented, specifying the different maintenance intervals and the type of work to be performed. Calibration of the instruments is carried out as per the set frequency. Skilled & experienced technicians under competent supervision carry out servicing.

### **(v) PRECAUTIONS IN DESIGNING OF THE FOUNDATION & LOAD BEARING PARTS OF THE BUILDING:**

- Plant buildings are of RCC construction and stability certificates are renewed periodically. Well-known Architects are engaged in the design.
- Equipment layouts are done as per internal standards of GCL taking into account National/International standards.

- Fabrications are done as per standard norms.
- Drawings have been approved by statutory authorities such as MIDC, DISH etc.
- Licensed premises are as per approvals from respective authorities.
- Boilers constructions, erection and piping are done as per IBR.
- Equipments are selected based on process requirements with sufficient safety margins. In built safety features are insisted at the time of purchase.

**(v) CONTINUOUS SURVEILLANCE OF OPERATIONS:**

- The operations are continuously monitored by skilled workmen and supervised by qualified officers/engineers.
- Process change/modifications are authorised by senior officers before implementing in the plant. Detail Hazop study is carried out & suggestions came through it are implemented.
- Records of all the process steps are maintained in log sheets.
- Operations are under supervision even during the scheduled tea, lunch break & shift change. Operators are trained in more than one operation for this purpose.
- In coming, in process & final product sampling plans are prepared & strictly followed to monitor the process.
- All the equipments, raw materials, intermediates, utilities are adequately identified.
- Standard operating procedures, Dos & Don'ts, start up & shut down procedures are prepared & made known to all operating people.
- Material transfer operations are continuously monitored & confirmed by checking the quantity at both the sides.

**(vii) MAINTENANCE & REPAIR WORK ACCORDING TO THE GENERALLY RECOGNISED RULES OF GOOD ENGINEERING PRACTICES.**

- Safety department is having control over the 'inspection, maintenance & repair work of safety equipments/ systems' & ensures that maintenance of safety equipments/systems is carried out as per the schedule to ensure that those are in working condition all the time.
- Detail documented procedures for maintenance & repair work is jointly prepared & made available in separate manual.
- All safety equipments namely SCBA sets, safety showers, fire extinguishers, fire hydrant points, Emergency communication/warning facilities namely hooter, sirens, walkie-talkie sets, telephones, are inspected periodically & records maintained. Nonconformities observed are corrected immediately through engineering/maintenance department.
- Safety interlocks of critical process equipments in production plant are checked periodically as per the checklists of respective plants & records maintained.
- Competent person inspects equipment, which is required to be checked statutorily.
- Process control instruments, pressure relief valves, sensors etc are inspected/calibrated periodically for their effective working.
- Daily, weekly, fortnightly, monthly, quarterly, six monthly & yearly inspection schedules to inspect and maintain the various process equipments/safety equipments /systems all over factory premises are prepared & documented.
- Records in the form of checklists are maintained.
- Safety work permit systems are strictly followed while carrying out maintenance & repair work.

- Required spares are maintained in sufficient stock.
- History cards for critical equipments are maintained.
- Reference standards; national & international, manufacturers instruction manuals are also referred while carrying out maintenance & repair work. Recent copies of such standards are made available in the library.

## 12.0] Details of Communication Facilities Available During Emergency

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List of facilities available:

- Emergency siren with codes
- Emergency bells at various locations
- Telephones
- Intercom system
- Megaphone in ECC

### 13.0] Details of Fire Fighting Equipments

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#### Details of Hand Appliances:

Sr.No	Type	Capacity	Numbers
1	Dry chemical powder	5.0 kg	56
		10.0 Kg	21
		50.0 Kg	07
2	Foam	9.0 Liter	29
		50 Liter	05
3	Carbon Dioxide	2.0 Kg	7
		4.5 Kgs	11
4	ABC Types	2.0 kg	7 nos
		5 kg	16 nos

#### Details of Fire Hydrant:

*"The details Fire Hydrant plan attached"*

## 14.0] Details of First Aid and Hospital Services Available


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### a) OCCUPATIONAL HEALTH CENTRE:

A well-equipped occupational health centre with highly trained personnel shall be operating all 24 hours. In addition to monitoring the health and wellbeing of the employees, the centre is always in readiness to take care of any emergency arising out of our manufacturing activities. People shall be trained on first aid, taking care of toxic effects, minor and major accidents, arranging experts help, imparting training to employees etc. The Centre is ideally located near the boiler house close to the entrance.

Doctors	- are available on consulting basis
Nurses	- are available on contact basis
Oxygen cylinder	- are available on site.
M.S.D.S.	- of chemicals are available
Medical record	- of each employee are available.

### b) LIST OF HOSPITALS:

Sl No	Name of the Hospital 	Specialisation	Telephone numbers
a	Kolte Hospital Chalis Bagha, At Post Malkapur, Dist Buldhana, Maharashtra - 415101.	Dr. A. Kolte Specialization: General Practitioner	07262-222484
b	Borle Hospital Chalis Bigha Road Malkapur Dist Buldhana Maharashtra - 443101	Dr. Surekha Borle Specialization: General Practitioner	07267- 223133
c	Gojari Hospital Chalis Bagha, At Post Malkapur, Dist Buldhana, Maharashtra - 415101.	Specialization: Heart Specialisation	9422530206
d	Civil Hospital 40-Bidha, Malkapur, Buldana, Maharashtra - 443101	Municipality Hospital	07267-222443

### c) FIRST AID PROCEDURE

#### Skin contact:

- Remove the victim from the affected area immediately.
- Take him to the nearest shower as early as possible.
- Remove contaminated clothes.
- Wash skin with large amounts of normal water using mild soap.
- Dust the affected area with powdered Sodium Bicarbonate; wash the affected area again with normal running water.
- Dry the skin very gently using a clean and soft towel.
- Do not apply oil or oily ointment without doctor's advice. Incase of burns (inflammation, blisters)
- Apply a dry sterile dressing
- Keep the victim warm using a blanket.
- Immediately take him to the nearest hospital

**Eye contact:**

- Immediately remove the victim from the affected area.
- Take him to the nearest eye wash or shower.
- Flush eye immediately with normal water for at least 15 minutes or longer, keeping eye lids open.
- Administer two to three drops of 0.5% solution of Pontocaine, or one drop of Benoxinate Novesine at 0.4% into the eye.
- If the pain remains, repeat washing the eye for 15 minutes or longer.
- Do not try to neutralize with chemicals.
- Do not use any oil or oily ointment with out doctor's advice.

Note: The medical service will refer the victim to an ophthalmologist and inform him about the nature of the accident

**Inhalation:**

If the victim is conscious and inhalation is mild:

- Remove the victim from the affected area and take him to well ventilated area.
- Loosen the clothes and remove shoes.
- Keep him warm using a blanket.
- Place the patient on his back with head and neck elevated.
- Rest is a must.
- If the victim coughs a great deal, make him inhale a gauze pad soaked with a little Ethyl Alcohol or a few drops of Ether.
- Coughs syrups like Hitadrine, Coughrol, Linctus Codeine, etc., and common throat lozenges such as Vox, Vicks, Halls, etc, can be given for soothing the throat irritation.
- Milk, buttermilk, lime juice, fresh water may be given.

If the victim is unconscious but breathing has not ceased:

- Place the patient in a comfortable position with trunk elevated to 45° position.
- Remove dentures or partial plates.
- Keep the patient warm using a blanket.
- Administer medical oxygen under low pressure using a pulmotor or similar type of vital equipment.
- Do not give him anything to drink.

If breathing has ceased:

- Immediately remove him from the affected area immediately.
- Loosen his clothes.
- Lay him down on his stomach.
- Begin artificial respiration
- Immediately administer medical oxygen under low pressure using a pulmotor or similar type of vital equipment.
- Call a physician immediately.
- As the victim begins to breathe unaided or to move, lay him down with his body raised and continue to administer medical oxygen.
- The physician will keep the victim under medical supervision for at least 48 hrs as acute pulmonary edema or microbial infection may be caused.

**Ingestion:**

If the victim is conscious:

- Immediately remove him from the affected area immediately to a well ventilated area.
- Loosen his clothes.
- Ask the patient to drink copious amount of lime water or milk of magnesia or calcined magnesia in water or table oil or fresh eggs.
- Lay him down with his legs raised.
- Keep him warm using a blanket.
- Rest is a must.
- If the victim's face has become blue, lay him down on his back with head turned to one side.

- Administer medical oxygen under low pressure using a pulmator or similar type of vital equipment. Do not administer mixture of oxygen and carbon dioxide (Carbogen).
- No attempt should be made to include vomiting.

**If the victim is unconscious but breathing:**

- Lay him down on his back.
- Loosen his cloths.
- Keep him warm using a blanket.
- Remove dentures or partial plates.
- Administer medical oxygen under low pressure using a pulmator or similar type of vital equipment. Do not administer carbogen.
- Do not give him anything to drink.

**If breathing has ceased:**

- Immediately lay him down and begin artificial respiration or mouth to mouth resuscitation.
- Loosen his cloths.
- Keep him warm using a blanket.
- Continue to administer medical oxygen under low pressure using a pulmator or similar type of vital equipment till the victim begins to breathe unladed.

Therapy for specific physiological disturbances - For the guidance and attention of medical profession.

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**PULMONARY EDEMA:**

- Administer 60 to 100% oxygen at 6 lit / min.
- Intermittent positive pressure breathing apparatus set to deliver positive pressures of 5-15 cm of water in the respiratory cycle is valuable in reducing the formation of edema.
- Steroid therapy, given early is effective in preventing or alleviating pulmonary edema.
- The use of diuretics and antibiotics should be considered to reduce edema and protection against secondary pulmonary infection.

**BRONCHOSPASM:**

- The exposure is associated with acute symptomatology requiring supportive therapy. Early treatment is the most effective.
- Broncho-dilators nebulized into the intermittent positive pressure gas steam are often beneficial.
- Two effective drugs are:
  - Isoproterenol hydrochloride
  - Cydopentemine hydrochloride and aludrine.
- The commonly employed single treatment dosage for each drug is 0.3 cc. This may be altered according to clinical needs.

**INCREASED MUCOUS SECRETION:**

- Positive pressure treatment tends to suppress the secretion of mucous.
- Nebulized detergents assist in the thinning of mucous.





## Material Safety Data Sheet

PRODUCT NAME : 3-CHLRO-2-METHYL ANISOL

### Section 1 - Chemical Product and Company Identification

MSDS Name: 3-CHLRO-2-METHYL ANISOL

#### Company Identification:

**BENZO CHEM INDUSTRIES PVT. LIMITED**  
Plot No. 26/28A, Cawasji Patel Street, Fort,  
Mumbai-400 001, Maharashtra, INDIA

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
3260-88-6	3-CHLRO-2-METHYL ANISOL	99	221-862-6

### Section 3 - Hazards Identification

- Flammable liquid and Vapor.

### Section 4 - First Aid Measures

- **General advice**  
Consult a physician. Show this safety data sheet to the doctor in attendance.
- **If inhaled**  
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- **In case of skin contact**  
Wash off with soap and plenty of water. Consult a physician.
- **In case of eye contact**  
Flush eyes with water as a precaution.
- **If swallowed**  
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### Section 5 - Fire Fighting Measures

**FLASH POINT:** 60 °C - closed cup

- **Extinguishing Media**  
**Suitable extinguishing media**  
Small (incipient) fires must be extinguished with alcohol resistant foam, dry chemical powder or



carbon dioxide. Large amounts of water are ineffective. Cool containers with large amounts of water.

- **Special hazards arising from the substance or mixture**  
Carbon oxides, Hydrogen chloride gas
- **Advice for firefighters**  
Wear self-contained breathing apparatus for firefighting if necessary.
- **Further information**  
Use water spray to cool unopened containers.

## Section 6 - Accidental Release Measures

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Avoid breathing vapours, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.
- 6.2 Environmental precautions**  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
- 6.3 Methods and materials for containment and cleaning up**  
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

## Section 7 - Handling and Storage

- 7.1 Precautions for safe handling**  
Avoid inhalation of vapour or mist.  
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
- 7.2 Conditions for safe storage, including any incompatibilities**  
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

## Section 8 - Exposure Controls, Personal Protection

- 8.1 Control parameters**  
**Components with workplace control parameters**
- 8.2 Exposure controls**  
**Appropriate engineering controls**  
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.  
**Personal protective equipment**  
**Eye/face protection**  
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards.



## **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation.

## **Body Protection**

Impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

## **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full- face respirator with multi-purpose combination.

## **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## **Section 9 - Physical and Chemical Properties**

- |   |                                 |
|---|---------------------------------|
| a) Appearance                                 | Form: liquid Colour: colourless |
| b) Odour                                      | No data available               |
| c) Odour Threshold                            | No data available               |
| d) pH   | No data available               |
| e) Meltingpoint/<br>freezing point            | No data available               |
| f) Initial boiling point<br>and boiling range | 213 - 217 °C - lit.             |
| g) Flash point                                | 60 °C - closed cup              |
| h) Evaporation rate                           | No data available               |

## **Section 10 - Stability and Reactivity**

### **10.1 Reactivity**

No data available

### **10.2 Chemical stability**

Stable under recommended storage conditions.

### **10.3 Possibility of hazardous reactions**

No data available

### **10.4 Conditions to avoid**

Heat, flames and sparks.

### **10.5 Incompatible materials**

Strong oxidizing agents



## 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

Other decomposition products - No data available

## Section 11 - Toxicological Information

### Information on toxicological effects

#### Acute toxicity

No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available

#### Additional Information

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: Ecological information

### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

Mobility in soil



No data available

## SECTION 13: Disposal considerations

### Waste treatment methods

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extracare in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

## Section 14 - Transport Information

### 14.1 UN number

ADR/RID: 1993

IMDG: 1993

IATA: 1993

### 14.2 UN proper shipping name

ADR/RID: FLAMMABLE LIQUID, N.O.S. (3-Chloro-2-methylanisole) IMDG: FLAMMABLE LIQUID, N.O.S. (3-Chloro-2-methylanisole) IATA: Flammable liquid, n.o.s. (3-Chloro-2-methylanisole)

### 14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

### 14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

## Section 15 - Regulatory Information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. International Chemical Weapons Convention(CWC) Schedules of Toxic Chemicals and Precursors: **Neither banned nor restricted**

Restrictions on the marketing and use of certain dangerous substances and preparations: **Neither banned nor restricted**

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: **Neither banned nor restricted**

Candidate List of Substances of Very High Concern for Authorisation: **Neither banned nor restricted**

## Section 16 – Other Information

Information contained in this MSDS is believed to be correct but no representation; guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. This MSDS shall be used as guide only. **BENZO CHEM INDS. PVT. LTD.**, makes no warranties expressed or implied of the adequacy of this document for any particular purpose

<b>BENZO CHEM IND.PVT.LTD</b>		
<b>PLOT NO.B-24,25 DASARKHED MALKAPUR</b>		
<b>SR.NO.</b>	<b>DEPARTMENT/PERSON</b>	<b>NUMBER</b>
1	S.V.CHITNIS	201
2	M.A.SAPKAL	202
3	CONFERENCE ROOM	205
4	CIVIL DEPTS	206
5	R.M. STORE	207
6	SAGAR RAJAPURE	208
7	VIVEK KULKARNI	210
8	ENGINEERING STORE	214
9	PRODUCTION PLANT	211
10	J.B.SHEKOKAR	212
11	MAIN GATE SECURITY	213
12	BOILER	209
13	Q.C.LAB	215
14	SAGAR SHARMA	216
15	SAMADHAN SATHE	235
16	MAINTENANCE ROOM	218
17	P.L.C	219
18	UMESH LADHE	220
19	V.R.PATIL	236
20	GOVIND CHANDAK	237

**Call Transfer-:**

**Flash – Extension Number**

**Call pick up from any other Extension Number incoming call pickup Dial 4 & Transfer to extension Number**

## First Aid Box

<b>Sr.No</b>	<b>Location of First Aid Box</b>	<b>Numbers</b>
1	Administration Office	01
2	Security Cabin	01
3	Boiler House	01
4	Quality Control	01
5	Engineering	01
6	Production	02
7	Store	01
8	Occupational Health Centre	01
9	ETP	01

## Life supporting equipment

<b>Sr.No</b>	<b>Name of life supporting equipment's</b>	<b>Location</b>	<b>Numbers</b>
1	Self-containing breathing apparatus	Process plant	01
2	Self-containing breathing apparatus	Quality control Lab	01
3	Self-containing breathing apparatus	Secuirty cabin	01
4	Self-containing breathing apparatus	Engg store	01
5	Breathing apparatus	OHC	03
6	Cyanide antidotes kits	Production cabin at production Quality control Lab	02
7	Chlorine cylinder repair kit	Process plant	01





**BENZO CHEM**

## **BENZO CHEM INDUSTRIES PRIVATE LIMITED**

Works: B-24, 25, M.I.D.C. Area, Dasarkhed,  
Malkapur – 443 112, (Dist. Buldhana)  
Phone No. : (07267) 262678/79/81,  
Fax: (07267) 262680  
E-mail: benzoeou@rediffmail.com

Registered Office: 26/28-A, Cawasji Patel Street,  
Fort, MUMBAI 400001.  
Phone No. 022-43555888, Fax No. 022-40057327  
CIN U24100MH1986PTC041751  
E-mail: gcpl@bom3.vsnl.net.in Website: www.bcipl.com

### **Telephone Numbers in Emergency situation**

<b>Fire Brigade</b>		
1)	Khamgaon	07263-254101
2)	Deepnagar	02582-250012
		02582-250088
3)	Bhusawal	02582-222660
4)	Jalgaon	0257-2221044
		0257- 2224444

<b>Hospitals</b>		
1)	Dr. Praful Patil	07267-226381
2)	Civil Hospital, Malkapur	07267-222443

<b>Blood Banks</b>		
1)	Babasaheb Topale Memorial Blood Bank, Akola	0724-2420214
2)	Indian Red Cross Society, District Blood Bank, Jalgaon.	0257-2226233

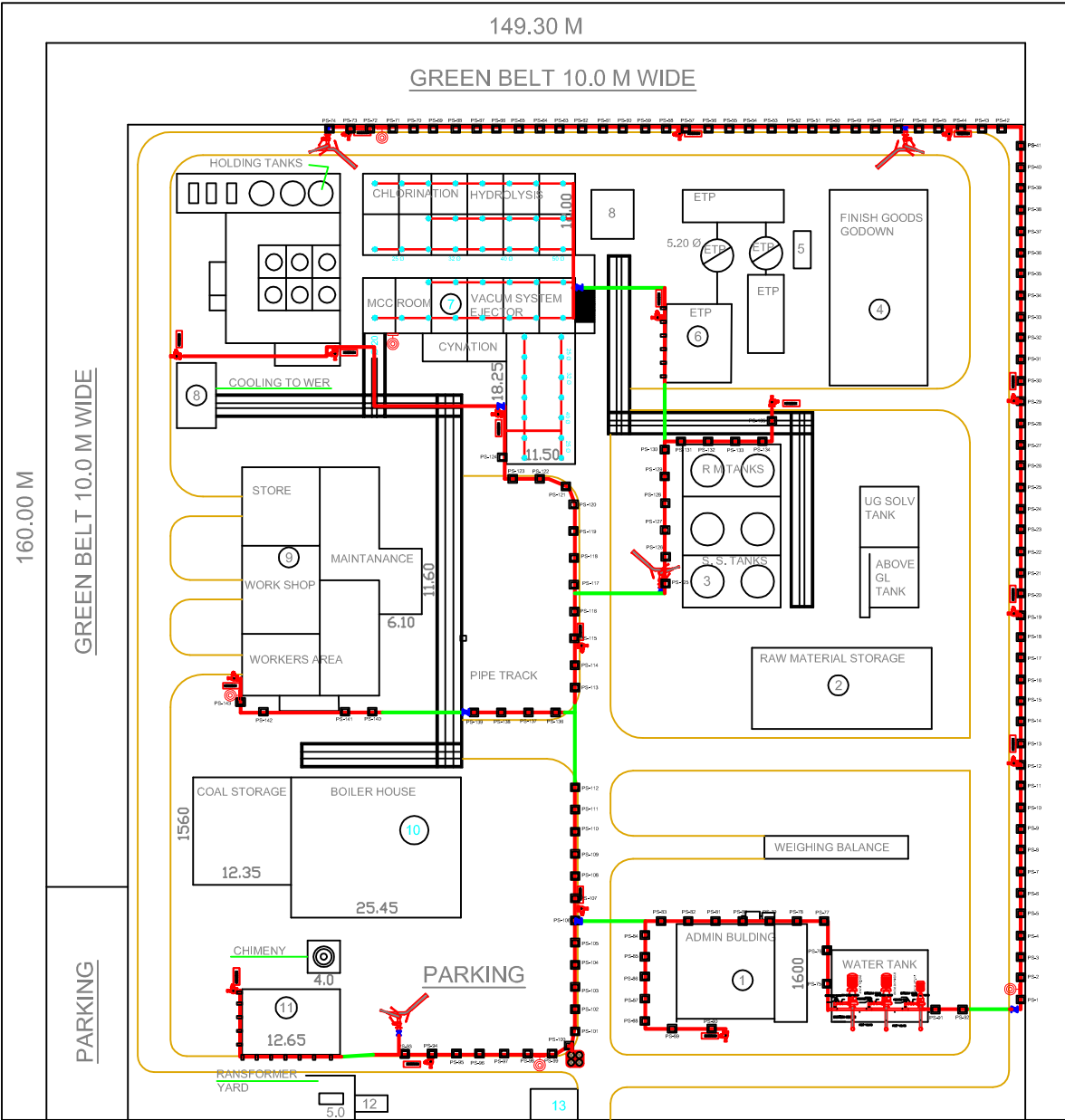
<b>Management</b>		
<b>Sr.No.</b>	<b>Name</b>	<b>Contact No.</b>
1)	Mr Krishna Mohan	0257-2210241 8978870305
2)	Mr. M.A.Sapkal	7559367814
3)	Dr. Umesh Ladhe	9766438879
4)	Mr. Atulkumar Das	7424927208
5)	Mr. Hemant Talele	9765011807
6)	Mr. Shivcharan Chitnis	9923421070
7)	Mr. P.N.Zope	9370327217

<b>Ambulance</b>		
1)	Civil	07267-222443
2)	Life line	--

<b>Police Station</b>		
1)	Malkapur City	07267-222018
2)	M.I.D.C. Area	07267-262340



[An ISO 9001, 14001 & 18001 Certified Unit]



SPRINKLER SYSTEM		
DISCRPTION	SYMBOL	QTY.
SPRINKLER		100
BUTTERFLY VALVE 150 NB (6")		01
BUTTERFLY VALVE 100 NB (4")		03
PIPE 150 NB (6")		24 MTR
PIPE 100 NB (4")		18 MTR
PIPE 80 NB (3")		18 MTR
PIPE 40 NB (1.56")		36 MTR
PIPE 32 NB (1.26")		150 MTR
PIPE 25 NB (1")		90 MTR
ALARM VALVE 150 MM		01

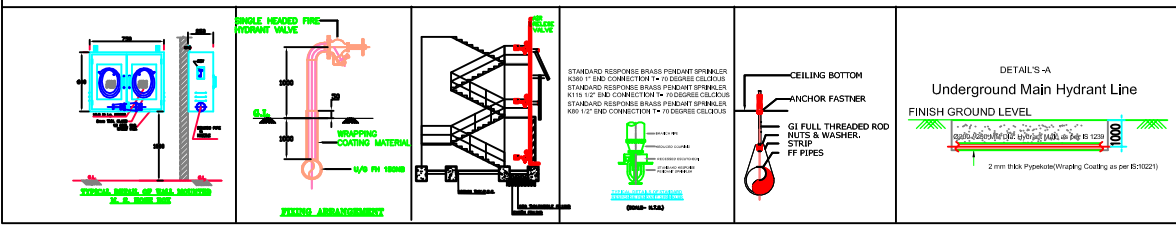
COURT YARD HYDRANT SYSTEM		
DISCRPTION	SYMBOL	QTY.
HYDRANT VALVE		24
SINGLE HOSE BOX		24
FOUR WAY INLET		01
FOUR WAY INLET		01
BUTTERFLY VALVE 150 NB (6")		11
BUTTERFLY VALVE 100 NB (4")		02
BUTTERFLY VALVE 80 NB (3")		01
PIPE 150 NB (6")		684 MTR
PIPE 100 NB (4")		60 MTR
PIPE 80 NB (3")		36 MTR
FOAM MONITOR		02
WATER MONITOR		01
M.S. PIPE SUPPORT (COURT YARD)		190
HOSE REEL		05

WET RISER (STAIR CASE AREA)		
DISCRPTION	SYMBOL	QTY.
HYDRANT VALVE		07
SINGLE HOSE BOX		07
HOSE REEL		07

COMPANY NAME  
**HYDRANT SYSTEM**

TITLE  
**BENZO CHEM INDUSTRIES PVT LTD.**

TRD	SCALE 1:1000		
DRN	DRG NO.		REV NO.
CHD			
APPD	SHEET 1 OF 3X		DATE



**IAFS**  
Safetys & Fire Solutions

India Automation & Fire solutions  
Office No 4, 2nd Floor, Pushpashanti Tower, Near Karve Statue  
Karve Road, Kharand, Pune-411 029, Tele/Fax +91-20-2598 9369,  
Web/WWW.iafspace.com Email: info@indiatimes.com  
24 hours helpline+91-9825 24984

**Annexure – 18**

**Form-7**


## FORM No.7

Prescribed under Rule 18(7)

**HEALTH REGISTER**

(In respect of person employees in occupations declared to be dangerous operations under section B7)

Company Name **Benzo Chem Industries Pvt Limited, B-24,25, MIDC Area, Dasarkhed, Malkapur, Dist- Buldhana.**Fitness Checkup Period 04/09/2022 03/03/2023 Name of Doctor **DR SAMPDA SAPKAL**

Sl. No.	Emp. Code	Employee Name	Age	Sex	Nature of Job or Occupation	Raw material or Bye Product handled	Employee Fit	Signature of Doctor
1		HEMANT TALELE	51	Male		HCL, Caustic lye etc	Fit	 <b>Dr. Sampda Sapkal</b> MBBS MD FPH Reg No. 01444
2		SADASHIV PIVATE	46	Male		HCL, Caustic lye etc	Fit	
3		SOPAN NANDOKAR	36	Male		HCL, Caustic lye etc	Fit	
4		VINOD G PATIL	42	Male		HCL, Caustic lye etc	Fit	
5		SUBHASH D KUMBHAR	44	Male		HCL, Caustic lye etc	Fit	
6		VIVEK KHEDKAR	46	Male		HCL, Caustic lye etc	Fit	
7		SAGAR RAJAPURE	38	Male		HCL, Caustic lye etc	Fit	
8		VIVEK KULKARNI	48	Male		HCL, Caustic lye etc	Fit	
9		PRANAV PATIL	32	Male		HCL, Caustic lye etc	Fit	
10		JAGANNATH SHEKOKAR	45	Male		HCL, Caustic lye etc	Fit	
11		RAJENDAR N SONANE	42	Male		HCL, Caustic lye etc	Fit	
12		CHANDRAKANT CHOUDH	38	Male		HCL, Caustic lye etc	Fit	
13		SANJAY KAPALE	46	Male		HCL, Caustic lye etc	Fit	
14		GANESH M BHOLE	53	Male		HCL, Caustic lye etc	Fit	
15		VIVEK WANKHEDE	37	Male		HCL, Caustic lye etc	Fit	
16		VIKRAM H PATIL	35	Male		HCL, Caustic lye etc	Fit	
17		JITENDRA M PATIL	46	Male		HCL, Caustic lye etc	Fit	
18		SADHESH R NOIK	39	Male		HCL, Caustic lye etc	Fit	
19		SANJAY MAHAJAN	43	Male		HCL, Caustic lye etc	Fit	

## FORM No.7

Prescribed under Rule 18(7)

**HEALTH REGISTER**

(In respect of person employees in occupations declared to be dangerous operations under section B7)

Company Name **Benzo Chem Industries Pvt Limited, B-24,25, MIDC Area, Dasarkhed, Malkapur, Dist- Buldhana.**

Fitness Checkup Period 04/09/2022 03/03/2023

Name of Doctor

DR SAMPDA SAPKAL

Sl. No.	Emp. Code	Employee Name	Age	Sex	Nature of Job or Occupation	Raw material or Bye Product handled	Employee Fit	Signature of Doctor
20		VINOD BHARAMBE	50	Male		HCL, Caustic lye etc	Fit	
21		LALIT JANGLE	43	Male		HCL, Caustic lye etc	Fit	
22		ATULKUMAR DAS	46	Male		HCL, Caustic lye etc	Fit	
23		MADHUKAR BHANGALE	53	Male		HCL, Caustic lye etc	Fit	
24		VINAYAK PATIL	43	Male		HCL, Caustic lye etc	Fit	
25		MAYUR MAHAJAN	28	Male		HCL, Caustic lye etc	Fit	
26		SHYAM PATIL	34	Male		HCL, Caustic lye etc	Fit	
27		YOGESH DHOKE	31	Male		HCL, Caustic lye etc	Fit	
28		SANDESH PATIL	52	Male		HCL, Caustic lye etc	Fit	
29		SHAILESH MORE	30	Male		HCL, Caustic lye etc	Fit	
30		VINAYAK KAPLE	36	Male		HCL, Caustic lye etc	Fit	
31		SACHIN KALE	40	Male		HCL, Caustic lye etc	Fit	
32		SANDIP NAIK	42	Male		HCL, Caustic lye etc	Fit	
33		GOVIND CHANDAK	53	Male		HCL, Caustic lye etc	Fit	
34		DHANRAJ PATIL	42	Male		HCL, Caustic lye etc	Fit	
35		DNYANESHVAR KATOLE	42	Male		HCL, Caustic lye etc	Fit	
36		SUNIL TAYDE	45	Male		HCL, Caustic lye etc	Fit	
37		AJIT KINGE	31	Male		HCL, Caustic lye etc	Fit	
38		KIRAN ROTHE	24	Male		HCL, Caustic lye etc	Fit	

Dr. Sampda Sapkal  
MBBS, MD, AFPH  
144/15, MIDC Area, Dasarkhed, Malkapur, Dist- Buldhana

## FORM No.7

Prescribed under Rule 18(7)

**HEALTH REGISTER**

(In respect of person employees in occupations declared to be dangerous operations under section B7)


Company Name **Benzo Chem Industries Pvt Limited, B-24,25, MIDC Area, Dasarkhed, Malkapur, Dist- Buldhana.**

Fitness Checkup Period 04/09/2022

03/03/2023

Name of Doctor

DR SAMPDA SAPKAL

Sl. No.	Emp. Code	Employee Name	Age	Sex	Nature of Job or Occupation	Raw material or Bye Product handled	Employee Fit	Signature of Doctor
39		JAYANT JOSHI	57	Male		HCL, Caustic lye etc	Fit	 <b>Dr. Sampda Sapkal</b> MBBS MD APLSI Reg. No. 01454
40		SANTOSH PATIL	51	Male		HCL, Caustic lye etc	Fit	
41		GAJANAN SONONE	42	Male		HCL, Caustic lye etc	Fit	
42		ABHIMANYU NARKHEDE	38	Male		HCL, Caustic lye etc	Fit	
43		VAIBHAV PATIL	36	Male		HCL, Caustic lye etc	Fit	
44		MOHDMAD RIZWAN	30	Male		HCL, Caustic lye etc	Fit	
45		DINESH PRATAP	44	Male		HCL, Caustic lye etc	Fit	
46		GOPAL D DESHMAKHA	48	Male		HCL, Caustic lye etc	Fit	
47		GAJANAN GHULE	35	Male		HCL, Caustic lye etc	Fit	
48		NILESH PIWATE	31	Male		HCL, Caustic lye etc	Fit	
49		BHASHAN PATIL	30	Male		HCL, Caustic lye etc	Fit	
50		AMOL KORANDE	34	Male		HCL, Caustic lye etc	Fit	
51		MOHMMAD SAJID M ARIF	32	Male		HCL, Caustic lye etc	Fit	
52		SANDIP WANKHADE	37	Male		HCL, Caustic lye etc	Fit	
53		MAHADEV U WAGH	57	Male		HCL, Caustic lye etc	Fit	
54		MILIND GERDCHAR WARKE	53	Male		HCL, Caustic lye etc	Fit	
55		SHIVCHANDEO V CHITNIS	52	Male		HCL, Caustic lye etc	Fit	
56		SANDEEP S JOSHI	58	Male		HCL, Caustic lye etc	Fit	
57		UMESH LADHE	40	Male		HCL, Caustic lye etc	Fit	

FORM No.7

Prescribed under Rule 18(7)

### HEALTH REGISTER


(In respect of person employees in occupations declared to be dangerous operations under section B7)

Company Name **Benzo Chem Industries Pvt Limited, B-24,25, MIDC Area, Dasarkhed, Malkapur, Dist- Buldhana.**

Fitness Checkup Period 04/09/2022 03/03/2023

Name of Doctor

**DR SAMPDA SAPKAL**

Sl. No.	Emp. Code	Employee Name	Age	Sex	Nature of Job or Occupation	Raw material or Bye Product handled	Employee Fit	Signature of Doctor
58		MODHAKAR SOPKAL	57	Male		HCL, Caustic lye etc	Fit	 Dr. Sampda Sapkal MBBS MD AFM Reg. No. 01444
59		GOVINDA S SARODE	59	Male		HCL, Caustic lye etc	Fit	
60		DATTATRAY PATIL	53	Male		HCL, Caustic lye etc	Fit	
61		SUNIL KAPATE	34	Male		HCL, Caustic lye etc	Fit	
62		DIPANKAR DAS	29	Male		HCL, Caustic lye etc	Fit	
63		SAGAR KADU	29	Male		HCL, Caustic lye etc	Fit	
64		PRADIP CHAUDHARI	50	Male		HCL, Caustic lye etc	Fit	
65		SUHAS LOKHANDE	38	Male		HCL, Caustic lye etc	Fit	

## **Annexure – 19**

**Agreement with CHWTSDF and  
the latest submitted Form-4**



**MAHARASHTRA ENVIRO POWER LIMITED**  
(Nagpur Unit)



Agreement to provide facility of  
**'COMMON HAZARDOUS WASTE TREATMENT,  
STORAGE & DISPOSAL FACILITY'**

Between

**MAHARASHTRA ENVIRO POWER LIMITED (Nagpur Unit)**

AND

**BENZO CHEM INDUSTRIES PVT. LTD.,**  
PLOT NO. B - 24, B - 25, MIDC DASARKHED,  
TA.H. MALKAPUR,  
DIST. BULDHANA - 443 101.

On

**11/07/2019**

Valid up to

**10/07/2024**

Registered Office:

267, Ganesh Phadnavis Bhavan, Lingular Park, Dharampeth,  
Nagpur - 440010 (M.S.) India

Tel. No: +91 712 7125000, 7125200 Fax: +91 712 7125100 Web: www.smsl.co.in





महाराष्ट्र MAHARASHTRA

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NAGPUR TREASURY  
WN 330931  
27 JUN 2020  
Stamp Head Clerk / Sr Clerk

MEMBERSHIP AGREEMENT

This Membership Agreement ("Agreement") is executed at Nagpur on this \_\_\_\_\_ day of \_\_\_\_\_, 2020 by & between:

Maharashtra Enviro Power Limited (Nagpur Unit) (hereinafter referred to as 'MEPL' for short), a company incorporated and registered under the provisions of the Companies Act, 1956 and having its registered office at 267, Ganesh Phadnavis Bhawan, Triangular Park, Dharampeth, Nagpur, Maharashtra, (India) (hereinafter referred to as "The First Party" which expression shall unless repugnant to the context or meaning thereof shall mean and include its successors, assignees etc.) on **FIRST PART;**

AND

M/s. Benzo Chem Industries Pvt. Ltd., (hereinafter referred to as 'THE MEMBER'), which is a Company duly incorporated under the Provisions of The Companies Act 1956 and having its registered office at 26/28-A, Cowasji Patel Street Fort, Mumbai - 400 001 hereinafter referred to as 'The Second Party', which expression shall unless repugnant to the context of meaning thereof shall mean and include its Successors, Business, Assignees etc.) On the **SECOND PART;**

Seal & Signature  
(MEPLNU)

Seal & Signature  
(Member)

**WHEREAS:**

- 1) The Second Party is, inter alia, engaged in the business activities relating to manufacturing of Chemicals generating Hazardous / Industrial Solid Waste (hereinafter referred to as "Hazardous Waste") as specified in Hazardous Waste (Management and Handling) Rules, 1989 and now amended as Hazardous and Other Waste (Management & Transboundary Movement) Rules, 2016 (hereinafter referred to as "The Rules").

The Hazardous Waste is specified below as per consent to Operate and actual waste generation.

Sr. No.	Items No. of process generating HW as per Schedule-I	Type of Waste	Quantity	Disposal
01	20.3	Distillation Residue	05 Kg/Day	CHWTSDF
02	34.3	Chemical Sludge From Waste Water Treatment	30 Kg/Day	CHWTSDF
03	Schedule II : A-10	Schedule II: Cyanide Component	02 Kg/Day	CHWTSDF

- 2) The Party of the second part is desirous of disposing off its 'Hazardous Waste' as specified in the Rules and conforming to the norms laid down by MPCB and in furtherance thereto, the Party of the second part has approached to the First Party for managing the disposal of its 'Hazardous Waste' as specified in the Rules and conforming to the norms laid down by MPCB, since the Party of the first part has set up '*Common Hazardous Waste Treatment, Storage & Disposal Facility*' at MIDC Industrial Area, Butihori NAGPUR.
- 3) The First Party has agreed to treat 'Hazardous Waste' of the Second Party on the 'Terms and Conditions' stated hereunder which have been mutually agreed to between the 'MEPL' and THE MEMBER'

NOW THIS AGREEMENT WITNESS AS FOLLOWS:

**1. DEFINITIONS AND INTERPRETATIONS**

- 1.1 "TIME" shall be stated in Hours and shall mean Indian Standard Time.
- 1.2 "WORKING DAY" means a period of twelve (12) consecutive hours beginning at 08.00 hours and ending at 20.00 hours.
- 1.3 "WEEK" means a period of seven (7) consecutive days beginning from the first day of the week i.e. Monday.
- 1.4 "MONTH" means a period beginning at 8.00 hours on the first day of Calendar Month and ending at 8.00 hours on the first day of succeeding Calendar Month.
- 1.5 "YEAR" means a period of three hundred and sixty five (365) consecutive days or three hundred and sixty six (366) consecutive days when such period includes a twenty ninth (29<sup>th</sup>) day of February beginning at 8.00 hours from a day.



- 1.6 "FINANCIAL YEAR" means a period of three hundred and sixty five (365) consecutive days or three hundred and sixty six (366) consecutive days when such period includes a twenty ninth (29<sup>th</sup>) day of February beginning at 8.00 hours from a day of first April.
- 1.7 "FACILITY" means 'Common Hazardous Waste, Treatment, Storage & Disposal Facility cum Power Generation'
- 1.8 "Hazardous Waste" means 'Hazardous Waste' as specified in Hazardous Waste (Management and Handling) Rules, 1989 and now amended as Hazardous and Other Waste (Management & Transboundary Movement) Rules, 2016.
- 1.9 "Rules" means Hazardous Waste (Management and Handling) Rules, 1989 and now amended as Hazardous and Other Waste (Management & Transboundary Movement) Rules, 2016.
- 1.10 "MPCB" means 'Maharashtra Pollution Control Board' (a state pollution control board)
- 1.11 "MIDC" means 'Maharashtra Industrial Development Corporation' (a state industrial corporation).
- 1.12 "CPCB" means 'Central Pollution Control Board'.
- 1.13 "RATE LIST" means rates fixed by 'MEPL' from time to time w.r.t. Membership deposit, treatment charges, transportation charges, MIDC charges, toll tax, service tax and others as applicable.
- 1.14 The headings of or title to the Clauses in this AGREEMENT shall not be deemed to be a part thereof or be taken into consideration in the interpretation or construction thereof of the AGREEMENT.
- 1.15 Words imparting the singular only also include the plural and vice versa where the contexts so require.
- 1.16 The present agreement is entered into by 'MEPL' for Collection, Transportation, Treatment & Disposal of Hazardous Waste generated by Second Party.

2. PERIOD OF AGREEMENT:

2.1 The present agreement shall come into force from

1	1	0	7	2	0	1	9
D	D	M	M	Y	Y	Y	Y

The date mentioned on the Membership Certificate and that the present Agreement shall remain in force for a period of five (5) consecutive years, effective from above named date, and ends on

1	0	0	7	2	0	2	4
D	D	M	M	Y	Y	Y	Y


  
 Secy & Executive  
 (MEPLNS)


  
 Secy & Signature  
 (Member)

3. **EXTENSION PERIOD OF AGREEMENT :**

3.1 If the Members wishes to send its Hazardous Waste after the expiry of the present Agreement, it shall give three (3) months advance notice to 'MEPL' of its desire of extended period of facility and 'MEPL' shall, subject to the availability of space, consider the request and may in its absolute discretion, offer terms for the fresh Agreement. Both the parties hereto shall, after reaching an Agreement on the offered terms, execute a fresh Agreement at least one (1) month before the date expiry of this Agreement.

3.2 Both the Parties hereto agree that the present Agreement shall automatically come to an end in any of the following eventualities:

- (i) On expiry of Authorization granted to the Member and the same having not been renewed or the same having been not granted by MPCB.
- (ii) On expiry of the present Agreement where no fresh agreement is signed and executed between parties hereto as mentioned above.
- (iii) On Authorization to 'MEPL' being cancelled/ refused or not granted by MPCB. In such case MEPL will inform the generator immediately.

4. **MEMBERSHIP**

4.1 The membership under this agreement is **Not Transferable** in any manner whatsoever.

5. **TRANSPORTATION**

5.1 As agreed herein above, 'MEPL' shall provide Dumpers / Tractors / Trucks duly authorized by 'MEPL' / MPCB to the Member for transporting its Hazardous Waste to the disposal site of 'MEPL' at the cost of the Member.

5.2 The 'Transportation Charges' per MT per km from disposal site to the destination and back to disposal site will be as per the rate list fixed by 'MEPL' from time to time, which will be intimated to Member from time to time.

5.3 Minimum 90% of Container Capacity or Truck Load Capacity shall be charged for Transportation.

5.4 The generator will provide details of the waste by filling Form 8 as per Hazardous Waste Management & Handling Rules 1989 & as amended thereafter.

5.5 The Generator will provide details of the Hazardous Waste & its characteristics regarding presence of explosive/ignitibility/corrosiveness/toxicity/odor in the manifest Form -10 as per the Hazardous Waste Management rules 1989 & amended thereafter.

5.6 Tram Card i.e. Form - 9 as per the Hazardous Waste Management rules 1989 & amended thereafter to be duly filled & handed over to the Transporter.

5.7 In case of any false information provided by the generator, liabilities will lie on him as per the Hazardous Waste Management Rules 1989 & amendments thereafter



6. **OBLIGATION OF THE MEMBERS:**

- 6.1 While entering into the present Agreement with 'MEPL', Member shall submit the categories of Hazardous Waste and its desire to dispose off the same and that the said categories of Waste shall be as per the parameters specified in the Schedule of Hazardous Waste (Management and Handling) Rules 1989, as amended from time to time. The member shall also give true and correct information related to the description, amount, nature and toxicity of Hazardous Waste Substance.
- 6.2 The Member will declare that it shall take all Primary Treatment arrangement at its premises for any toxic material that may be notified by 'MEPL' or MPCB or any other Authority prescribed under the relevant provisions of Law in this behalf for the time being in force, before disposing its Hazardous Waste to 'MEPL'.
- 6.3 The Member is obliged to intimate 'MEPL' to send Dumpers / Tractors / Trucks duly authorized by 'MEPL' and on arrival of the same at the member's site, the member shall be responsible for loading its Hazardous Waste into the said Dumpers / Tractors / Trucks, at the member's own cost and within 4 (four) hours of the said arrival or less, as may be notified by 'MEPL' from time to time. If the detention of the said Dumpers / Tractor / Trucks at the member's site exceeds the notified period, there shall be levied detention charges per an extra hours and part thereof to the respective member at the rate which may be fixed and/or revised by 'MEPL' from time to time.
- 6.4 Before Hazardous Waste is loaded in the Dumpers / Tractor / Trucks etc. of 'MEPL', the Member shall ensure that the said waste is packed in a manner suitable for transportation. The packing cost will be borne by the member.
- 6.5 If and when an accident occurs while loading Hazardous Waste at the Member's site, the Member availing facility shall immediately report to MEPL and MPCB about the accident.
- 6.6 The Member shall be bound to accept Hazardous Waste back in the same condition and bear the cost of return transportation, if the same is rejected by 'MEPL' due to any of the following reasons:
- The variation in waste characteristics is beyond 5%
  - The improper packing and loading of wastes resulted in spillage and leakage
  - The membership is expired
  - The members is not having required balance amount in its account.

If it fails to do so, its membership will be terminated.

- 6.7 The Member shall comply with the provision of Environment (Protection) Act, 1986 and the Rules as amended from time to time as also with the condition of the present agreement and that any breach of this agreement committed by the member will allow MEPL to terminate this agreement.



7. QUALITY:

- 7.1 The Member hereby covenants to see that its Hazardous Waste shall, under all circumstances, conform to the norms specified by MPCB and as prescribed under the provisions of law for the time being in force.
- 7.2 The Member shall not send in any case, Hazardous Waste containing toxic materials in limits of concentration as specified above or that may be notified by 'MEPL' MPCB from time to time.

8. QUANTITY:

- 8.1 Subject always to the availability of space with 'MEPL', the member agrees to send on firm basis to 'MEPL', its own Hazardous Waste subject to minimum of 2.184 MT/ Yr. which will be called the contracted minimum quantity.
- 8.2 If the member sends the Hazardous Waste at the rate less than 60% of the aforesaid contracted minimum quantity, the member shall be liable to still pay to 'MEPL' for the 60% of the minimum quantity.
- 8.3 The material like HDPE Barrels/MS Barrels/Poly Bags/Gunny Bags/Glass Bottles/Plastic Bottles etc. used for packaging & shipment of waste will not be returned to the member as it is mentioned as "Hazardous Waste" in the waste Category No. 33.3 as per The Hazardous and Other Waste (Management & Transboundary Movement) Rules, 2016.
- 8.4 If the generation of Hazardous waste of the member increases due to expansion in the capacity and thus increases the Capital Investment of the member, the member will have to pay additional membership deposit as per the rate list, if he shifts in a higher bracket as per the rate list.

9. BILLING AND PAYMENT OF DISPOSAL CHARGES:

- 9.1 The rate list in respect of providing the services by MEPL has been duly approved and agreed by the member and member undertake and agrees to pay MEPL as per the rate prescribed in the rate list. The rate list prevailing as on the date of execution of the present agreement is annexed here with as annexure A1 to this agreement and it shall be the part and parcel of the present agreement. It is further mutually agreed that the said rate & the rate list is subject to change as enumerated here in under clause pertaining to escalation.
- 9.2 The member shall effect arrangement to make the payment of interest free deposit as per the rate list. The said rate amount of interest free deposit will be adjusted against the waste disposal charges whenever the generator desires to withdraw due to non-generation of Hazardous Waste amended in the consent by MPCB /Closure of facility at our end and the balance amount will be refunded to the member forthwith.
- 9.3 The samples will be drawn and will be analyzed at MEPL laboratory. The analysis charges for this purpose shall be borne by the respective Member only.
- 9.4 The rate list in respect of providing the services by MEPL has been duly approved & agreed by the member.



- 9.5 'MEPL' shall charge the Member on the basis of weighment to be done at disposal site at the rates as per rate list. If the Weigh Bridge at disposal site is not working, it will be weighed at outside Weigh Bridge approved by 'MEPL'.
- 9.6 The member covenants that the charges for the disposal of its Hazardous Waste as notified by 'MEPL' shall be subject to revision during the currency of this Agreement and as and when the revision is called for, 'MEPL' shall inform the Member in advance. The revision in the charges shall be done as per the escalation clause given as below: -

Material Component	POL component
K1	K2
50%	50%

(A) Formula for Materials Component

$$V1 = P \times (K1) / 100 \times (I1 - I0) / I0$$

Where,

V1 = Amount of price variation Rupees to be applied.

P = Base Fees

K1 = Percentage of material component as indicated above

I0 = Basis wholesale price index determine and published by the Reserve Bank of India from time to time, as above on the date 30 days preceding the last date prescribed for the receipt of proposal.

I1 = Average Wholesale price ascertained as above during the period under consideration, determine and published by the reserve bank of India from time to time.

(B) Formula for Petrol, oil and Lubricant components

$$V2 = P \times (K2) / 100 \times (P1 - P0) / P0$$

Where,

V2 = Amount of price variation Rupees to be applied.

P = Base Fees

K2 = Percentage of Petrol, oil and lubricant as indicated above

P1 = Average price of H.S.D. at the nearest petrol pump to the project site during the period under consideration

P0 = Average price of H.S.D. at the nearest petrol pump to the project site on the 30 days preceding the last date prescribed for the receipt of proposal.





- 9.7 The member shall immediately upon the receipt of the bill from the 'MEPL', make the payment on or before the due date mentioned in the bill. Interest at the rate of 18% per annum shall be charged by 'MEPL' in case of delayed payment by the Member in respect of the bill.
- 9.8 It is hereby agreed by and between the parties hereto that delayed payment means any payment not received within the stipulated due date of any invoice raised against the Member by 'MEPL'. 'MEPL' reserve its right to discontinue the arrangement under this agreement on account of non-payment of any of its outstanding amounts in due course.
- 9.9 In case of default / dishonor in payment and subsequent settlement of outstanding dues, 'MEPL' shall restart the performance of the facilities under this Agreement to the Member only on receipt of DEMAND DRAFT of the said amount within 24 hours. In the event of discontinuation of the arrangement under this Agreement because of non-payment of dues in time or for reasons attributable to the Member, the Member shall make payment of Rs. 500/- as charges for continuation facility.
- 9.10 The Member shall be bound by the analysis result / reports of 'MEPL' for disposal charges and shall not call the same in question for any reason whatsoever.

10. DEFAULT :

- 10.1 If the Member fails and /or defaults in the discharge of any of his obligation under the present Agreement, the 'MEPL' shall have discretion to (i) refuse to accept Hazardous Waste of the Member for disposal without assigning any reason, and / or (ii) notify to the MPCB the name of the Member informing about such default and that its Hazardous Waste would not be taken for disposal by 'MEPL' on account of such deemed to cause pollution and that the Member be liable as polluter under the Pollution Laws, and/or, (iii) notify to MPCB to take such action as may be deemed necessary in respect of such member.
- 10.2 'MEPL' reserve its right to accept or refuse membership. In event of Member committing any breach/violation of the condition of the present Agreement or any provision of Law/Act/Rules for the time being in force 'MEPL' reserves its right to suspend/cancel the membership for such period as it deem fit without giving any reason or prior notice.
- 10.3 'MEPL' shall inform the MPCB and/or concerned authority about the same in the event of discontinuation of the membership of any member.
- 10.4 The suspension / termination shall be revoked only at the sole discretion of 'MEPL' after it is satisfied that its conditions have been met.
- 10.5 'MEPL' shall have the right to visit the Members Site for Sample Collection, Observation of all Hazardous Waste generation source and process and Hazardous Waste Storage Shed/Yard. The visit shall be mutually coordinated and The Members should cooperate for arranging such visits.



11. TRANSFER OF RIGHTS

11.1 'MEPL' may at any time transfer or assign its rights and obligations under the AGREEMENT to any other company or business concern by giving intimation in writing to the Member. Upon such transfer or assignment, only the transferee or assignee shall be liable for the obligations herein contained.

12. PREVIOUS CORRESPONDANCE

12.1 Save and except all discussions and meetings held and correspondence exchanged between 'MEPL' and the MEMBER in respect of the Agreement and any decisions arrived at therein in the past and before the coming into force of the present AGREEMENT and no reference of such discussions or the MEMBER for interpreting the present Agreement or otherwise. Whereas, solid waste data sheet & application form, will be treated to be the part of this agreement.

13. ARBITRATION

13.1 In case of any dispute or difference of opinion arising out of the present Agreement, the matter shall be referred to an Arbitrator mutually agreed upon by the member and the 'MEPL', whose decision on the issue shall be final and binding on both the parties.

14. LAWS GOVERNING THE AGREEMENT

14.1 The present Agreement shall be subject to Indian Laws, rules and regulations and notifications etc. issued under such laws

15. AMENDMENTS:

15.1 'MEPL' has at any point of time make suitable change in the present Agreement after serving a notice to the said Member & after mutually agreeing to the amendments.

16. TERMINATION OF AGREEMENT

16.1 'MEPL' has the unrestricted right to terminate this AGREEMENT by producing 30 days notice and deduct its all pending claims from the deposit of the MEMBER.

16.2 Second Party can terminate this Agreement after giving a written Notice of at least 30 days to the other party. The provision relating to minimum charges shall be applicable, also during the notice period

17. JURISDICTION

17.1 Subject to the provisions of Clause - 15 of the present Agreement, 'MEPL' and the Member mutually agree that the Civil Court at Nagpur only shall have jurisdiction for all the disputes/differences arising out of this Agreement.

17.2 The addresses of the parties hereto unless changed by written notification to be given at least 15 days in advance by registered letter prior to proposed date of change, shall be as

Seal & Signature  
(MEPL)



Seal & Signature  
(Member)



**First Party**

**MAHARASHTRA ENVIRO POWER LIMITED (Nagpur Unit)**

**Reg. Office:**  
287, Ganesh Pradaxis Shavan,  
Near Triangular Park, Dharampeth,  
Nagpur - 440 010,  
Maharashtra (India)

**Site Office:**  
Plot No. CHW-1, Mandwa,  
Butibori Industrial Area,  
Taluka - Hingna, Nagpur - 441108,  
Maharashtra (India)

**Second Part**

**M/s. BENDO CHEM INDUSTRIES PVT. LTD.,**

**Registered Office:**  
26/28/A, Cawaji Patel Street,  
Pipli,  
Mumbai - 400 001.

**Site Office:**  
Flat No. B - 24, B - 25,  
MIDC industries Dasarkhed,  
Teh. Malkapur,  
Dist. Buldhana - 443 101.

**IN WITNESS WHEREOF** the parties hereto acting through their properly constituted representatives have set their hands to cause this **AGREEMENT** signed and executed in their respective names and on their behalf.

For and on behalf of MEPL

For and on Behalf of member

Name : Mr. Prashant Maske  
Designation : Unit Head MEP  
Address : CHW01, Mandwa, Butibori  
Ind. Estate, Butibori, Nagpur.

Name : *M. A. SARKAR*  
Designation : *Plant Head*  
Address : *Plot No. B-24, B-25, MIDC Area, Dasarkhed, Buldhana Dist.*  
Witness :

1. *[Signature]*  
Name : Mr. Hemant Kale  
Designation : Manager (Marketing)  
Address : CHW01, Mandwa, Butibori  
Ind. Estate, Butibori, Nagpur.

1. *[Signature]*  
Name : *Mr. Umesh Lodha*  
Designation : *Asst. mgr - EHS*  
Address : *B-24, 25, MIDC Area, Dasarkhed*

2. *[Signature]*  
Name : Mr. Rajesh Kumbharkhane  
Designation : Officer (Marketing)  
Address : CHW01, Mandwa, Butibori,  
Ind. Estate Butibori, Nagpur

2. *[Signature]*  
Name : *Sagar Rayakure*  
Designation : *Asst Manager*  
Address : *B-24, 25, MIDC Area, Dasarkhed, Buldhana Dist.*





**WASTE MANAGEMENT & HANDLING SERVICE CHARGES OF CHWTSDF BUTIBORI NAGPUR.  
MEMBERSHIP DEPOSIT SLAB**

CATEGORY	RED		ORANGE	
	MIDC	Non-MIDC	MIDC	Non-MIDC
Capex Investment				
< 40 Lacs	20,000	30,000	10,000	15,000
60 Lacs - 1 Crore	35,000	50,000	20,000	25,000
1 - 5 Crore	75,000	1,00,000	40,000	50,000
5 - 10 Crore	1,00,000	1,50,000	50,000	75,000
10 - 50 Crore	1,50,000	2,25,000	75,000	1,10,000
50-100 Crore	2,00,000	3,00,000	1,00,000	1,50,000
100-200 Crore	3,00,000	4,50,000	1,50,000	2,25,000
200 Crore & above	5,00,000	7,50,000	2,50,000	3,75,000

**DISPOSAL CHARGES: Yr. 2020-21**

The generator has to pay the following charges for availing the services provided by MEPL:

Client Code	Waste Name	Disposal Pathway	Revised Disposal Charges	UOM
33000164	CHEMICAL SLUDGE FROM ETP-LAT	LAT	6816	Per MT
33000164	DISTILLATION RESIDUE+INC	INC	23862	Per MT
33000164	CYNIDE SLUDGE-DLF	DLF	2487	Per MT

- 1) Transportation Charges Rs.5.45 For 9, 15 & 18MT (90% OF VEHICLE CAPACITY SHALL BE CHARGED) & Rs.15876/- (Fix) For 1MT Vehicles on sharing basis.
- 2) Unloading Charges Rs. 120.00
- 3) Sample Analysis Charges Rs. 6900/- (Per Sample)+GST as applicable

**CONDITIONS FOR MEMBERSHIP:**

Membership is valid as long as the user industry is in good understanding with CHWTSDF & has a valid authorization with MPCB.

- a) The membership deposit is one time refundable deposit. The membership deposit will be adjusted against the waste disposal charges, whenever the Generator desires to withdraw.
- b) Your membership can be used for disposing wastes at the CHWTSDF on a "user-pay-principle" against payment for disposal of wastes generated by your industry.
- c) This is valid only for disposal of Hazardous waste & shall not accept any other radioactive wastes, municipal wastes, Bio medical waste.
- d) Acceptance of wastes is dependent on the fulfillment of regulatory & statutory guidelines for operations of CHWTSDF issued from time to time.
- e) Pathway of Disposal of waste & its price shall be decided based on the guidelines issued from time to time & shall be at the discretion of CHWTSDF, as mutually agreed/and accepted by the party.
- f) Container requirement is dependent on member demand. Kindly discuss on the maintenance charges as applicable.
- g) Loading to be done by the generator.
- h) Service Tax as applicable.

**PAYMENTS:**

All payments to be made either by Cheque or by Demand draft drawn in favor of Maharashtra Enviro Power Limited (Nagpur Unit), Nagpur.

All bill payments should reach to MEPL office within 15 days from the date of issue of bill.

Seal & Signature  
(MEPLNU)

Seal & Signature  
(Member)



# Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

## Form 4

See rules 6(5),13(8),16(6) and 20(2) of Hazardous and other wastes 2016

### FORM FOR FILING ANNUAL RETURNS

[ To be submitted to state pollution control board/pollution control committee by 30th June of every year for the preceding period April to march]

**Unique Application Number:**

MPCB-HW\_ANNUAL\_RETURN-0000029638

**Submitted On:**

28-06-2022

**Industry Type :**

Generator

**Submitted for Year:**

April 2021 to March 2022

**1. Name of the generator/operator of facility**

Benzo chem industries pvt Ltd

**Address of the unit/facility**

B-24 ,25,MIDC AREA,DASARKHED

**1b. Authorization Number**

MPCB consent Formate 1.0 CC/UAN.0000067060/CO 1910000801

**Date of issue**

Oct 16, 2019

**Date of validity of consent**

Feb 28, 2022

**2. Name of the authorised person**

M.A.SAPKAL

**Full address of authorised person**

B-24 ,25,MIDC AREA,DASARKHED

**Telephone**

07267262678

**Fax**

07267-262680

**Email**

productioneou@benzochem.co.in

**3. Production during the year (product wise), wherever applicable**

Product Type *	Product Name *	Consented Quantity	Actual Quantity	UOM
Chemical ,Petrochemical &Electrochemical	2-COUMARANONE 30 % WITH ACETIC ANHYDRIDE 70 %	4800.0000	1825.430	MT/A
Chemical ,Petrochemical &Electrochemical	ORTHO HYDROXY PHENYL ACETIC ACID (OHPAA )/2-Hydroxy Phenyl Acetic Acid	180.0000	2.378	MT/A
Chemical ,Petrochemical &Electrochemical	3-ISO CHROMANONE	720.0000	92.435	MT/A
Chemical ,Petrochemical &Electrochemical	3-CHLORO - 2 METHYL ANISOLE/2 methoxy 6- chlorotoluene	480.0000	222.640	
Chemical ,Petrochemical &Electrochemical	Methyl 2- (2-chloromethyl )phenyl acetyl (MCPMA)	180.0000	175.550	

### PART A: To be filled by hazardous waste generators

**1. Total Quantity of waste generated category wise**

Type of hazardous waste	Wate Name	Consented Quantity	Quantity	UOM
35.3 Chemical sludge from waste water treatment	chemical sludge from wste water treatment	10.950	4.780	MTA
20.3 Distillation residues	distillation residue	1.650	0.840	MTA
Other Hazardous Waste	schedule ii .A-11 cyanide compound	0.548	00	MTA

**2. Quantity dispatched category wise.**

Type of Waste	Quantity of waste	UOM	Dispatched to	Facility Name
---------------	-------------------	-----	---------------	---------------

35.3 Chemical sludge from waste water treatment	3.620	MTA	Disposal Facility	MEPL,CHWSTDF,butibori,nagpur
20.3 Distillation residues	0.630	MTA	Disposal Facility	MEPL,CHWSTDF,butibori,nagpur
Other Hazardous Waste	00	MTA	0	MEPL,CHWSTDF,butibori,nagpur

### 3. Quantity Utilised in-house,If any

Type of Waste	Name of Waste	Quantity of Waste	UOM
	NA	00	KL/Anum

### 4. Quantity in storage at the end of the year

Type of Waste	Name of Waste	Quantity of Waste	UOM
35.3 Chemical sludge from waste water treatment	chemical sludge from wste water treatment	1.160	MTA
20.3 Distillation residues	distillation residue	0.210	MTA
Other Hazardous Waste	schedule ii .A-11 cyanide compound	00	MTA

### 5. Quantity disposed in landfills as such and after treatment

Type	Quantity	UOM
Direct landfilling	NA	KL/Anum
Landfill after treatment	NA	KL/Anum

### 6. Quantity incinerated (if applicable)

UOM
NA

## PART B: To be filled bt Treatment,storage, and disposal facility operators

1.Total Quantity received	<b>UOM</b>	<b>State Name</b>
NA	KL/Anum	Maharashtra
2. Quantity in stock at the beginning of the year	<b>UOM</b>	
NA	KL/Anum	
3. Quantity treated	<b>UOM</b>	
NA	KL/Anum	
4. Quantity disposed in landfills as such and after treatment		
<b>Type</b>	<b>Quantity</b>	<b>UOM</b>
Direct landfilling	NA	KL/Anum
Landfill after treatment	NA	KL/Anum
5. Quantity incinerated (if applicable)	<b>UOM</b>	
NA	KL/Anum	
6. Quantiry processed other than specified above	<b>UOM</b>	
NA	KL/Anum	
7. Quantity in storage at the end of the year.	<b>UOM</b>	
NA	KL/Anum	

## PART C: To be filled by recyclers or co-processors or other users

### 1. Quantity of waste received during the year

Waste Name/Category	Country Name	State Name	Quantity of waste received from domestic sources	Quantity of waste imported(If any)	Units
NA	India	Maharashtra	NA	NA	KL/Anum

2. Quantity in stock at the beginning of the year

<b>Waste Name/Category</b>	<b>Quantity</b>	<b>UOM</b>
NA	NA	KL/Anum

3. Quantity of waste recycled or co-processed or used

<b>Name of Waste</b>	<b>Type of Waste</b>	<b>Quantity</b>	<b>UOM</b>
NA	NA	NA	KL/Anum

4. Quantity of products dispatched (wherever applicable)

<b>Name of product</b>	<b>Quantity</b>	<b>UOM</b>
NA	NA	KL/Anum

5. Total quantity of waste generated

<b>Waste name/category</b>	<b>quantity</b>	<b>UOM</b>
NA	NA	KL/Anum

6. Total quantity of waste disposed

<b>Waste name/category</b>	<b>quantity</b>	<b>UOM</b>
NA	NA	KL/Anum

7. Total quantity of waste re-exported (If Applicable)

<b>Waste name/category</b>	<b>quantity</b>	<b>UOM</b>
NA	NA	KL/Anum

8. Quantity in storage at the end of the year

<b>Waste name/category</b>	<b>quantity</b>	<b>UOM</b>
NA	NA	KL/Anum

9. Quantity disposed in landfills as such and after treatment

<b>Type</b>	<b>Quantity</b>	<b>UOM</b>
Direct landfilling	NA	KL/Anum
Landfill after treatment	NA	KL/Anum

10. Quantity incinerated (if applicable)

<b>UOM</b>
NA
KL/Anum

Personal Details

<b>Place</b>	<b>Date</b>	<b>Designation</b>
DASARKHED	2022-06-28	Plant Head

## **Annexure – 19(A)**

**Photographs of the tanks with load cells and level indicators**







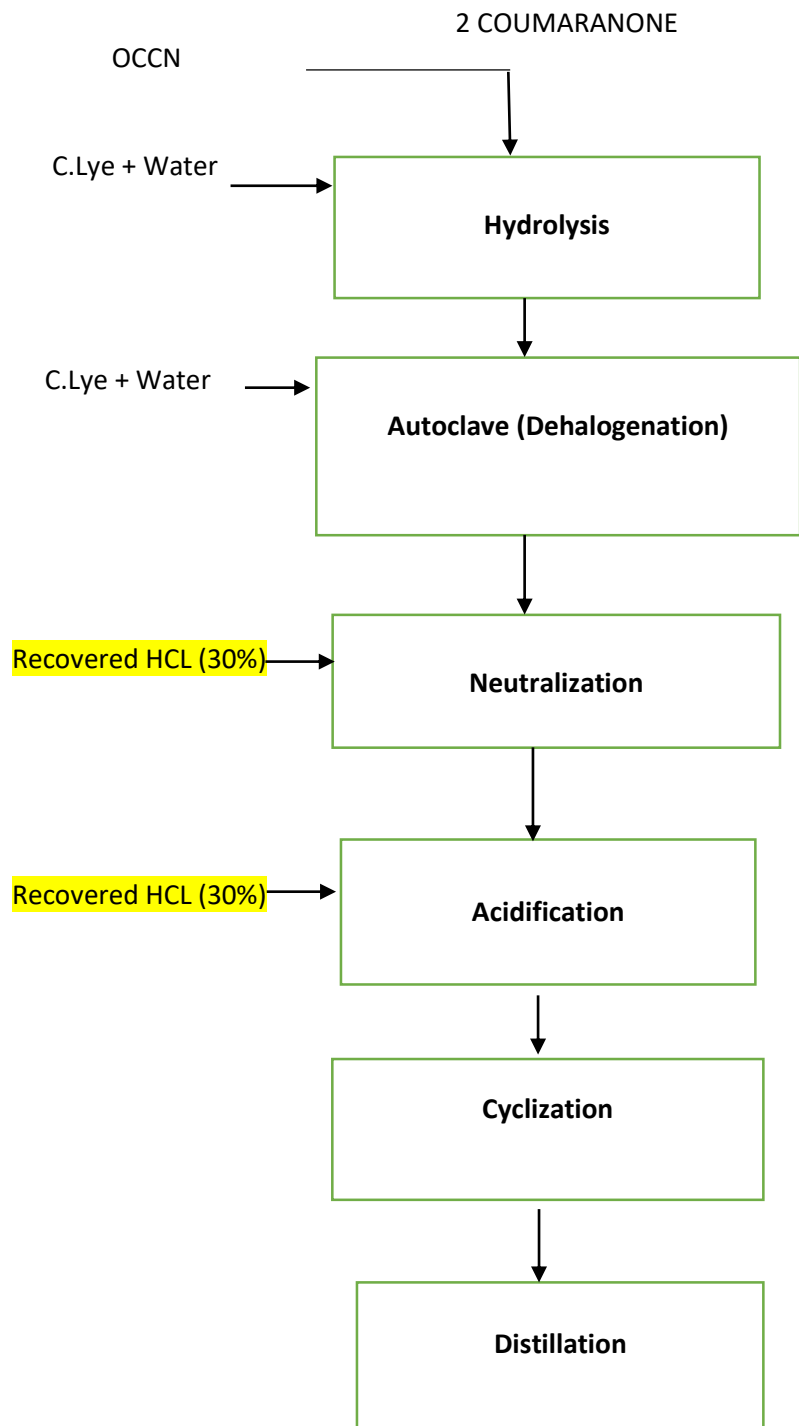
WASTE STORAGE TANK 1

8F7  
MS-50KL



## **Annexure – 19(B)**

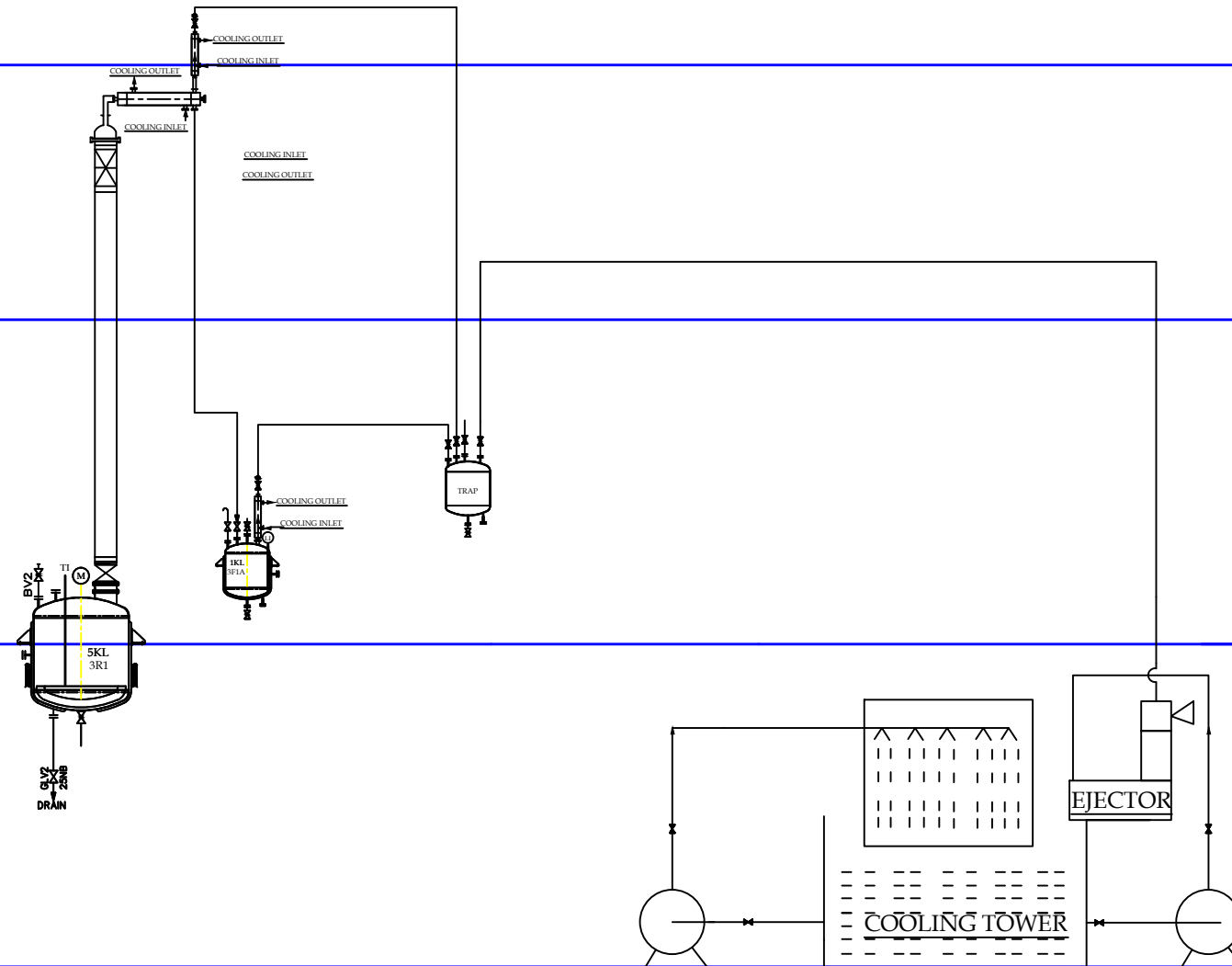
**Process flow diagram of the re-use  
of HCl in another product**



## **Annexure – 19 (C)**

### **Schematic diagram of solvent recovery system**

# FLOW DIAGRAM OF SOLVENT RECOVERY



## **Annexure – 19(D)**

**Photographs of the pumps for the  
transfer of liquids**





DIMETHYL SULFIDE  
STORAGE TANK

**DIMETHYL SULPHATE  
STORAGE TANK**

**8F15  
25.75kl**

DN-01

PURIC ACID STORAGE TANK

8F8  
MS-15KL

## **Annexure – 19(E)**

### **Photographs of the day tanks**





## **Annexure – 20**

# **Latest mock drill report**





**BENZO CHEM**

# BENZO CHEM INDUSTRIES PRIVATE LIMITED

Address: T-24, 15, MIDC Area, Bhandara Rd,  
Malkapur - 445 112, (Dist. Buldhana)  
Phone No. (02267) 262611, 262612  
Fax (02267) 262680  
E-mail: benzoepu@rediffmail.com

Registered Office: T-24, A, Gwalior Road, Bhandara  
Fort, M.S. MRA-400007  
Phone No. 022-45531568 Fax No. 022-40017227  
CIN: U24100MH1966PTC041751  
E-mail: gcp@benzochem.com Website: www.buapl.com

**EHS/2023/FI/01**

**January 07, 2023**

The Dy. Director  
Industrial safety & Health  
Akola Region, I<sup>st</sup> Floor,  
Vinod Bhavan, gourakshan road,  
Opposite power house, Akola 4

**Subject: Submission of Mock Drill report**

Dear Sir,

With respected to above mentioned subject, As per MSIHC Rule 1989 (Section 13) we are submitting Mock Drill report for your information and record.

Thanking you,

Yours Faithfully,

**For Benzo Chem Industries Pvt Ltd.**

**(M.A.Sapkal)**  
**Plant Head**

**Encl: Mock Drill Report**

# BENZO CHEM INDUSTRIES PRIVATE LIMITED

Works: G-24, 25, M.I.D.C. Area, Basarshi,  
Malkapur - 443 112, (Dist. Buldhana)  
Phone No. (07207) 262631, 262632,  
Fax: (07207) 262630  
E-mail: beazoeou@rediffmail.com

Registered Office: 26, 28-A, Chakrabarti Street,  
E-9, MIDC Area, Mumbai  
Phone No. 022-42555468, Fax No. 022-42555469  
CIN: U24100MH1986PTC041751  
E-mail: g.p.l@benzoind.com; Website: www.bcpil.com

BENZO CHEM

EHS/2023/01

January 07, 2023

## MOCK DRILL REPORT

Mock drill conducted on: **05.01.2023**

**Scenario:** Leakage of ammonia in Process plant.

**Location:** **Process Plant.**

**Involvement:**

**Production Operator:** Smell & Observed the leakage of ammonia gas 17.12 and he shouted Gas Leakage .... Gas Leakage and informed to Shift In-charge.

**Shift In-Charge:** He immediately rushed to the spot, assesses the situation and immediately instructs to operator to stop hydrolysis process and take corrective measure to avoid spreading of ammonia gas by blocking leakage & inform to Security at 17.15. The situation was under control and was no need to declare emergency, in the plant, but the near by area is cordon. The Shift In-charge acted as incident controller.

**Incident Controller:** Rushed to the spot and observed the situation at 17.13. He declared all cleared by 17.15

**Security:** Security reached the spot at 17.17 and consulted to incident controller for help. The security personnel cordon the area and controlled unnecessary movement.

The situation was under control within 4 minutes.

Manager: EHS

Copy to: Plant Head / Maint. Head/H.R Head

# BENZO CHEM INDUSTRIES PRIVATE LIMITED

Works: B-24, 75, M.L.D.C. Area, Dargodan,  
Myskapur - 445 122, Dist. Buxihana,  
Pincode - 471007, 262167/1981  
Fax: 0126/1262661  
E-mail: benzochem@rediffmail.com

Registered Office: 26/28-A, Lawal, Panch Sreen,  
Fort, Mumbai 400001  
Phone No: 022 22531668, Fax No: 022 40017311  
CIN: U24100MH1986PTC041751  
E-mail: gpr@benzochem.net, Website: www.bcp.com

BENZO CHEM

## ASSESSMENT OF MOCK DRILL

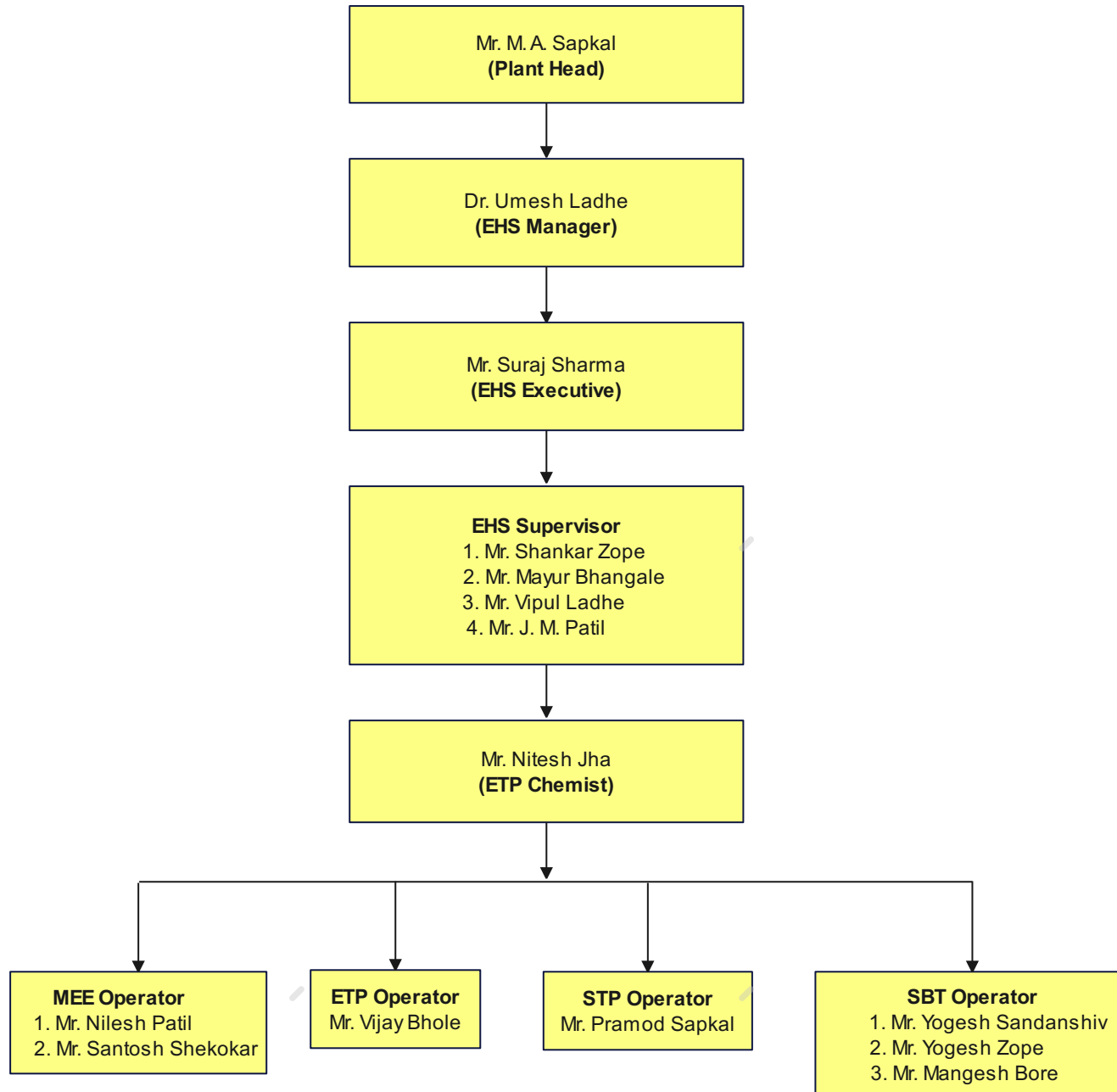
Sl.No.	Contents	Remarks
1	Whether timely information given to concerned authorities, if not, indicate the discrepancies.	Yes. Incident controller Security, transport.
2	Did the key persons report within the minimum response time at the appropriate places? If not, indicate shortfalls.	Yes. Incident Controller reaches within 1.0 Minutes. Security and vehicle reached within 2.0 minute.
3	Were mutual aid assistances available in time and adequate?	Yes. Incident is in control and no need to call any one.
4	Was there any confusion in the assembly point?	No.
5	Indicate response time and adequacy of fire fighting systems.	Emergency Response team controlled the situation within 3.0 minutes.
6	Indicate response time and adequacy of ambulance Transport facilities.	The vehicle reaches within 2.0 minute.
7	Whether any improvement noticed from the previous rehearsal.	Yes, No confusion to reach assembly point.
8	All clear.	The situation was under control within 4 Minutes and all clear signal given by blowing two long sirens.
9	Improvement Area	No

Sagar Rajapure (Manager)  
Name & designation of the Observer.  
Date: 05.01.2023

## **Annexure –21**

# **Environmental Management Cell**

**Benzo chem Industries Pvt. Ltd.**  
**EHS Department Organogram**



## **Annexure – 22**

# **Responsibilities of the EMC personnel**



# BENZO CHEM INDUSTRIES PRIVATE LIMITED

Works: B-24, 25, B-16, B-17,  
M.I.D.C. Area, Dasarkhed,  
Malkapur – 443 112, (Dist. Buldhana)  
Phone No. : (07267) 262678/79/81  
Fax: (07267) 262680  
E-mail: benzoeou@rediffmail.com

Registered Office: Plot No 26/28A,  
Kawasji Patel Street, Opp. Yazdhani Bakery,  
Fort, Mumbai – 400 001.  
Phone No. : (022) 43555888 / 22,  
Fax: (022) 40057327  
E-mail: gcpl@bom3.vsnl.net.in Website: www.bcipl.com

Corporate Identity No. U24100MH1986PTC041751

## Responsibilities of the Environmental Management Cell personnel

Sr. No	Personnel	Name and Degree , Designation (To be filled in)	Responsibility
1.	ETP Operator	Mr.Niilesh Patil,Vijay Bhole and Mr.Santosh Shekokar (12 <sup>th</sup> pass)	<ul style="list-style-type: none"><li>• The supervisor shall visit and check the devices daily. He will see that the ETP is working properly and flow measurements are recorded properly in a register.</li><li>• The effluent from the ETP shall be got checked by him in the Laboratory once a week. Any parameter going out of the prescribed limits will be reported to the EHS Manager for taking corrective action. He will pursue the matter at personal level to bring the parameters within permissible limits.</li><li>• The EHS Manager will keep in touch with the Environmental Consultant and seek their guidance for corrective action as and when required.</li><li>• The Committee shall meet once every month to ensure implementation of the programme.</li><li>• The EHS Manager will bring to the notice of the Managing Director any further action to be taken to ensure environmental requirements. The Managing Director will report to the Board of Directors, the action taken to set right deficiency, if any.</li><li>• Maintain the records / inventory of the solid</li></ul>



# BENZO CHEM INDUSTRIES PRIVATE LIMITED

**Works:** B-24, 25, B-16, B-17,  
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Phone No. : (07267) 262678/79/81  
Fax: (07267) 262680  
E-mail: benzoeou@rediffmail.com

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Fort, **Mumbai – 400 001.**  
Phone No. : (022) 43555888 / 22,  
Fax: (022) 40057327  
E-mail: gcpl@bom3.vsnl.net.in Website: www.bcipl.com

**Corporate Identity No. U24100MH1986PTC041751**

			<p>waste generated at the site for onward disposal to the MPCB authorized vendor</p> <ul style="list-style-type: none"> <li>• Interface with the SWM machinery vendor for the maintenance of all the equipment related to the segregation of the solid waste at site</li> <li>• Supervise the segregation of the solid waste at the site.</li> <li>• Makes necessary field inspections to assure safe working conditions and that established methods and policies are followed.</li> <li>• To ensure compliance with the Solid Waste Management Rules 2016 and all the relevant statutes.</li> </ul>
2.	<b>ETP Chemist</b>	Mr.Nitesh Jha (BSC)	<ul style="list-style-type: none"> <li>• To analyse the samples collected for the environmental components such as air, water, noise and soil.</li> <li>• To maintain the records of the results of analysis</li> <li>• To maintain the laboratory equipment in working condition.</li> <li>• To identify the budgetary requirements for the upkeep of the environmental laboratory.</li> <li>• To oversee / supervise the environmental monitoring, if outsourced to the MoEF/NABL accredited laboratory.</li> <li>• To report the exceedance of the relevant parameters w.r.t regulatory standards and bring it to the notice of the Environmental Manager for corrective action.</li> </ul>





# BENZO CHEM INDUSTRIES PRIVATE LIMITED

**Works:** B-24, 25, B-16, B-17,  
M.I.D.C. Area, Dasarkhed,  
**Malkapur – 443 112, (Dist. Buldhana)**  
Phone No. : (07267) 262678/79/81  
Fax: (07267) 262680  
E-mail: benzoeou@rediffmail.com

**Registered Office:** Plot No 26/28A,  
Kawasji Patel Street, Opp. Yazdhani Bakery,  
Fort, **Mumbai – 400 001.**  
Phone No. : (022) 43555888 / 22,  
Fax: (022) 40057327  
E-mail: gcpl@bom3.vsnl.net.in Website: www.bcipl.com

**Corporate Identity No. U24100MH1986PTC041751**

3.	<b>ETP Supervisor</b>	Mr.Shanker Zope ( Diploma Chemical ) Mr.J.M.Patil ( Msc) Mr.Vipul Ladhe (BSC, ADIS). Mr.Mayur Mahajan (BSC)	<ul style="list-style-type: none"> <li>• To Supervise the All ETP Plant.</li> <li>• To manage &amp; arrange the manpower of ETP Plant.</li> <li>• To Supervise the all activity of every shift.</li> <li>• To update &amp; maintained the all records which is related to all activity of ETP Plant.</li> <li>• To update the ETP plant housekeeping.</li> </ul>
4.	<b>EHS Officer</b>	Mr.Suraj Sharma BE,ADIS	<ul style="list-style-type: none"> <li>• To periodically review and update the Disaster Management Plan of the Company.</li> <li>• To keep a log / checklist of the potential incidents / accidents that may occur in the ETP Plant.</li> <li>• To conduct mock drills with the safety heads of the ETP Plant.</li> <li>• To ensure the preparedness of resources to counter any emergency.</li> <li>• To ensured that the ETP plant shall be running smoothly.</li> <li>• To ensured that ETP plant results shall be as per MPCB norms.</li> </ul>
5.	<b>EHS Manager</b>	Dr.Umesh Vishnu Ladhe PH.D,ADIS	<ul style="list-style-type: none"> <li>• To manage &amp; maintain the all ETP plant.</li> <li>• To achieve &amp; meets the parameters as per CTO.</li> <li>• To close bound with all ETP team.</li> <li>• To take the reports from every shift.</li> <li>• To direct to all ETP team.</li> <li>• To guide &amp; monitor the all troubles in ETP Plant.</li> <li>• To review the all ETP plant work &amp; day to day report to MIS.</li> </ul>



# BENZO CHEM INDUSTRIES PRIVATE LIMITED

**Works:** B-24, 25, B-16, B-17,  
M.I.D.C. Area, Dasarkhed,  
**Malkapur – 443 112, (Dist. Buldhana)**  
Phone No. : (07267) 262678/79/81  
Fax: (07267) 262680  
E-mail: benzoeou@rediffmail.com

**Registered Office:** Plot No 26/28A,  
Kawasji Patel Street, Opp. Yazdhani Bakery,  
Fort, **Mumbai – 400 001.**  
Phone No. : (022) 43555888 / 22,  
Fax: (022) 40057327  
E-mail: gcpl@bom3.vsnl.net.in Website: www.bcipl.com

**Corporate Identity No. U24100MH1986PTC041751**

<b>6.</b>	<b>President</b>	Mr.M.A.Sapkal (B.Tech)	<ul style="list-style-type: none"><li>• Overall accountable for all EHS related issues of factory.</li><li>• Ensure observance of the statutory requirements of the Govt. authorities such as the factory inspector, pollution control board, financial institutions, MIDC, Labour inspector and other related departments and submit the statutory compliance report.</li><li>• Responsible for ensuring &amp; providing of safe working condition for all employees working at Tarapur works. Ensure that all possible cares are taken to ensure safety of man, material and machinery and all assets of the company.</li><li>• Induction of experienced and qualified personnel in the group as per the requirement of their training and retention.</li><li>• Attend all quires of any related Govt. departments and resolve the matters. If needed visit to these offices.</li><li>• Ensure that HAZOP study and Disaster Control Management Plan is made and understood by the Employees required training, mock drill etc.</li><li>• will ensure and act to prevent environment. will put all efforts to protect the environment. also responsible to bring to the notice of management about any measures to be taken to protect the environment aspects.</li></ul>
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## **Annexure – 23**

# **Latest submitted Form-V**



# Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

## FORM V

(See Rule 14)

Environmental Audit Report for the financial Year ending the 31st March 2022

### Unique Application Number

MPCB-ENVIRONMENT\_STATEMENT-0000048564

### Submitted Date

28-09-2022

## PART A

### Company Information

#### Company Name

BENZO CHEM INDUSTRIES PVT.  
LTD.

#### Application UAN number

NA

#### Address

M.I.D.C. Area, Dist.: Buldhana - 443  
001

#### Plot no

Plot No.: B-24/25

#### Taluka

Malkapur

#### Village

Dasarkhed

#### Capital Investment (In lakhs)

3953

#### Scale

MSI

#### City

Malkapur

#### Pincode

443001

#### Person Name

Mr. M.A.SAPKAL

#### Designation

PLANT HEAD

#### Telephone Number

8976648757

#### Fax Number

0

#### Email

productioneu@benzochem.co.in

#### Region

SRO-Akola

#### Industry Category

Red

#### Industry Type

R22 Organic Chemicals manufacturing

#### Last Environmental statement submitted online

yes

#### Consent Number

Format.1.0/CC/UAN.No.0000125229/CR/2208001327

#### Consent Issue Date

2022-08-28

#### Consent Valid Upto

2025-02-28

#### Establishment Year

2009

#### Date of last environment statement submitted

Sep 28 2021 12:00:00:000AM

#### Industry Category Primary (STC Code) & Secondary (STC Code)

### Product Information

#### Product Name

2-Coumaranone 30 % in Acetic Anhydride 70 %.

#### Consent Quantity

4800.0

#### Actual Quantity

1825.430

#### UOM

MT/A

3-ISO-Chromanone

720.0

92.435

MT/A

ORTHO HYDROXY PHENYL ACETIC ACID

360

2.378

MT/A

'3-CHLORO - 2 METHYL ANISOLE/2 methoxy 6- chlorotoluene

480

222.640

MT/A

'METHYL 2-(2-CHLOROMETHYL) PHENYL ACETATE

180

175.550

MT/A

### By-product Information

<b>By Product Name</b>	<b>Consent Quantity</b>	<b>Actual Quantity</b>	<b>UOM</b>
Sodium Chloride Powder	1200	270.35	MT/A
Liquor Ammonia Solution	1737.48	145.01	KL/A
Sodium sulphite solution	211.68	189.60	KL/A

## **Part-B (Water & Raw Material Consumption)**

### 1) Water Consumption in m3/day

<b>Water Consumption for Process</b>	<b>Consent Quantity in m3/day</b>	<b>Actual Quantity in m3/day</b>
<b>Cooling</b>	97.0	41.57
<b>Domestic</b>	15.0	6.42
<b>All others</b>	0	0.00
<b>Total</b>	188	85.59

### 2) Effluent Generation in CMD / MLD

<b>Particulars</b>	<b>Consent Quantity</b>	<b>Actual Quantity</b>	<b>UOM</b>
Trade Effluent	34.73	24.85	CMD
Sewage Effluent	10.0	5.30	CMD

### 2) Product Wise Process Water Consumption (cubic meter of process water per unit of product)

<b>Name of Products (Production)</b>	<b>During the Previous financial Year</b>	<b>During the current Financial year</b>	<b>UOM</b>
2C	16.55	15.30	KL/A
3IC	2.254	2.469	KL/A
3CMA	2.508	1.76	KL/A
MCMPA	2.98	4.68	KL/A
ORTHO HYDROXY PHENYL ACETIC ACID	0.0073	0.019936	KL/A

### 3) Raw Material Consumption (Consumption of raw material per unit of product)

<b>Name of Raw Materials</b>	<b>During the Previous financial Year</b>	<b>During the current Financial year</b>	<b>UOM</b>
Acetic anhydride	0.65	0.41	MT/A
CAT "X" (AZDN)	0.061	0.0034	MT/A
Caustic soda Flakes	0	0.0031	MT/A
Caustic soda Lye	1.58	0.47	MT/A
Copper Sulphate	0.014	0.013	MT/A
Hydrochloric acid 30%	1.53	0.63	MT/A
HYFLO	0	0	MT/A
Liquid Chlorine	2.29	0.12	MT/A
Match money 3040	0	0	MT/A
Methanol	0.81	0.048	MT/A
Mono-Chloro benzene	0.82	0.030	MT/A

Nitric acid commercial	0	0.001	MT/A
Ortho-Chloro benzyl cyanide	0.35	0.38	MT/A
Ortho-Chloro phenyl Acetic acid	0.086	0	MT/A
Ortho-Methyl phenyl acetic acid	0.19	0.22	MT/A
Sediflock Chemlyte	0	0	MT/A
Sediflock SA	0	0	MT/A
Soda ash	0	5.04	MT/A
Sodium bi-carbonate	0.76	0.035	MT/A
Sulphamic acid	0	0	MT/A
Sulphuric acid	0.013	0.008	MT/A
Toluene	0.0056	0.010	MT/A
Zinc Sulphate	0.009	0.010	MT/A
Para Chloro Benzyl Cyanide	0.06	0	MT/A
Cyclohexane	0	0	MT/A
Ethylene Di Chloride	0	0	MT/A
Para Toluic Chloride	0	0	MT/A
2,6 Di Chloro Toulene	1.16	0.093	MT/A
Di Methyl Sulfoxide	0.43	0.037	MT/A
Di Methyl Sulphate	0.24	0.024	MT/A
Sodium Methoxide Powder	0.53	0.046	MT/A
Thionyl Chloride	0	0	MT/A
Mono Ethylene Glycol (MEG)	0	0.0030	MT/A
2 Hydroxy Phenyl Acetic Acid	0	0.011	MT/A
CL 100% CTE	0.0032	0	MT/A
CL 100% ETP-dw	0.0019	0	MT/A
CL 100% ETP-bf	0.015	0	MT/A
OMPAA	3.96	0	MT/A
CL 100 % ETP	0.16	0	MT/A
CL 100% Scrubber + CT	0.14	0	MT/A
HCL	0.411	0	MT/A
NaoH	0.006	0	MT/A
C-Lye For Aq Layer treatment	0.060	0	MT/A
Activated Charcoal	0	0	MT/A
Aluminium Chloride	0	0	MT/A
'AQUATREAT-111	0	0.0004	MT/A
AQUATREAT-120	0	0.0004	MT/A
'AQUATREAT-AS 710	0	0	MT/A
'AQUATREAT-M 740	0	0.0001	MT/A
'AQUATREAT-Q 760	0	0	MT/A
'AQUATREAT EQ 781	0	0	MT/A
'AQUATREAT EQ 781	0	0	MT/A

'BOILER DESCALING CHEMICALS	0	0.0001	MT/A
HYDROGEN PEROXIDE	0	0.0005	MT/A
'METHYLENE DI CHLORIDE COMM	0	0.012	MT/A
ORTHO DI CHLORO BENZENE	0	0.0091	MT/A
SODIUM HYPO CHLORIDE	0	0	MT/A

#### 4) Fuel Consumption

Fuel Name	Consent quantity	Actual Quantity	UOM
Coal	10950	4108.976	Ton/Y

### Part-C

#### Pollution discharged to environment/unit of output (Parameter as specified in the consent issued)

##### [A] Water

Pollutants Detail	Quantity of Pollutants discharged (kL/day) Quantity	Concentration of Pollutants discharged (Mg/Lit) Except PH,Temp,Colour Concentration	Percentage of variation from prescribed standards with reasons %variation	Standard	Reason
NA	0	0	0	-	ZLD

##### [B] Air (Stack)

Pollutants Detail	Quantity of Pollutants discharged (kL/day) Quantity	Concentration of Pollutants discharged (Mg/NM3) Concentration	Percentage of variation from prescribed standards with reasons %variation	Standard	Reason
Total Particulate Matter - TPM	0	122	18.66	150	NA
Sulphur Di-oxide - SO2	0	8.42	96.49	240	NA

### Part-D

#### HAZARDOUS WASTES

##### 1) From Process

Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
20.3 Distillation residues	0.93	0.840	MT/A

##### 2) From Pollution Control Facilities

Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
35.3 Chemical sludge from waste water treatment	5.01	4.780	MT/A

### Part-E

#### SOLID WASTES

##### 1) From Process

Non Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
NA	0	0	MT/A

##### 2) From Pollution Control Facilities

Non Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
NA	0	0	MT/A

### 3) Quantity Recycled or Re-utilized within the unit

Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
0	0	0	MT/A

## Part-F

Please specify the characteristics(in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

### 1) Hazardous Waste

Type of Hazardous Waste Generated	Qty of Hazardous Waste	UOM	Concentration of Hazardous Waste
20.3 Distillation residues	0.840	MT/A	--
35.3 Chemical sludge from waste water treatment	4.780	MT/A	--

### 2) Solid Waste

Type of Solid Waste Generated	Qty of Solid Waste	UOM	Concentration of Solid Waste
NA	0	MT/A	--

## Part-G

Impact of the pollution Control measures taken on conservation of natural resources and consequently on the cost of production.

Description	Reduction in Water Consumption (M3/day)	Reduction in Fuel & Solvent Consumption (KL/day)	Reduction in Raw Material (Kg)	Reduction in Power Consumption (KWH)	Capital Investment(in Lacs)	Reduction in Maintenance(in Lacs)
The system of ISO 14001 is implemented to reduce water consumption.	0	0	0	0	0	0

## Part-H

Additional measures/investment proposal for environmental protection abatement of pollution, prevention of pollution.

### [A] Investment made during the period of Environmental Statement

#### **Detail of measures for Environmental Protection**

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
M/s. BENZOCEM INDUSTRIES PVT. LTD. Has made additional investment in Air Pollution Control measures to ensure the scrub Bering capacities multifold manner. The Company has installed additional HCL	To reduce gases pollution/water pollution	190
M/s. BENZOCEM INDUSTRIES PVT. LTD. Has made additional investment in tree plantation	Tp control the temp and make surrounding green	4.51

### [B] Investment Proposed for next Year

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
NA	NA	0

## Part-I

Any other particulars for improving the quality of the environment.



**Particulars**

To monitor compliance of various specific provisions/safeguards of statutory laws/rules and stipulation of Environmental committees. Company has circulated code of conduct to every section. It highlights the good housekeeping, safety operations, maintenance of equipments and machinery and precautions to be taken to prevent the accident. Company is conducting regular training, exercise to plant personal to handle safety devices located in the plant.

**Name & Designation**

Mr.M.A.SAPKAL (PLANT HEAD)

**UAN No:**

MPCB-ENVIRONMENT\_STATEMENT-0000048564

**Submitted On:**

28-09-2022

## **Annexure – 24**

# **Valid public liability insurance policy & Employees Compensation Insurance Policy**



Bajaj Allianz General Insurance Company Ltd.  
Bajaj Allianz House, Airport Road, Yashwada, Pune - 411006  
**COMPREHENSIVE GENERAL LIABILITY INSURANCE POLICY SCHEDULE**  
**UIN: IRDAN113RP0001V01200708**

Policy issuing office and Correspondence address for communication by policyholder for claim, service request, notice, summons, etc. : Bajaj Allianz General Insurance Co Ltd, 852/854 Appasaheb Marathe Marg., Next to Saraswati Bhavan, Prabhadevi, Mumbai. MUMBAI-400025 Phone No. 02256628666

Policy No. **OG-23-1919-3303-0000127**  
Product **COMPREHENSIVE GENERAL LIABILITY INSURANCE**  
Period of Insurance **From 00:00:00 08-JUN-22 To 07-JUN-23** Policy Issued On **14-JUN-22**  
**Midnight**  
Co-insurance Details **Own Share: 100%**  
Insured Name **BENZOCEM INDUSTRIES PVT LTD**  
Insured Address **26/28 A, CAWASJI PATEL STREET FORT, PO Area - , MUMBAI, MAHARASHTRA - 400001**  
Bank Details : **No Details** No Details  
GSTIN / UIN **27AACB3369G1ZR** Place of Supply/State **27 - Maharashtra**  
Code/Name  
Company GST No : **27AACB5730G1ZX** Invoice No : **183174588/4**  
Company PAN : **AAACR5730G**

Description	Sum Insured (Rs)
Aggregate Limit of Indemnity during the Policy Period.	40,00,00,000.00
Additional** Loading @	0 %
Additional Discount@	0 %
Base Premium	8,00,000.00
Special Discount	0
Net Premium	8,00,000.00
Terrorism** Surcharge	0.0
Stamp Duty	
State GST (9%)	72,000.00
Central GST (9%)	72,000.00
Final Premium	<b>9,44,000.00</b>

\*\*\* All Premium figures are in Rupees.

On specific request and subject to terms and conditions, record of information exchange will be made available.

As per the GST regulations, the amount of GST will not be refunded if the policy / endorsement is cancelled after 30th September of the next financial year.

**Scope of Cover** As per the policy wording attached.  
**Risk Covered** COMMERCIAL GENERAL LIABILITY on Claims Made Basis.  
**Special Perils** Extensions: 1) Defense Costs Within Indemnity Limits; 2) Designated Premises Endorsement; 3) Designated Product Endorsement; 4) Act of God Extension; 5) Food and Beverage Extension; 6) L&L Liability Extension; 7) Cover for travel of Executive Worldwide Extension for Non-Manual Visit; 8) Terrorism Legal Liability Extension - India Only  
**Special Exclusions** Exclusions: Product Recall, Guarantee, Warranty and Financial Loss Exclusion; Non-eficacy of Products Exclusion; Professional Indemnity / Error and Omission Liability; Product Manufactured / Formulated in USA / Canada; Cyber Loss Absolute Exclusion; Specific Chemical / Pharma Product Exclusion (As per Annexure A)  
**Subject to Clauses** Insureds Retained Amount: Premises and Operations Liability: INR 100,000 for each and every claim; Products and Completed Operations Liability: India: INR 750,000 for each and every claim; Rest of World: INR 1,000,000 for each and every; Claim USA/Canada: INR 1,500,000 for each and every claim; Rest of Extensions: 9) Incidental Medical Malpractice Extension (for first aid only) Sub Limit : INR 20Cr Per Accident and in Aggregate 10) Additional Insured Endorsement - As required by written Contract: a) ALBATROSS Tank-Leasing B.V. Tank Number: The tank no. is TCVU 781 061-0; Tank Location: S26/27-B-14/15, 24/25-16/17 MIDC AREA, DASARKHED, MALKAPUR, DISTRICTBULDHANA, MAHARASHTRA 443101; 11) Waiver of Subrogation Endorsement - As required by written Contract; 12) Batch Clause Endorsement; 13) Coverage for Cross Liability; 14) 72hrs Sudden and Accident Pollution Liability Extension - India Only; 15) Garage Keepers Liability Endorsement - Sub Limit : 20% LOI Per Accident and in Aggregate; 6) Consultants, Sub Contractors and Agents Endorsement (only for liability arising on the insured due to work performed by consultants, sub-contractors and agents); 17) Un Named Vendor's Liability Extension; 18) Transportation Legal Liability Extension - India only; 19) Tenants Legal Liability Extension; 20) Discharge Treated Effluents Extension: Up to 15Kms - India Only; 21) Personal Property kept under Care, Custody and Control Extension - Sub Limited to 20% of LOI per Accident and in Aggregate; 22) Claim Series Clause; 23) Insured Definition to include Temporary Workers, but only for acts within the scope of their employment by the Insured; 24) Non-Owned and Hired Automobile Liability Coverage as per Endorsement subject to: INR 50Cr Per Accident and in Aggregate; a) It is a condition precedent to liability that a valid motor vehicle insurance under the MV Act be maintained at all times and this; b) extension will operate in excess of such statutory cover; c) Territory and Jurisdictions - India; 25) Policy cover legal liability for Minor Repair /Renovations Cover of existing Premises or addition of new structures within the designated Premises; 26) Coverage for liability arising out of Events, Exhibi-



Items & Trainings, Promotional Activities conducted or attended by the insured - All premises owned, occupied, leased or rented by the insured for business operations during the year; 27) Visitor Parking Extension - Sub Limited to 20% LCI Per Accident and in Aggregate; 28) Automatically cover for New Subscribers, Subject to following: a) Turnover should not increase by 25% of the insured; b) Business should remain same and cover applies only for 90days following the takeover or formation of the company or company; 29) Liquor Liability Endorsement; 30) Technical Collaborates Extension Coverage; 31) Non Cancellation Clause; 32) Control Group Clause; 33) Extended Reporting Period - 90 days; 34) Coverage for Liability arising out of facilities within insured premises -health club, Gymnasium, Swimming Pool etc. Warranted; all facilities provided by the insured to guests are under the supervision of trained staff at all times - sub limited to INR 20,000,000 per claim and in aggregate

**Warranties**

Limit of Liability: OPTION 1: INR 400,000,000 per claim and in aggregate; Premises and Operations Liability: INR 400,000,000 per claim and in aggregate; Product Completed Operations Liability: INR 400,000,000 per claim and in aggregate; Personal & Advertising Injury Limit: INR 200,000,000 per claim and in aggregate; Fire Damage: INR 10,000,000 per occurrence; Medical Expenses Limit: INR 250,000 per person; Rest of Exclusions: Opioids and Narcotics Exclusion; Electronic Smoking Device Exclusion; Communicable Disease Exclusion; Absolute Asbestos Exclusion; Sanctions / Embargo Clause; Iran Risk Clause

**Special Conditions**

Retrospective date: 08th June 2021; Estimated Turnover: Turnover of the Company: India 250.00 Crore; US / Canada 50.00 Crore; European Countries: 350.00 Crore; R O W Countries: 50.00 Crore; Territory: Premises & Operations Liability: India; Products & Completed Operations Liability: Worldwide including USA/Canada; Jurisdiction: Worldwide including USA/Canada; Co-insured Name : Gitarjali Chemicals Pvt Ltd; Insured Business: Manufacture & Exporter of Speciality Chemicals, Pesticide / Pharma / Agro Intermediate; Premises Covered: All premises owned, occupied, leased or rented by the insured for business operations during the year within India; Products Covered: As per annexure submitted along with proposal form

**Comments**

Bank RM Employee Code : N

<b>Broker Code 10004470</b>	<b>Channel Name : BR</b>
<b>Broker Name : SALASAR SERVICES INSURANCE BROKERS PVT LTD</b>	
<b>Contact No : 0/0</b>	
<b>Email -</b>	

**Premium Collection Details** [Receipt No/Collection No/Amount] 1919-00105377 / 313620009 / Rs. 9,44,800.00.

\*\*\* If Premium paid through Cheque, the Policy is void ab-initio in case of dishonour of Cheque

\*\*\* This policy is subject to the standard policy wordings, warranties and conditions applicable for this product in addition to any specific warranty or condition attached

For & On Behalf of Bajaj Allianz General Insurance Company Ltd.

Authorized Signatory  
Printed, Signed and Executed at Pune



This document is digitally signed, hence stamp/signature / stamp is not required

Regd Office : Bajaj Allianz House, Airport Road, Yerwada Pune-411006 (India), A Company incorporated under Indian Companies Act, 1956 and licensed by Insurance Regulatory and Development Authority of India (IRDA) vide Reg No.113, Corporate Identification Number U65016PN0000PLC0113329.  
Consolidated Stamp Duty of Rs.0.25/- paid towards Insurance Stamp vide Chalan No. MH00044994000122M Defaced No. 004140001202102 dated 05-JUL-21 having 12-58-03 of General Stamp Office, Mumbai, India.

Principal Location : Bajaj Allianz House, Airport Road, Yerwada, Pune - 411006 PH:65006505 | Services Accounting Code : 997129 - Other non-life insurance services (excluding reinsurance services). No reverse charge is payable on these services.

In case of any claim, please contact our 24 Hour Call centre at 1800-102-5858 (Toll Free) / 91-020-30305856 (chargeable, add area code before this number in case of mobile call) or email us at 'Bagichelp@bajajallianz.co.in'.

313620009-10004470-/-

Prefix your area code if you are calling from a Mobile Device.

A Company incorporated under Indian Companies Act, 1956 and licensed by Insurance Regulatory and Development Authority of India (IRDA) vide Reg No.113, Corporate Identification Number U65016PN0000PLC0113329.

Quotation No : QU-23-1919-3303-00000310

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September 02, 2022

BENZO CHEM INDUSTRIES PVT LTD

B-24/25/16/17, MIDC AREA, DASARKHED,  
MALKAPUR, BULDHANA, MAHARASHTRA, INDIA,  
MALKAPUR,  
BULDHANA,  
MAHARASHTRA, 443101.



Dear Customer,

**Sub: Employees Compensation Insurance Policy No: 3114204872157700000**

We thank you for having preferred us for your *Insurance* requirements. We at HDFC ERGO General Insurance believe "*Insurance*" as not only to be an assurance to indemnify in the event of unfortunate circumstances, but one that signifies protection and support, which you can count on when you need it most.

The Insurance Policy enclosed herewith is a written agreement providing confirmation of our responsibility towards you that puts insurance coverage into effect against stipulated perils.

Please note that the policy has been issued based on the information contained in the proposal form and / or documents received from you or your representative / broker.

Name of the Intermediary : SALASAR SERVICES INSURANCE BROKERS PVT LTD

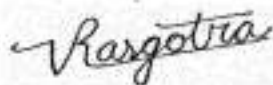
Intermediary Code : 21036314

Where the proposal form is not received, information obtained from you or your representative /broker, whether orally or otherwise, is captured in the policy document.

If you wish to contact us in reference to your existing policy and /or other general insurance solutions offered by us, you may write to our correspondence address as mentioned below. Alternatively, you may visit our website [www.hdfcergo.com](http://www.hdfcergo.com). To enable us to serve you better, you are requested to quote your Policy Number in all correspondences.

Thanking you once again for choosing HDFC ERGO General Insurance Company Limited and looking forward to many more years of association.

Yours sincerely,



Authorised Signatory

3114204872157700000

Page 1 of 14

# HDFC ERGO General Insurance Company Limited



Certificate of Insurance cum Policy Schedule

Policy No. 3114204872157700000

Employees Compensation Insurance



<b>Insured Name</b>	BENZO CHEM INDUSTRIES PVT LTD (PAN Number:)	<b>Business</b>	Chemical Manufacturing
<b>Correspondence Address</b>	B-24/25/16/17, MIDC AREA, DASARKHED, MALKAPUR, BULDHANA, MAHARASHTRA INDIA, MALKAPUR, BULDHANA, MAHARASHTRA, 443101.		
<b>Mobile</b>	<b>Phone</b>	<b>E Mail</b>	<b>Policy Issuance Date</b>
		HINAL@SALASARSERVI CES.COM	02/09/2022
<b>Period of Insurance</b>	<b>From Date &amp; Time</b>	01/09/2022 00:01 AM	<b>To Date &amp; Time</b> 31/08/2023 Midnight

## LAW

The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:

Sr. No.	Law	Limit of Indemnity
a.	Employee's Compensation Act, 1923 and subsequent amendments thereof prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured
b.	Common Law	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured, but not exceeding:- a) Limit Per Employee for any number of accidents during Period of Insurance ₹. is as per actuals b) Limit Per Accident for any number of Employees ₹. is as per actuals c) Aggregate Limit for all accidents and claims arising there from during the Period of Insurance ₹. is as per actuals

EC-13-0005

3114204872157700000

Page 2 of 14

HDFC ERGO General Insurance Company Limited (Formerly HDFC General Insurance Limited)

UN : IRDAN12570017V02201112 | IRDAI Reg No 148 | CIN : U69030MH0007PLC117117

Registered & Corporate Office:

Customer Service Address:

Toll Free Number: 1800 2700 700

1st Floor, HDFC House, 165 - 166 Backbay Reclamation,

D-301, 3rd Floor, Eastern Business District (Magnet Mall),

Telephone : +91 22 6638 3600 Fax: 91 22 6638 3699

Details of Employees Covered

Description of work done by Employees	Declared Number of Employees	Declared Wages during the Period of Insurance	Place/Places of Employment
Chemical Works, including acid, Alizarine, alkali, alum, ammonia, aniline, arsenic bichromate of potash, borax, sheep dip and soda works, Skilled and Unskilled	120	21600000.00	MALKAPUR, B-26-27 & 14/15, MIDC AREA, DASARKHED, MALKAPUR, DIST. BULDHANA, MAHARASHTRA 443101  E-13-14-15, MIDC AREA, JALGAON, MAHARASHTRA, 425003, Plot No 26/28A, Cawasji Patel Street, Opp Yazdhani Bakery, Fort, Mumbai 400001  R & D Centre W-24, MIDC Area, Chemical Zone, Ambarnath-421 501 Maharashtra ✓ B-24/25/16/17, MIDC Area, Dasarkhed, Malkapur, Buldhana, Maharashtra 443101, 443101

Premium Details (₹)

Basic Premium	50848.00
GST 18% : Central Tax 9% (4576.32) + State Tax 9% (4576.68)	9153.00
<b>Total Premium</b>	<b>60001.00</b>

GST Registration No: 27AABCL5045N1Z8. The contract will be cancelled ab initio in case; the consideration under the policy is not realized.

List of Endorsements

Endt No	Description	Effective Date
EC_12_0003	Contractors Employees	01 September 2022
EC_12_0001	Medical Expenses	01 September 2022
WC-02-0008	Tariff Endorsement	01 September 2022

3114204872157700000

Page 3 of 14

EC-13-0006	Insurance Contract	01 September 2022
EC-13-0005	Policy Schedule	01 September 2022
EC-13-0007	Communicable Disease Exclusion	01 September 2022

Subject to terms and Conditions of Employees Compensation Insurance Policy attached herewith.

Mentioned are four special conditions for EC policy with context to the policy wordings.

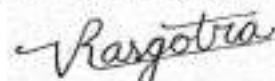
1. Subrogation condition no.14 does not apply to this policy.
2. Average condition no. 9 does not apply to this policy. However, this is subject to adjustment of premium on the basis of actual number of employees and their wages at the time of claims.
3. This policy is issued to cover employer's legal liability for accidents to employees under - The Fatal Accidents Act, 1855.
4. The Wages declared is estimated wages for the Coming Year. Any Increase or Decrease in wages will be declared at the End of Policy & Subject to that Premium will be charged or refunded

Note: The stamp duty of Rs. 25.42 (Rupees Twenty-Five And Forty-Two Paise Only) is paid by Demand Draft as consolidated stamp duty, vide Receipt/Challan no LOA NO. CSD/418/2022/3270 dated 27/07/2022 as prescribed in Government Notification Revenue and Forest Department No Mudrank 2004/4125/CR 690/M-1, dated 31/12/2004

Invoice No	204872157700000	GSTN No	27AAACB3369G1ZR
Place of Supply	MAHARASHTRA	HSN Code	997139
Policy Issuance Date	02-09-2022	Branch	Mumbai (Corporate) - Leela Business Park

For HDFC ERGO General Insurance Company Ltd.

**Broker Name: SALASAR SERVICES INSURANCE  
BROKERS PVT LTD  
Broker Code: 21036314**



Duly Constituted Attorney



## **Annexure – 25**

**Display board depicting  
the critical parameters**



## BENZO CHEM INDUSTRIES PRIVATE LIMITED

Works: B-24, 25, B-16, B-17,  
M.J.D.C. Area, Deesarkhod,  
Malkapur - 443 112, (Dist. Buldhana)  
Phone No. : (07267) 262578/79/81,  
Fax: (07267) 262660  
E-mail: benzochem@rediffmail.com

Registered Office: 26/26-A,  
Cawasji Patel Street,  
Fort, MUMBAI-400001  
Phone No. 022-43555888, Fax No. 022-40057327  
CIN: U24100MH1996PTCO41751  
E-mail: gcpi@bom3.vsnl.net.in Website: www.bcipi.com

Consent No: Format 1.0/CC/UAN No.MPCB-CONSENT-  
0000125229/CR/2301001660DATED 19/01/2023 valid up to 28/02/2025.

### A. CONDITION UNDER WATER (P & CP), 1974 ACT FOR DISCHARGE OF EFFLUENTS:

Sr.No	Description	Permitted	Disposal Path
1	Trade effluent	34.73	100 % recycle
2	Domestic effluent	10	STP

### B. CONDITION UNDER AIR (P & CP) ACT, 1981 FOR AIR EMISSIONS:

Sr.No	Parameter	Limit	Results
1	Particulate matter	150 mg/Nm <sup>3</sup>	120 mg/Nm <sup>3</sup>
2	Bromine	3.0 PPM	
3	HCL (process)	35 mg/Nm <sup>3</sup>	1.8 mg/Nm <sup>3</sup>
4	NH3 (process)	50 PPM	1.6 PPM

### C. CONDITION UNDER H.W. (M&TM) RULES 2016 FOR TREATMENT AND DISPOSAL OF HAZARDOUS WASTES:

Sr.No	Category	Types of waste	Quantity	Disposal	Present stock
01	34.3	Chemical Sludge From Waste water Treatment	30 kg/day	CHWTSDF	11.84
02	20.3	Distillation Residue	4.52 Kg/day	CHWTSDF	2.87
03	Schedule II:A-10	Cyanide Compounds	2 Kg/day	CHWTSDF	
04	37.3	Concentration or Evaporation Residue	100 MT/M	Sale to Authorized Party/ CHWTSDF	13004

An ISO 9001, ISO 14001 and ISO 45001 Certified Organization

2023/6/2 10:57

**Annexure – 1**

**Plot possession receipt of  
Plot B-16**

MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION  
(A Government of Maharashtra Undertaking)

POSSESSION RECEIPT

S. L. BANDARE, Head Surveyor on behalf of the  
Maharashtra Industrial Development Corporation and S. W. ....

Madhuri Vikas Chinchole

Prop. of M/s. Papernest

this day respectively handed over and taken over the possession of  
Plot No. B-16 admeasuring 4050 Sq. mtrs. from the  
Malkapur Industrial Area, Dist. Buldhana, after showing  
actual measurement and demarcation of plot on the site.

Handed over by :

  
S. L. Bandare,  
Head Surveyor,  
MIDC, Amravati.



श्री माधुरी वि चिंचोले  
Taken over by :

Place : Amravati  
Date : 11/12/2006

**Annexure –2**

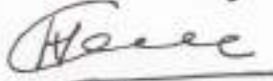
**Plot possession receipt of  
B-17**

MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION  
(A Government of Maharashtra Undertaking)

POSSESSION RECEIPT

I, H. G. Nasare, Head Surveyor, on behalf of the Maharashtra Industrial Development Corporation and Shri Durgadas D. Jashi, Account Manager Prop. / Partner of M/s. Benzo Chem Industries Pvt Ltd. this day respectively handed over and taken over the possession of Plot No. B-17 Admeasuring 4050.00 sq. mtrs. from the Malkapur Industrial Area, Dist. Buldhana after showing actual measurement and demarcation of plot on the site.

Handed over by :



(H. G. Nasare),  
Head Surveyor,  
R.O., MIDC, Amravati.

Taken over by :

For Benzo Chem Industries Pvt. Ltd.

  
Authorised Signatory.



Place : Dasarkhed



Date : 3-12-2015

**Annexure – 3**

**Transfer order for the Plot  
No. B-16**

**Maharashtra Industrial Development Corporation**

(A Government of Maharashtra Undertaking)

No/Amt/RO/MIDC/2159 / 2010

Dated :-

**19 JUL 2010**

Regional Office :

MIDC,

Amravati Industrial Area,

Badnera Bye-Pass Road,

Amravati,

Tel. No.: 0721/2520998

Fax : 0721/2520507

Email : roamravatimidcindia.org

Website : www.midcindia.org

Sub :- Plot No. B-16  
From the **Malkapur Industrial Area**  
Request for grant of consent for Transfer of -

Read :- Letter dated the  
From M/s. **Papernest**

**ORDER**

By a marginally noted Agreement to Lease executed by the Maharashtra Industrial

Agreement dated the  
27<sup>th</sup> day of November 2006

Licensee/ :  
Sau. Madhuri Vilas Chinchole  
Prop. of M/s. Papernest

Transferee/ :  
M/s. Benzo Chem Industries  
Pvt. Ltd.

Development Corporation in favour of the Licensee the Corporation in consideration of the stipulations and conditions on the part of the Licensee therein contained, agreed to grant in favour of the Licensee as Lease of the above plot of land in the manner specified in the said Agreement. The Licensee in pursuance of sub-clause of clause 3 of sub-clause (m) of the said Agreement represented to the Corporation for grant to her of a consent for transfer and assignment of its interest under or the benefit of the said Agreement in favour of **M/s. Benzo Chem Industries Pvt. Ltd.**

(here -in after called " the transferee's) The Corporation has after due consideration of the said request of the Licensee decided to grant its consent to the transfer by the Licensee of the benefit of his interest under the said Agreement subject to the following conditions.

a) The consent hereby granted is subject to the payment to the Corporation by the Licensee of the sum of Rs. 2,02,500/- - as and by way of **differential premium (50%) paid vide DR. No. 153342 dt. 16/07/2010**


b) The transferee shall be bound to perform and observe all the stipulations and conditions contained' in the said Agreement dated the 27<sup>th</sup> day of Novemver 2006 of as if the said Agreement has been executed by the transferee and shall the entitled to the grant of the Lease in her favour of the said plot of land and the factory building only after the completion of the factory building and works on the said plot of land on the production of a completion certificate from the Executive Engineer



of the Corporation in accordance with clause 7 of the said Agreement such lease to be in the standards from prescribed by the Corporation and subject to the payment of the yearly rent reserved under the said Agreement

c) This consent is restricted to the transfer and assignment of the interest and benefits under the Agreement in favour of the transferee alone and for the projects / project approved permitted by the Corporation and in case the transferee/s proposal to make any further transfer or assignment or parting wholly or partially with the possession of the said plot of land or any part thereof the transferee will have to make a fresh application for consent.

d) The transferror & the transferee will have to execute the Supplemental Agreement within 30 days from the date of this order.

  
Regional Officer,  
MIDC, Amravati

To,  
Sau. Madhuri Vilas Chinchole  
Prop. of M/s. Papernest,  
Shankutara, 1 Anand Nager,  
Mohadi Road, Jalgaon,  
Dist. Jalgaon

Copy with Compliments

To,  
✓ M/s. Benzo Chem Industries Pvt. Ltd.,  
Ground Floor, Madhukunj,  
Shankar Ganekar Marg,  
Prabhadevi, Mumbai-400025

Copy f.w.cs. Executive Engineer, MIDC, Akola for favour of information please.  
Copy f.w.cs to the Ex. Engineer, M.S.E.B. Buldhana for favour of information please.  
Copy to Dy. Engineer, MIDC, Sub-Dn. Khamgaon  
Copy to Area Manager, MIDC, Buldhana

## **Annexure – 4**

# **Transfer order for Plot No. B-17**

**MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION**  
(A Government of Maharashtra Undertaking)

**Regional Office**

Office of the Regional Officer  
MIDC, Badnera By Pass Road,  
Amravati-0721-2520998  
Fax No.0721-25520507

**Head office**

Marol Indl.Area  
Mahakali Caves Marg.  
Marol I.A. Andheri(E).  
Mumbai-400093

**By Hand Delivery / By. R.P.A.D**  
No.MIDC/RO/AMT/ 6066 /2015

Date:- 9 16 /2015

**Subject:- Malkapur Industrial Area...**  
Plot No. B-17

**ORDER**

Sanction is hereby accorded to the allotment of Plot No. B-17 admeasuring 4050 Sq.mtrs. at the rate of Rs.135/- Per Sq. Mts. + 5% Road width charge i.e. Rs.6.75/- = Rs.141.75/- Sq. Mtr. in Malkapur Industrial Area to M/S. BENZO CHEM INDUSTRIES PVT. LTD. and having his office at Madhu Kung, Ground Floor, Shankar Ghanekar Marg, Prabhadevi, Mumbai for setting up your industrial unit for manufacturing of Parmaceutical Intermediatees subject to the payment of the premium of Rs.5,74,087.50/- Say Rs.5,74,100/- (Rs. Five Lac Seventy Four Thousand One Hundred only) (including 5% additional charge for road having 20-30 Mtr. road width) and subject to the following conditions.

- 1) The amount of earnest money received with the application will be appropriated towards the amount of premium. The allottee shall pay the sum of Rs.4,37,375/- (Rs.Four Lacs Thirty Seven Thousand Three Hundred Seventy Five only) balance amount of the premium within a period of 30 days from the date of receipt of this order, by D.D, drawn in favour of "The Regional Officer, MIDC, Amravati payable at Amravati.
- 2) In case of the allottee fails to pay the balance amount of premium within the period mentioned above, the allotment shall be liable to be cancelled without further notice.
- 3) In the event of the allotment being cancelled as aforesaid the Corporation will be entitled to forfeit the whole of the earnest money received with the application.
- 4) The terms and conditions of allotment of land will be those contained in the standard form of Agreement to lease and the lease annexed thereto and in substance of follows :-
  - a) The allottee shall enter into an Agreement to lease in the form prescribed by Corporation and on performance of the conditions will be entitled to lease for the term of ninety five(95) years to be computed from the date of execution of the Agreement to lease and renewable for one further term of 95 years on payment of premium and on such terms and conditions as may be determined by the Corporation the time of renewal.
  - b) The annual ground rent of Rupees 1/- per annum per plot is payable in respect of the plot of land allotted.
  - c) The allottee shall get the plans and specification of the proposed factory building duly approved from the Executive Engineer of the said Industrial Area and complete the said building in accordance with approved plans and shall obtain a Building Completion Certificate (B.C.C) from the Executive Engineer of the said industrial area within a prescribed period.
  - d) The allottee shall not directly or Indirectly transfer or assign the benefits of interest in the Agreement to Lease or part with the possession of the land or any part thereof without previous consent of the Corporation who may refuse or grant it subject to such condition as the Corporation may think for including a condition for payment of additional premium.
  - e) The allottee shall be entitled to use land for the purpose of a factory but not for the purpose of a factory for anyof the obnoxious industries specified in the annexure set out in for any other purpose and not for the purpose of any factory which may be obnoxious, offensive by reason of emission of odor, liquid , effluvia, dust, smoke, gas, nuisance, vibration or fire hazards.

PTO.

f) The other terms and condition of allotment shall be those contained in the prescribed forms of Agreement to Lease and the Lease.

g) The stamp duty in respect of the preparation and execution of the Agreement to Lease and its duplication as also the lease and its duplication in respect of the allotted plot of land as also legal costs for the preparation and execution of these documents including the registration fees shall be borne and paid by the allottee alone.

h) If there any encroachment on the plot the same should be removed by you, at your own risk and cost.

i) Please note that if MSEB's line is passing through your plot, you will have to shift the line at your own cost and risk, also concern with MSEB and Telephone Department.

j) In case any changes after final measurement of plot area and if the area is found to be increased the charges towards excess area, shall be recovered as pr prevailing rate at that time.

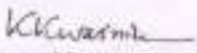
k) The infrastructure of water supply is provided by MIDC, considering the water requirement of your plot at the rate of 25m<sup>3</sup> per hect. Per day. For the requirement in excess of 25m<sup>3</sup> per Hect. Per day of your plot, you will be required to pay the capital contribution at rate of Rs.15,000/- per m<sup>3</sup> or the actual rate of capital contribution of water supply scheme of the industrial area whichever in more.

l) The road width charges and plots amalgamation shall be recovered as per MIDC's existing policy.

m) The allottee shall have to furnish the stagewise breakup schedule for completion of factory building within the prescribed time limit.

The allottee may submit his application for telephone connection to the concern telephone authority immediately, after taking over possession of the plot. This will enable the telephone authorities to built up a waiting list and ensure proper planning to provide timely telephone connection to the industrial units in the area.

Please also note that A to L will be signed with you within 30 days from the date of handing over of possession of plot or the date of this order which ever is earlier.

  
Area Manager  
MIDC, Amravati

To,  
Shri Gaurav Mohatta  
Director  
M/S. BENZO CHEM INDUSTRIES PVT. LTD.  
at Madhu Kung, Ground Floor,  
Shankar Ghanekar Marg,  
Prabhadevi, Mumbai

Copy Submitted to :  
The Dy. Chief Executive Officer (4), MIDC, Mumbai-93

Copy f.w.c.s. to :  
The Executive Engineer, MIDC, Division, Akola.

Copy to :  
1) The Dy. Engineer, MIDC, Sub. Division, Khangaon for information.  
2) The Area Manager, M.I.D.C. Buldhana for information.  
3) Copy to Monthly A/C file  
4) Copy to Head Surveyor /Surveyor for supplying Plan.

## **Annexure – 5**

**Amalgamation order of Plot B-24,  
B-25 , B-16 and B-17**

# महाराष्ट्र औद्योगिक विकास महामंडळ

(महाराष्ट्र शासन अंगिकृत)

जा.क्र./प्रा.अ./अमरावती/C६२८३५/२०२०,  
प्रादेशिक अधिकारी यांचे कार्यालय,  
मऔविम जुना बडनेरा बाय पास रोड, अमरावती.  
दि. १३/०६/२०२१

प्रति,  
मे. बेन्झो केम इंडस्ट्रिज प्रा.लि.  
भूखंड क्र.बी-२४ व बी-२५,  
मलकापूर औद्योगिक क्षेत्र,  
ता. मलकापूर जि.बुलढाणा.

**विषय :-**

**मलकापूर औद्योगिक क्षेत्र..**

भूखंड क्रमांक बी-२४ क्षेत्र ११८८८ चौ.मी., बी-२५ क्षेत्र १२००० चौ.मी. व भूखंड क्र.बी-१६ क्षेत्र ४०५० चौ.मी. आणि भूखंड क्र.बी-१७ क्षेत्र ४०५० चौ.मी.  
**(एकत्रित क्षेत्रफळ ३१९८८ चौ.मी.)**

भूखंडाच्या सामासिक जागेचा (Waivar of Marginal Distance) वापर करण्यास परवानगी देणे बाबत / भूखंडाचे एकत्रीकरणबाबत.

**संदर्भ :-**

१) आपला ऑनलाईन अर्ज दि.०९.०२.२०२१.

महोदय,

कृपया संदर्भिय अर्जाचे अवलोकन व्हावे.

मलकापूर औद्योगिक क्षेत्रात आपले नावे असलेला विषयांकित चारही भूखंडामधील सामासिक जागेचा वापर करण्यास (Waivar of Marginal Space) / एकत्रीकरणास परवानगी देणे बाबत भूखंडाचे एकत्रीकरणबाबत या कार्यालयास विनंती केली आहे.

त्या अनुषंगाने विषयांकित बाबत खालील अटीस अधिन राहून मान्यता देण्यात येत आहे.

- सदर चारही भूखंडाच्या सामासिक जागेमधील बांधकाम हे महामंडळाचे DCR २००९ प्रमाणे करण्यात यावे.
- सदर चारही भूखंडाच्या सामासिक जागेचा वापर केवळ बांधकामाकरीता करण्यात यावा. तसेच अन्य सर्व प्रयोजनाकरीता चारही भूखंड वेगवेगळे समजण्यात येतील व त्याप्रमाणे कार्यवाही करण्यात येईल.
- आपणांस सदरच्या चारही भूखंडावर सुधारीत एकत्रीत नकाशे मंजुरी घेवून बांधकाम पूर्ण करावे लागेल. तसेच त्यानुसार सुधारीत एकत्रीत Building Completion Certificate / Occupancy Certificate ४०% प्राप्त करून घेणे आपणांस बंधनकारक असेल.
- प्रशासकिय शुल्कादाखल रक्कम रू.५,०००/- चा भरणा पावती क्र.GL२२१३७१६ दि.०९.०६.२०२१ नुसार केला आहे.

**आपला विश्वासू**

**प्रादेशिक अधिकारी,  
मऔविम अमरावती.**

प्रत : कार्यकारी अभियंता, मऔविम अकोला यांना माहितीस सस्नेह अग्रेषित.

प्रत : उप अभियंता मऔविम उपविभाग, खांमगाव यांना माहितीस.

## **Annexure –6**

# **Current valid CTO**

# MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437  
Fax: 24023516  
Website: <http://mpcb.gov.in>  
Email: [cac-cell@mpcb.gov.in](mailto:cac-cell@mpcb.gov.in)



Kalpataru Point, 2nd and  
4th floor, Opp. Cine Planet  
Cinema, Near Sion Circle,  
Sion (E), Mumbai-400022

**RED/L.S.I (R58)**  
**No:- Format1.0/CC/UAN No.MPCB-**  
**CONSENT-0000125229/CR/2301001660**

**Date: 19/01/2023**

**To,**  
**M/s.BENZO CHEM INDUSTRIES PVT LTD**  
**B-24,25,B 16 &17 DASARKHED**  
**MALKAPUR,Buldhana**



Your Service is Our Duty

**Sub: Renewal of Consent to Operate in RED/LSI Category.**

- Ref:**
1. Consent to Renewal accorded by Board vide No. Format 1.0/CC/UAN No. 0000067060/CO-1910000801, dated 16/10/2019
  2. Minutes of 6th CC Meeting held on 27.06.2022.
  3. Earlier Consent to Renewal accorded by Board vide No. Format 1.0/CC/UAN No. 00000125229/CR-2208001327, dated 28.08.2022.
  4. Industry's request letter for issuance of corrigendum in the earlier consent issued dated 06.09.2022.

Your application No.MPCB-CONSENT-0000125229 Dated 10.11.2021

For: grant of Consent to Operate under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. **The consent to renewal is granted for a period up to 28/02/2025**
2. **The capital investment of the project is Rs.58.5136 Crs. (As per C.A Certificate submitted by industry Existing 47.01+Expansion 11.50)**
3. **Consent is valid for the manufacture of:**

Sr No	Product	Maximum Quantity	UOM
Products			
1	ParaCholoro Phenyl Acetic Acid	40	MT/M
2	Alpha Bromo Ortho Chloro Phenyl Acetic Acid Methyl Ester	5	MT/M
3	Alpha Bromo Para Chloro Phenyl Acetic Acid	5	MT/M
4	TRISPHENOL	5	MT/M
5	Methyl 2- ( 2-Chloromethyl ) phenyl Acetate (MCPMA)	15	MT/M



Sr No	Product	Maximum Quantity	UOM
6	4-Chloro Phenethyl Alcohol 2-(4 Chlorophenyl) Ethanol	20	MT/M
7	2-Chloro- 4,6 Dimethoxy - 1,3,5 Triazine (CDMT)	15	MT/M
8	3 - ISO Chromanone	60	MT/M
9	ISOPROPYL-3-CHLORO 4-METHYL BENZOATE (ICMB)	20	MT/M
10	Ortho Chloro Phenyl Acetic Acid	150	MT/M
11	2-Methyl Phentl Acetic / Ortho Methyl Phenyl Acetic Acid	40	MT/M
12	Salt Solution (By-product)	200	MT/M
13	Propargyl-CM-Estaer 55% Monochloro Benzene	20	MT/M
14	2,4,6 Trimethyl Benzaldehyde 84% in Acetone	25	MT/M
15	Methyl (E) 3-Methoxy-2-( 2-Chloromethyl Phenyl)-2-Propenoate (METHYL ACRELATE)	5	MT/M
16	3-CHLORO 2-METHYL ANISOL	40	MT/M
17	2-Coumaranone 30% with Acetic Anthydride 70%	400	MT/M
18	ORTHO HYDROXY PHENYL ACETIC ACID (OHPAA	30	MT/M

The total production quantity shall not exceed 895 MT/M and also, the quantity of By-product shall not exceed 1704.705 MT/M

4. **Conditions under Water (P&CP), 1974 Act for discharge of effluent:**

Sr No	Description	Permitted (in CMD)	Standards to	Disposal Path
1.	Trade effluent	34.73	As per Schedule-I	Recycle 100% to achieve ZLD
2.	Domestic effluent	10.0	As per Schedule-I	STP

5. **Conditions under Air (P& CP) Act, 1981 for air emissions:**

Sr No.	Stack No.	Description of stack / source	Number of Stack	Standards to be achieved
1	S1	BOILER (6 TPH) capacity	1	As per Schedule -II
2	S2	Thermic Fluid Heater (2 Nos. 8 Lac Kcal/Hr.) capacity	1	As per Schedule -II
3	S3	D.G. Set (1020 KVA)	1	As per Schedule -II
4	S4	Chlorination	1	As per Schedule -II
5	S5	Hydrolysis	1	As per Schedule -II
6	S6	Bromination	1	As per Schedule -II

6. **Non-Hazardous Wastes:**

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	PAPER WASTE	10	Kg/M	Sale	Sale to authorized party
2	METAL WASTE	100	Kg/M	Sale	Sale to authorized party
3	WOODEN WASTE	400	Kg/M	Sale	Sale to authorized party

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
4	GLASS WASTE	25	Kg/M	Sale	Sale to authorized party
5	COAL ASH	12	MT/Day	Sale	Sale to Brick Manufacturer

7. **Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for treatment and disposal of hazardous waste:**

Sr No	Category No./ Type	Quantity	UoM	Treatment	Disposal
1	20.3 Distillation residues	4.52	Kg/Day	Incineration	CHWTSDF
2	35.3 Chemical sludge from waste water treatment	30	Kg/Day	Landfill after treatment	CHWTSDF
3	Schedule-II, A-11 Cyanide Compound II, A-11 Cyanide Compound	1.5	Kg/Day	Landfill after treatment	CHWTSDF
4	Sodium Bisulphite solution / Sodium sulphite solution	17.64	MT/M	Recycle*	Sale to authorised party / CHWTSDF
5	HYDROBROMIC ACID 40-50%	17.69	MT/M	Recycle*	Sale to authorised party / CHWTSDF
6	HYDROCHLORIC ACID ( 30%-32% )	399.6	MT/M	Recycle*	Sale to authorised party / CHWTSDF
7	LIQUOR AMMONIA 25%	144.79	MT/M	Recycle*	Sale to authorised party / CHWTSDF
8	Sodium Sulphate	800	MT/M	Recycle*	Sale to authorised party / CHWTSDF
9	Sodium Bromide Solution in water	25	MT/M	Recycle*	Sale to authorised party / CHWTSDF
10	Sodium Chloride	100	MT/M	Recycle*	Sale to authorised party / CHWTSDF
11	37.3 Concentration or evaporation residues	100	MT/M	Recycle/Secured landfill	Sale to authorised party / CHWTSDF

**\* Industry shall ensure disposal to the Actual user having permissions under Rule 9 of Hazardous and other Waste (M & TM) Rules, 2016**

8. **Conditions under Plastic Waste Management Rules, 2016 (Notification dtd. 18/03/2016):**

<b>Sr No</b>	<b>Type of Waste</b>	<b>Quantity</b>	<b>UoM</b>	<b>Disposal Path</b>
1	Plastic	200.00	Kg/M	Sale to authorized recycler/re-processor

9. The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding on the industry.
10. This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.
11. The industry shall also comply with the Industry specific standards notified under Environment (Protection) Act, 1986.
12. The industry shall provide water metering system including for the use of treated effluent.
13. Industry shall install online monitoring system i.e. IP Camera and flow meter to ensure the Zero Liquid Discharge and its connectivity to the MPCB server. Industry shall also install separate energy meter to the pollution control devices.
14. The applicant shall comply with the conditions of the Environmental Clearance granted vide letter No. EC (BENZO)-2009/155/CR.173/TC.1, dated 30/01/2010.
15. The applicant shall not carry out any excess production or produce new products without consent of the Board and without an Environment Clearance, wherever it requires.
16. This Consent is issued without prejudice to the Order Passed or may be Passed by The Hon'ble NGT, Western Zone, Bench, Pune in the matter of Application No. 124/2017 (WZ), M.A. 299/2017 filed by Arvind Mahajan & ors. V/s. M/s. Benzo Chem Industries Pvt. Ltd., Plot No. B-24/25, MIDC, Village Dasarkhed, Tal. Malkapur, Dist. Buldhana.
17. The industry shall obtain necessary permission from the Directorate of Industrial Safety and Health (DISH).
18. The applicant shall properly collect, transport & regularly dispose-off the Hazardous Waste to CHWTSDf, in compliance of the Hazardous and other Waste (M & TH) Rule-2016 and keep proper manifest thereof.
19. The applicant shall make an application for renewal of consent 60 days prior to date of expiry of the Consent to Operate.
20. The existing Bank Guarantee of Rs 5.0 Lakhs is being forfeited as industry has not carried out verification by NEERI of decontamination work; no provision to arrest the contaminated rainwater runoff; no upgradation of ETP was done before 30.06.2022.
21. Industry shall submit top up Bank Guarantee of Rs 10 Lakhs towards compliance of consent conditions and O & M of PCS also submit B.G. of RS.1.0 lakh for installation of OCMS before 30.08.2022.
22. This consent is issued pursuant to the decision of 6 th CC Meeting held on 27.06.2022.

23. This consent is issued with n overriding effect on earlier consent granted by the board vide no. Format 1.0/CC/UAN No. 00000125229/CR-2208001327, dated 28.08.2022.
24. Industry should not carry out any activity on newly added plot no.B-16 &17 till obtaining amended EC for incorporation of the said plot nos. in Environmental clearance.
- . This consent is issued as per communication letter dated 03/11/2022 which is approved by competent authority of the board.

**Received Consent fee of -**

<b>Sr.No</b>	<b>Amount(Rs.)</b>	<b>Transaction/DR.No.</b>	<b>Date</b>	<b>Transaction Type</b>
1	500000.00	TXN2111000622	11/11/2021	Online Payment
2	50000.00	TXN2111000781	12/11/2021	Online Payment

**The balance fees of Rs.2,00,000/-will be adjusted in the next renewal of consent.**

**Copy to:**

1. Regional Officer, MPCB, Amravati and Sub-Regional Officer, MPCB, Akola  
- They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB,Sion, Mumbai
3. CC/CAC desk- for record & website Updation purpose.

## **SCHEDULE-I**

### **Terms & conditions for compliance of Water Pollution Control:**

1. A] As per your application, you have provided Effluent Treatment Plant (ETP) of designed capacity of 120.00 CMD consisting of Primary (Collection tank, Oil Separation Tank, Neutralization (2 nos), Primary Clarifier), Secondary (Aeration Tank, Secondary Clarifier), Tertiary (Pressure sand filter, Activated carbon filter), Advanced treatment (3 stage Multi Effect Evaporator), Sludge treatment (Sludge drying bed) for the treatment of 34.73 CMD of trade effluent.  
B] The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent and recycle the entire treated effluent into the process for various purposes such as for cooling, process & Scrubbing with metering system so as to achieve Zero Liquid Discharge. There shall be no discharge on land or outside factory premises.  
C] Industry shall install online monitoring system i.e. IP Camera and flow meter to ensure the Zero Liquid Discharge and its connectivity to the MPCB server. Industry shall also install separate energy meter to the pollution control devices.
2. A] As per your application, you have provided Sewage Treatment Plant of designed capacity As per your application, you provided Septic tank for partial treatment of the sewage generated and further, shall treat the overflow of septic tank in Effluent Treatment Plant. CMD for the treatment of 10.0 CMD of sewage.  
B] The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards.

<b>Sr.No</b>	<b>Parameters</b>	<b>Standards (mg/l)</b>	
1	Suspended Solids	Not to exceed	50
2	BOD 3 days 27°C	Not to exceed	30

3. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
4. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

<b>Sr. No.</b>	<b>Purpose for water consumed</b>	<b>Water consumption quantity (CMD)</b>
1.	Industrial Cooling, spraying in mine pits or boiler feed	97.00
2.	Domestic purpose	15.00

<b>Sr. No.</b>	<b>Purpose for water consumed</b>	<b>Water consumption quantity (CMD)</b>
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	74.29
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Gardening	0.00

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.

### **SCHEDULE-II**

#### **Terms & conditions for compliance of Air Pollution Control:**

1. As per your application, you have provided the Air pollution control (APC) system and erected following stack (s) to observe the following fuel pattern:

<b>Stack No.</b>	<b>Source</b>	<b>APC System provided/proposed</b>	<b>Stack Height(in mtr)</b>	<b>Type of Fuel</b>	<b>Sulphur Content(in %)</b>	<b>Pollutant</b>	<b>Standard</b>
S1	Boiler	Multi Cyclone Separator followed by Bag Filter	33.00	COAL OR BRIQUETTES 30 MT/Day	0.5	TPM	150 Mg/Nm <sup>3</sup>
						SO2	240 Kg/Day
						SOX=41 MG/NM3	-
S2	Thermic Fluid Heater	Multi Cyclone Separator followed by Bag Filter	33.00	COAL OR BRIQUETTES 20 MT/Day	0.5	TPM	150 Mg/Nm <sup>3</sup>
						SO2	204 Kg/Day
S3	DG Set	Acoustic Enclosure	3.50	HSD 300 Lit/Day	1	TPM	150 Mg/Nm <sup>3</sup>
						SO2	6 Kg/Day
S4	Chlorination	Scrubber	13.00	-	-	Chlorine	03 PPM
S5	Hydrolysis	Scrubber	13.00	-	-	NH3	50 PPM
S6	Bromination	Scrubber	13.00	-	-	HBr	03 PPM

2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.
3. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

<b>Parameters</b>	<b>Standards (mg/l)</b>
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4. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
5. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
6. Solvent Management shall be carried out as follows:
- Reactors shall be connected to Water / Chilled Water /Brine Condenser system.
  - Reactors and solvent handling pumps shall have mechanical seals to prevent the leakages.

- c. The condensers shall be provided with adequate Heat transfer area (HTA) and residence time so as to achieve more than 97% overall recovery
- d. Solvents shall be stored in a separate space specified with all safety measures.
- e. Proper earthing shall be provided in all the equipment's, wherever solvent handling is done.
- f. Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.
- g. All the solvent storage tanks shall be connected with vent condensers with Water / chilled water / Brine circulation.
- h. Fugitive emissions shall be controlled at 99.95% with effective chillers.
- i. Solvent transfer shall be through pump.
- j. Metering and control of quantities of active ingredients to minimize wastes.
- k. Use of automatic filling to minimize spillage.
- l. Use of close feed system into batch reactors.
- m. Venting equipment through vapour recovery system.



### SCHEDULE-III

#### Details of Bank Guarantees:

Sr. No	Consent (C2E/C2O/C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C to R	Rs. 10 Lakh	15 days	Towards Operation & Maintenance of Pollution Control Systems & Compliance of Consent Conditions	28/02/2027	30/06/2027
2	C to R	Rs. 1 Lakh	15 days	Towards installation of OCEMS before 30.08.2022.	28/02/2027	30/06/2027

The above Bank Guarantee(s) shall be submitted by the applicant in favour of Regional Officer at the respective Regional Office within 15 days from the date of issue of Consent.

#### BG Forfeiture History

Srno.	Consent (C2E/C2O/C2R)	Amount of BG imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
1	C to R	5,00,000	15 DAYS	Towards Operation & Maintenance of Pollution Control Systems & Compliance of Consent Conditions	5,00,000/-	not carried out verification by NEERI of decontamination work; no provision to arrest the contaminated rainwater runoff; no upgradation of ETP was done before 30.06.2022.

#### BG Return details

Srno.	Consent (C2E/C2O/C2R)	BG imposed	Purpose of BG	Amount of BG Returned
NA				

### SCHEDULE-IV

#### General Conditions:

1. The waste generator shall.-
  - a) take steps to minimize generation of plastic waste and segregate plastic waste at source in accordance with the Plastic Waste Management Rules, 2016 or as amended from time to time.
  - b) not litter the plastic waste and ensure segregated storage of waste at source and handover segregated waste to urban local body or gram panchayat or agencies appointed by them or registered waste pickers', registered recyclers or waste collection agencies;



2. All institutional generators of plastic waste, shall segregate and store the waste generated by them in accordance with the Plastic Waste Management Rules, 2016 amendment from time to time and handover segregated wastes to authorized waste processing or disposal facilities or deposition centers either on its own or through the authorized waste collection agency.
3. All waste generators shall pay such user fee or charge as may be specified in the byelaws of the local bodies for plastic waste management such as waste collection or operation of the facility thereof, etc.;
4. Every person responsible for organizing an event in open space, which involves service of food stuff in plastic or multilayered packaging shall segregate and manage the waste generated during such events in accordance with the Plastic Waste Management Rules, 2016 amendment from time to time.
5. The Energy source for lighting purpose shall preferably be LED based
6. The PP shall harvest rainwater from roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial applications within the plant
7. Conditions for D.G. Set
  - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
  - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
  - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
  - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
  - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
  - f) D.G. Set shall be operated only in case of power failure.
  - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
  - h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.
8. The applicant shall maintain good housekeeping.
9. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
10. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
11. The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
12. The industry shall submit quarterly statement in respect of industries obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can downloaded from MPCB official site).

13. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
14. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification No. B-29016/20/90/PCI-L dated. 18.11.2009 as amended.
15. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
16. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
17. The PP shall provide personal protection equipment as per norms of Factory Act
18. Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.
19. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
20. The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
21. The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the Hazardous and Other Wastes (M & TM) Rules 2016, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.
22. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
23. Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website ([www.mpcb.gov.in](http://www.mpcb.gov.in)).
24. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
25. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
26. The industry should not cause any nuisance in surrounding area.

27. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
28. The industry shall create the Environmental Cell by appointing an Environmental Engineer, Chemist and Agriculture expert for looking after day to day activities related to Environment and irrigation field where treated effluent is used for irrigation.
29. The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
30. The industry should comply with the Hazardous and Other Wastes (M & TM) Rules, 2016 and submit the Annual Returns as per Rule 6(5) & 20(2) of Hazardous and Other Wastes (M & TM) Rules, 2016 for the preceding year April to March in Form-IV by 30th June of every year.
31. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
32. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
33. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions.
34. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
35. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
36. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
37. The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.

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**This certificate is digitally & electronically signed.**

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## **Annexure – 7**

# **Duly filled in monitoring data sheet**

**Monitoring Report**

**PART – I**

**DATA SHEET**

No.									
1.	<b>Project type:</b> River Valley / Mining / Industry / Thermal / Nuclear / Others (specify)	:	<b>Industry</b>						
2.	<b>Name of the Project</b>	:	<b>Manufacturing of Agro and pharmaceutical intermediate project at Malkapur MIDC by M/s Benzo Chem Industries Pvt. Ltd. at Plot B-24 , B-25 , MIDC area , Dasarkhed, Tal : Malkapur ,District : Buldhana</b>						
3.	<b>Clearance letter (s) / OM No. and date</b>	:	<b>EC (BENZO)-2009/155/CR.173/TC.1 dated 30<sup>th</sup> January 2010.</b>						
4.	<b>Location</b>								
	a) District (s)	:	<b>Buldhana</b>						
	b) State (s)	:	Maharashtra						
	c) Location latitude / longitude	:	20°58'18.82"N 76°11'17.65"E						
5.	<b>Address for Correspondence</b>	:							
	a) Address of the Concerned Project Chief Engineer (with Pin code & Telephone / Telex / Fax Numbers)		Mr. Madhukar Sapkal Plant head – Benzo Chem Industries Pvt. Ltd. Plot Nos. B-24 & B-25, MIDC area , Dasarkhed, Tal : Malkapur ,District : Buldhana, Pin : 443101						
	b) Address of the Concerned Project Chief Engineer (with Pin code & Telephone / Telex / Fax Numbers)								
6.	<b>Salient features</b>	:							
	a) of the Project		The salient features of the project are as under:  The products as per the CTO are as under :						
			<table border="1"> <thead> <tr> <th>Sr.No</th> <th>Product</th> <th>Unit (MT/M)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>ParaCholoro Phenyl Acetic Acid</td> <td>40</td> </tr> </tbody> </table>	Sr.No	Product	Unit (MT/M)	1	ParaCholoro Phenyl Acetic Acid	40
Sr.No	Product	Unit (MT/M)							
1	ParaCholoro Phenyl Acetic Acid	40							

		2	Alpha Bromo Ortho Chloro Phenyl Acetic Acid Methyl Ester	5
		3	Alpha Bromo Para Chloro Phenyl Acetic Acid	5
		4	TRISPHENOL	5
		5	Methyl 2- ( 2-Chloromethyl ) phenyl Acetate (MCPMA)	15
		6	4-Chloro Phenethyl Alcohol 2-(4 Chlorophenyl) Ethanol	20
		7	2-Chloro- 4,6 Dimethoxy – 1,3,5 Triazine (CDMT)	15
		8	3 – ISO Chromanone	60
		9	ISOPROPYL-3-CHLORO 4-METHYL BENZOATE (ICMB)	20
		10.	Ortho Chloro Phenyl Acetic Acid	150
		11	2-Methyl Phentl Acetic / Ortho Methyl Phenyl Acetic Acid	40
		12	Salt Solution (By-product)	200
		13	Propargyl-CM-Estaer 55% Monochloro Benzene	20
		14	2,4,6 Trimethyl Benzaldehyde 84% in Acetone	25
		15	Methyl (E) 3-Methoxy-2- ( 2-Chloromethyl Phenyl)-2- Propenoate (METHYL ACRELATE)	5
		16	3-CHLORO 2-METHYL ANISOL	40
		17	2-Coumaranone 30% with Acetic Anthydride 70%	400
		18	ORTHO HYDROXY PHENYL ACETIC ACID (OHPAA)	30
<p><b>Note :</b> The total production quantity shall not exceed 895 MT/M and also, the quantity of Byproduct shall not exceed 1704.705 MT/M</p> <p><b>Utility details :</b></p> <p>Boiler capacity : 6TPH</p>				

		<p>Thermopack capacity : 2 x 8 lakh Kcal /hr <b>Water requirement:</b> 186.29 CMD</p> <p><b>Effluent generation:</b></p> <p>Trade effluent: 34.73 CMD</p> <p>Domestic effluent: 10 CMD</p> <p><b>Fuel requirement for the heating units:</b></p> <p>For the 6 TPH boiler : Coal / Briquette : 30 MT/day</p> <p>For the 2 x 8 Kcal / hr Thermopacks : Coal /Briquette : 20 MT /day.</p>
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	<p>b) of the Environmental Management Plans</p>	<p>➤ <b>Air pollution equipment :</b>          Multicyclone separator followed by bagfilter for the boiler of 6TPH and Thermopacks of capacity 2 x 8 lakh Kcal /hr followed by common stack of 33m.</p> <p>Details of the scrubbers are as under :</p> <p>Stack for HCl scrubber, height provided= 15 meters.          Stack for the Ammonia scrubber, height Provided = 13 meters.</p> <p><b>Details of the effluent treatment Plant :</b></p> <p>We have provided Effluent Treatment Plant (ETP) of designed capacity of 120.00 CMD consisting of Primary (Collection tank, Oil Separation Tank, Neutralization (2 nos), Primary Clarifier), Secondary (Aeration Tank, Secondary Clarifier), Tertiary (Pressure sand filter, Activated carbon filter), Advanced treatment (3 stage Multi Effect Evaporator), Sludge treatment (Sludge drying bed) for the treatment of 34.73 CMD of trade effluent.</p> <p><b>Noise pollution control measures:</b></p> <p>Acoustic enclosure has been provided for the boiler of 6 TPH capacity and also for the D.G sets of 1010 KVA. PPEs such as ear muffs and ear plugs have been provided to the workers working in the high noise areas.</p> <p>Green belt:          As per the EC letter green belt stipulated is 2500 m<sup>2</sup>. Beno Chem Industries Pvt. Ltd. has provided the existing green belt admeasuring more than 2500 m<sup>2</sup> in which 515 trees have been planted.</p>
7.	<p><b>Break up of the Project Area</b></p> <p>a) Submergence area: forest &amp; non forest</p> <p>b) Others</p>	<p>:</p> <p>Not applicable as the project is located in a notified industrial area i.e, MIDC area Dasarkhed ,Tal :Malkapur ,District : Buldhana.</p> <p>Plot area: 23888 sq.m</p> <p>Built up area : 10080.56 sq.m</p>



8.	<b>Breakup of the project affected population</b> with the enumeration of those losing Houses / Dwelling units only, Agricultural Land & Landless Laborers / Artisans:  a) SC, ST / Adivasi	:	Not applicable as the land is in notified MIDC area and is in possession of Benzo Chem Industries Pvt. Ltd.																																								
	b) Others (please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey is carried out give details & year of survey)	:																																									
9 a)	<b>Financial Details:</b> Project cost as originally planned and subsequent revised estimates and the year of price reference	:	Original Project cost (Rs. 22,78,26,172)  Year of price reference : (2009-2010)  Revised project cost : (Rs. 68,78,51,555)  Year of price reference : (2022-2023)																																								
b)	Allocation made for environmental management plans with item wise and year wise breakup	:	The item-wise allocation made for the environmental plans is as under :  <table border="1"> <thead> <tr> <th>Sr.No</th> <th>Item</th> <th>Capital cost (Rs. Lakhs)</th> <th>Recurring cost (Rs. Lakhs per annum)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Air pollution control</td> <td>180</td> <td>38</td> </tr> <tr> <td>2.</td> <td>Water pollution control</td> <td>1389</td> <td>396</td> </tr> <tr> <td>3.</td> <td>Noise pollution control</td> <td>5</td> <td>01</td> </tr> <tr> <td>4.</td> <td>Occupational health</td> <td>10</td> <td>2.1</td> </tr> <tr> <td>5.</td> <td>Solid and Hazardous Waste storage and disposal</td> <td>15</td> <td>20</td> </tr> <tr> <td>6.</td> <td>Implementation of the risk assessment measures and HAZOP</td> <td>3</td> <td>0.50</td> </tr> <tr> <td>7.</td> <td>Environmental Monitoring Budget</td> <td>2</td> <td>2.5</td> </tr> <tr> <td>8.</td> <td>Green belt</td> <td>5</td> <td>3</td> </tr> <tr> <td></td> <td><b>Total</b></td> <td><b>1609</b></td> <td><b>462.1</b></td> </tr> </tbody> </table>	Sr.No	Item	Capital cost (Rs. Lakhs)	Recurring cost (Rs. Lakhs per annum)	1.	Air pollution control	180	38	2.	Water pollution control	1389	396	3.	Noise pollution control	5	01	4.	Occupational health	10	2.1	5.	Solid and Hazardous Waste storage and disposal	15	20	6.	Implementation of the risk assessment measures and HAZOP	3	0.50	7.	Environmental Monitoring Budget	2	2.5	8.	Green belt	5	3		<b>Total</b>	<b>1609</b>	<b>462.1</b>
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c)	Benefit cost ratio/Internal rate of Return and the year of assessment	:	Internal rate of return ---																																								

d)	Whether (c)includes the cost of environmental management as shown in the above	:	Yes																																								
e)	Actual expenditure incurred on the project so far	:	Actual expenditure on the project so far: Rs. 68,78,51,555																																								
f)	Actual expenditure incurred on the environmental management plans so far	:	The actual expenditure incurred on the project so far is as under : <table border="1"> <thead> <tr> <th>Sr.No</th> <th>Item</th> <th>Capital cost (Rs. Lakhs)</th> <th>Recurring cost (Rs. Lakhs per annum)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Air pollution control</td> <td>180</td> <td>38</td> </tr> <tr> <td>2.</td> <td>Water pollution control</td> <td>1389</td> <td>396</td> </tr> <tr> <td>3.</td> <td>Noise pollution control</td> <td>5</td> <td>01</td> </tr> <tr> <td>4.</td> <td>Occupational health</td> <td>10</td> <td>2.1</td> </tr> <tr> <td>5.</td> <td>Solid and Hazardous Waste storage and disposal</td> <td>15</td> <td>20</td> </tr> <tr> <td>6.</td> <td>Implementation of the risk assessment measures and HAZOP</td> <td>3</td> <td>0.50</td> </tr> <tr> <td>7.</td> <td>Environmental Monitoring Budget</td> <td>2</td> <td>2.5</td> </tr> <tr> <td>8.</td> <td>Green belt</td> <td>5</td> <td>3</td> </tr> <tr> <td></td> <td><b>Total</b></td> <td><b>1609</b></td> <td><b>462.1</b></td> </tr> </tbody> </table>	Sr.No	Item	Capital cost (Rs. Lakhs)	Recurring cost (Rs. Lakhs per annum)	1.	Air pollution control	180	38	2.	Water pollution control	1389	396	3.	Noise pollution control	5	01	4.	Occupational health	10	2.1	5.	Solid and Hazardous Waste storage and disposal	15	20	6.	Implementation of the risk assessment measures and HAZOP	3	0.50	7.	Environmental Monitoring Budget	2	2.5	8.	Green belt	5	3		<b>Total</b>	<b>1609</b>	<b>462.1</b>
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	<b>Total</b>	<b>1609</b>	<b>462.1</b>																																								
<b>10</b>	<b>Forest Land Requirement</b>		Not applicable as the project is located in the notified MIDC area and the land is in possession of the project proponent. No forest land has been utilized for the project																																								
a)	The status of approval for diversion of forest land for non-forestry use	:	Not applicable as no forest land was utilized for the project.																																								
b)	The status of clearing felling	:	Not applicable as no forest land was utilized for the project.																																								
c)	The status of compensatory afforestation, if any Comments on the viability & sustainability of compensatory afforestation program in the light of actual field experience so far	:	Not applicable as no forest land was utilized for the project.																																								

<b>11</b>	<b>The status of clear felling</b> in non-forest areas (such as submergence area or reservoir, approach roads.), if any with quantitative information required.	:	Not applicable as no forest land was utilized for the project.
<b>12</b>	<b>Status of construction</b> (Actual&/or planned)	:	The project has been constructed and the production has already commenced.
a)	Date of commencement (Actual&/or planned)	:	We had started construction / commenced the project after securing the necessary approvals.
b)	Date of completion (Actual&/or planned)	:	The date of completion as per the first CTO is 23.10.2010
<b>13</b>	<b>Reasons for the delay</b> if the project is yet to start	:	Project was not delayed. Immediately after getting EC,CTE and CTO unit was in operation.
<b>14</b>	<b>Dates of Site Visits</b>	:	
a)	The dates on which the project was monitored by the Regional Office on previous occasions, if any	:	The project has not been monitored by the Regional Office on previous occasions
b)	Date of site visits for this monitoring report	:	Not applicable as the project has not been monitored by the Regional Office of MoEF & CC on previous occasions

## **Annexure – 8**

**Undertaking for Court case /  
Show cause Notices along  
with necessary annexures  
(Copy of the NGT order,  
NEERI report, Affidavit  
submitted to the NGT,  
Correspondence with MPCB  
informing it about stay order  
of NGT)**



# BENZO CHEM INDUSTRIES PRIVATE LIMITED

**Works :** B-24/25,16/17, M.I.D.C. Area,  
DASARKHED, MALKAPUR - 443 112.  
DIST. BULDHANA,  
Phone. : (07267) 262678 / 79 / 81  
Fax : (07267) 262680.  
E-mail :- benzoeou@rediffmail.com.

**Registered Office :** Plot No. 26/28 A,  
Cawasji Patel Street, Opposite to Yazdhani Bakery,  
Fort, Mumbai - 400 001.  
Phone No. : (022) 43555888 Fax No. 022-24320924  
**Corporate Identity No. U24100MH1986PTC041751**  
E-mail : info@benzochemco.in. Website : www.bcipl.com

Date: 09/08/2023

## UNDERTAKING

TO WHOMSOEVER IT MAY CONCERN

**We hereby solemnly state that there are no pending show cause notices against us as on date.** However in the recent past, we had a case against us in the NGT, Western Zone, Bench Pune. An order was Passed by The Hon'ble NGT, Western Zone, Bench, Pune in the matter of Application No. 124/2017 (WZ), M.A. 299/2017 filed by Arvind Mahajan & ors. V/s. M/s. Benzo Chem Industries Pvt. Ltd., Copy of NGT order is attached as **Annexure-I**.

The application in O.A.No. 124 of 2017 (WZ) had raised a question pertaining to the pollution being caused to the land (soil) as well as ground water near by factory area. As per the Hon'ble Tribunal vide its order dated 08.1.2017, Benzochem engaged NEERI Nagpur for assessment of soil and groundwater pollution due to percolation of wastewater as a consequence of operation within periphery of 2km radius. The main objective of the CSIR-NEERI were as follows;

- To conduct an audit of the manufacturing process and material balance.
- To evaluate technical adequacy of the ETP and ZLD plant.
- To collect and preserve the groundwater and soil samples (around 25-30 samples in total for 2 km radius) from identified locations using standard methods.
- To analyse groundwater and soil sample for physio-chemical and heavy metals parameters with respect to manufacturing processes.
- To assess the impact of industrial activity on the soil and groundwater.

**Benzochem received CSIR NEERI report in July 2019. Report is attached as Annexure-II for your ready reference. Summary of the report is mentioned below;**

- The ETPs of both the units 1 and 2 have sufficient capacity to take up the liquid load generated by each of the units. The plants have enough spare capacity to take up the shock loads as well.
- The MEE at the end of the plants, makes it possible for the industry to maintain zero liquid discharge (ZLD)
- The air scrubbers too have sufficient capacity to handle the loads of air pollutants generated in each unit.
- Based on the groundwater analysis by GC-MS/MS for fine chemicals (2C, MA, OCBC, OMPAA, OCPAA and PCPAA) used as raw materials as well as finished products of the Benzochem industry are observed in low concentration in the groundwater in the wells 1, 7 and 8 within 500m radius of Benzochem Pvt. Ltd for both pre and post monsoon seasons.
- The bore well and hand pump samples had no organic content (COD: not detected).



[An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 Certified ]



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Corporate Identity No. U24100MH1986PTC041751  
E-mail : info@benzochemco.in. Website : www.bcipl.com

## Summary and Recommendation for Water Environment by NEERI:

Based on the groundwater analysis for both pre and post monsoon seasons, fine chemical contaminants are observed in the groundwater specially in well no 1,7 and 8, which are adjacent to Benzochem Pvt. Ltd. Although, the concentrations of the fine chemicals contaminants are low, however, since the water quality does not meet drinking water standards, use of well water from W1, 7 and 8 for drinking and irrigation purposes should be discontinued immediately. It was also suggested that, in terms of priority, W8 has most number of fine chemicals and therefore should have highest priority in terms of treatment. **However, it is appropriate to note that W8 was not been in use for a long time and no water as such is drawn from W8 for any purpose.**

Some of the immediate measures suggested by NEERI are to pump and treat the well water by adsorption of residual organics by activated carbon followed by regular monitoring of well water quality post treatment. This would restore well water quality as well as prevent percolation of the contamination in the ground water. Treatment option would be pumping of ground water and its treatment via existing ETP of Benzochem industries Pvt. Ltd. (pumping strategies with activated carbon water treatment/reverse Osmosis followed by MEE). **The treatment of these well water should be carried out until the water quality becomes potable and fine chemicals are not detected.**

## Summary and Recommendation for Soil Environment by NEERI:

Soil samples were examined during the pre-monsoon period from the study area for general parameters as well as for the fine chemicals. The samples were taken from 15 cm and 30 cm below the surface. However, no fine chemicals were obtained in the samples at the respective depths. Soil sample from the quarry pit area (E1) was found to contain fine chemicals. Treatment of contaminated pit need to be assessed as per the level and depth of fine chemicals in soil strata. Based on this following treatment options were suggested by NEERI

- Soil depth analysis should be performed to assess the quality of soil to be stabilized and check for no toxic leachates
- Alternatively contaminated soil can be sent to CHWTSDF

**Benzochem had complied with the recommendations of CSIR-NEERI in later and spirit. Compliance affidavit by Benzochem before NGT was also submitted on 25<sup>th</sup> May 2021. Copy of affidavit by Benzochem is attached as Annexure-III. Benzochem has complied all the suggestions given by NEERI and is having all the adequate pollution control measures in place.**

**Benzo chem has currently stayed on the NGT order vide stay order dated December 9, 2022 in which it was stated to pay Rs. 25 Crore to the plaintiff in order to compensate for the soil pollution in the agricultural fields and the water pollution. The same has been intimated to MPCB vide letter no. MZM /WP/0845/ 2022 dated December 12, 2022 through law firm named MZM Legal LLP hired by us. The aforementioned letter along with the stay order has been enclosed as Annexure-IV.**



[ An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 Certified ]



# BENZO CHEM INDUSTRIES PRIVATE LIMITED

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Benzo chem has done restoration of well water suggested by NEERI and also completed the recommendations for the restoration of the soil environment. **Further, Benzochem undertakes that they will follow all suggestions given in the NEERI report post restoration of well water and restoration of the soil environment.**

Thanking You,

For Benzo Chem Industries Pvt. Ltd.

M.A.Sapkal  
Plant Head



[ An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 Certified ]

**Annexure – I**

**Copy of the NGT order**



Item No. 02

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
SPECIAL BENCH**

(By Video Conferencing)

Original Application No. 124/2017(WZ)  
M.A. No.299/2017(WZ)

Arvind Mahajan & Ors.

Applicant(s)

Versus

M/s. Benzo Chem. Industries Pvt. Ltd. & Ors.

Respondent(s)

Date of hearing: 29.08.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER  
HON'BLE MR. JUSTICE DINESH KUMAR SINGH, JUDICIAL MEMBER  
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER  
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER**

Applicant(s): Ms. Beena S. Pardesi, Advocate

Respondent(s): Mr. Sangram Singh R. Bhonsle, Ms. Samridhi S. Jain, Mr. Nrupal A. Dingankar, Ms. Pushkara A. Bhonsle, Ms. Pawarsneha Vijay, Advocates for R-1

**ORDER**

1. Grievance in this application is against damage to the environment by the operation of M/s. Benzo Chem Industries Pvt. Ltd., Dasarkhed, Tah Malkapur, District Buldana, Maharashtra (the Project Proponent – PP).

2. Case of the applicants is that the PP is engaged in manufacturing pharmaceuticals, chemical, biocides, agrochemicals, perfumery chemicals, adamantane, acetophenone & benzophenone, bulk drug, anisole & phenetole and other chemicals. In the year 2010, environmentally hazardous impact was noticed on adjoining agricultural lands and wells which was due to discharge of untreated hazardous effluents in the course

of manufacturing of pharmaceutical and agrochemical activities. The matter was taken up with the PP who undertook to take remedial action. However, the violations continued and the Panchayat vide resolution dated 30.08.2010 resolved to cancel the NOC granted to the PP. The Panchayat also asked the Collector to close down the unit. A meeting was held with the Collector on 21.02.2011 and it was decided that the compliance status should be verified by conducting inspection. Inspection was conducted and water quality was found to be not upto the laid down standards. On 13.06.2011, the State PCB assured the applicants that remedial action will be taken. Again, in January 2017, the applicants found that reddish chemicals were coming to the agricultural lands. The contamination of well water was confirmed by test report dated 18.04.2017 from Food Hygiene and Health Laboratory, Pune, NABL accredited Lab.

3. The application was filed on 11.07.2017 and notice was issued on 24.07.2017. Respondents include the PP and the State PCB who have filed their respective replies.

4. The stand of the State PCB in its reply dated 24.10.2017 is that the two units of the PP have been granted requisite consents. Incident of discharge of effluents with rain water runoff into the MIDC drain due to overflow of solar evaporation tanks occurred on 20.07.2010. On 23.07.2010, effluents mixed rain water was found accumulated on the road side behind the factory of the PP which was percolating into open wells in the agricultural lands, 300 meters away from the factory. The solar evaporation pond was constructed and effluents stored in the pond without permission of the State PCB. Reports appeared in the local media on 23.02.2011 about deterioration of the well water due to discharge of effluents and also infirmity of the agricultural land behind the factory of

the PP outside the MIDC area. Meeting was held by the SDM with the affected parties and the State PCB also received complaints which led to site inspection on 06.02.2016 and 07.02.2016 alongwith the farmers. Samples of water from the open wells in agricultural lands in the vicinity were taken and as per test report from Central Laboratory, MPCB, Navi Mumbai, parameters of BOD, COD and TDS were found to be beyond norms. There was contamination of cyanide in the adjoining well which had percolated from the factory of the PP. Show cause notice was issued to PP who denied responsibility for the contamination of water. The State PCB issued directions under Section 33A of the Water Act, 1974 and 31A of the Air Act, 1981 on 05.07.2016 to both the units requiring them to get damage to the crops assessed within periphery of 2 kms radius of the factory and to furnish Bank Guarantee of Rs. 2 lacs each. Thereafter on 07.09.2017, another inspection was conducted and analysis of the water samples showed contamination. Further inspection was conducted on 12.10.2017 and analysis reports were awaited. Accordingly, directions were issued to the PP on 23.10.2017 for remedial action after consulting NEERI-Nagpur.

5. The stand of the PP is that the cause of action relates to incident of 2010 and thus, the application filed in 2017 is barred by limitation. Mere fact that as per report dated 18.04.2017, discharge of hazardous effluents was found, will not provide limitation for moving the Tribunal. The PP has redressed the grievances and now has ZLD facility. 100% effluent is recycled into the cooling tower. It was pumping contaminated water from the wells and treating the same in multi-effect evaporators. It has hired service of a Facility for disposal of hazardous waste which is valid upto 10.07.2019.

6. Vide order dated 08.12.2017, the Tribunal noted the stand of the PP that compensation @ Rs. 40,000/- per acre of land was paid to the 13 applicants and thus nothing survived in the matter. The application should be dismissed as withdrawn. The Tribunal did not accept this stand and observed that the issue involved not only the individual applicants but also remediation of soil and ground water pollution.

7. The PP filed further affidavit dated 27.05.2021 to the effect that on instructions of the State PCB dated 23.12.2017 and orders of this Tribunal dated 08.12.2017 and 10.07.2018, CSIR – NEERI was engaged to study the technical adequacy of ETP and ZLD and impact of industrial activities of the soil and the groundwater. The report has been received in June 2019 after investigation of water and soil quality showing that violations were continuing. The PP has undertaken to remedy the same. The summary and recommendations of the said report quoted in the reply are as follows:

#### **“Chapter 4 – SUMMARY AND RECOMMENDATIONS**

##### **4.1. Material Balance**

- *The ETPs of both the units 1 and 2 have sufficient capacity to take up the liquid load generated by each of the units. The plants have enough spare capacity to take up the shock loads as well.*
- *The MEE at the end of the plants, makes it possible for the industry to maintain zero liquid discharge (ZLD)*
- *The air scrubbers too have sufficient capacity to handle the loads of air pollutants generated in each unit.*

##### **4.2. Water Environment**

- *The farming as well as domestic activities are being performed with the water from dug well and bore wells. Electricity is available for a few hours in the morning and during late evening and night, hence water from these sources is used during these hours.*
- *The depth of these wells is between 40-100 ft and water was found upto 40 ft during summer season.*
- ***The water samples from within 500m of the industry had pH: 6.1-7.8 and TDS, Ca, Mg and Chloride***

**beyond permissible limits for drinking water standards in both pre and post monsoon.**

- **Extremely high organic content are observed in sample, COD of W8: 4152 mg/l (pre monsoon) and 3900 mg/l (post monsoon). COD of W1, 6 and 7 in the range 274-313 mg/l. During post monsoon, W1 and W7 were observed to have COD of 248mg/l and 220 mg/l, respectively. Nitrate levels were also beyond permissible limits for Drinking water in W1, 2, 5, 6, 15,18,20 and 21 during pre monsoon and W7 in post monsoon. In general, the iron content in all the well waters is above the permissible limit of 0.3 mg/l. Manganese was found above permissible limits in samples from W 1, 6, 7 and 8 in both pre and post monsoon except W6 which was not selected for post monsoon monitoring.**
- **Based on the groundwater GC-MS/MS analysis for fine chemicals (2C, MA, OCBC, OMPAA, OCPAA and PCPAA) used as raw materials as well as finished products of the Benzochem industry are observed in low concentration in the groundwater in the wells 1, 7 and 8 within 500m radius of Benzochem Pvt. Ltd for both pre and post monsoon seasons.**
- *For post monsoon, water quality of W20, W40 and H2 samples was monitored based on the results obtained in pre monsoon since no contamination with fine chemicals was observed. These three samples were selected to represent the other samples in the 2km radius but not falling within 500m.*
- *During pre monsoon monitoring, the bore well samples within 500 m of the industry had pH in the range 7.0-8.3 and TDS: 1800-2500 mg/l. The water is hard (Hardness 700- 1360 mg/l and Chloride: 997-1059 mg/l) as well as saline. Comparatively the hand pump samples had total hardness and chloride within permissible limits in absence of alternate source.*
- *The bore well and hand pump samples had no organic content (COD: not detected)*
- *During pre monsoon monitoring, the iron content in all these samples except H2 were found beyond acceptable limits for drinking water and GC-MS/MS analysis revealed that the samples were not contaminated with fine chemicals at this depth.*

#### **4.3. Recommendations for Water Environment**

*Based on the groundwater analysis for both pre and post monsoon seasons, fine chemical contaminants are observed in the groundwater specially in well no 1,7 and 8, which are adjacent to Benzochem Pvt. Ltd. Although, the concentrations of*

*the fine chemicals contaminants are low, however, **since the water quality does not meet drinking water standards, use of well water from W1, 7 and 8 for drinking and irrigation purposes should be discontinued immediately.***

*Some of the immediate measures are to be pump and treat, adsorption of residual organics by activated carbon followed by regular monitoring of the well water quality post treatment. This would restore well water quality as well prevent percolation of the contamination in the groundwater. The treatment option hence would be :*

*Pumping of ground water and its treatment via existing ETP of Benzochem Industries Private Limited (Pumping strategies with activated carbon water treatment/ Reverse Osmosis followed by Multiple effect Evaporation). The treatment of these well water should be carried out until the water quality becomes potable and fine chemicals are not detected. These wells are to be monitored at periodic intervals throughout the treatment procedure.*

*Further, in terms of priority, **W8 has most number of fine chemicals and has the highest priority in terms of treatment. Considering the spare capacity in ETP of the industry, W8 water can be treated there along with the MEE. W1 and W7 are also to be treated and methods listed above can be utilized for these.***

*Alternatively, other options available for treatment of such contaminated ground water are:*

- Recharge of the wells*
- In-situ groundwater treatment*
- In-situ immobilization of the contaminants (sealing, stabilization, capping, cutting off, fixing, advanced oxidation process)*
- Permeable reactive barrier technology for treatment of dissolved phase organic fraction*

*Further exploration of the feasibility of either/or options mentioned above needs to be undertaken in order to prevent further deterioration and spread of groundwater quality.*

#### **4.4. Summary and Recommendation for Soil Environment**

*Soil samples were examined during the pre-monsoon period from the study area for general parameters as well as for the fine chemicals. The samples were taken from 15 cm and 30 cm before the surface. However, **no fine chemicals were obtained in the samples at the respective depths. Soil sample from the query pit area (E1) was found to contain fine chemical.***

*Treatment of contaminated pit need to be assessed as per the level and depth of fine chemicals in the soil strata. Based on this, treatment options will be considered as per following*

- *Soil depth analysis should be performed to assess the quantity of soil to be stabilized and check for no toxic leachates.*
- *Alternatively, the contaminated soil can be sent to Common Hazardous Waste Treatment and Disposal Facility (CHWTDF).*

*Till the treatment option for contaminated soil in the query pit area is finalized, the query pit area must not be used for any purpose.”*

8. The PP has also mentioned the steps taken for restoration of well water, soil environment. The PP has also filed order of the State PCB dated 29.09.2020 mentioning that starred question was raised in the Maharashtra Assembly in 2020 Session about the discharge of effluents by the PP in the agricultural land and non-compliances were observed by the State PCB during visit on 17.07.2020. In view of such consistent violations, the PP was granted hearing on 25.08.2020 at 3 p.m. by the Member Secretary, State PCB wherein the PP gave assurance to take remedial action. The State PCB accordingly issued following directions:

- “1. Industry shall carry out the work as per the NEERI report proactively.*
- 2. Industry shall carry out well water restoration work as per the directions of the Board within 3 months period.*
- 3. You shall make arrangements to arrest the contaminated rainwater run-off letting outside the industry premises.*
- 4. You shall submit the Bank Guarantee of Rs. 5.0 Lakh's towards the compliance of these Interim Directions. The Bank Guarantee shall be submitted in favour of Regional Officer, M.P.C. Board, Amravati within 15 days from the date of issue of these directions.*
- 5. It is decided that existing Bank Guarantee of Rs. 2.0 Lakh submitted by you is to be forfeited.”*

9. The PP filed reply on 02.10.2020 to the effect that ETP with MEE to achieve ZLD had been installed. The PP will undertake water restoration work as per NEERI report and MPCB's directions.

10. The applicants have filed MA No. 83/2018 to the effect that non-compliance continued and water sample taken on 04.01.2018 was found to be contaminated as per report dated 08.02.2018. Presence of chemical substances was found in the water beyond prescribed limits. Some of the reports dated 08.02.2018 show as follows:

**“Food Hygiene & Health Laboratory, A-512-513, Megacentre, Pune – Solapur Road, Hadapsar, Pune-411013**

<b>Sr. No.</b>	<b>Test Done</b>	<b>Result</b>	<b>Unit</b>	<b>Permissible Limit</b>	<b>Test Method</b>
<b>Table 2 General Parameters concerning substances undesirable in excessive amounts</b>					
1	Iron (as Fe)	<b>0.20</b>	mg/l	1.0, Max	IS 3025 Part 53
2	Chloride ( as Cl)	<b>16394.92</b>	mg/l	1000, Max	IS 3025 Part 32
3	Free residual Chlorine	<0.1	mg/l	Not Specified	IS 3025 Part 26
4	Fluoride ( as F)	<b>2.7</b>	mg/l	1.5, Max	APHA 4500-F-D
<b>5</b>	Total hardness (as CaCO <sub>3</sub> )	<b>16236.00</b>	mg/l	600, Max	IS 3025 Part 21
<b>6</b>	Calcium (as Ca)	<b>3015.62</b>	mg/l	200, Max	IS 3025 Part 40
<b>7</b>	ChlDramines (as Cl <sub>2</sub> )	<1.0	mg/l	4.0, Max	IS 3025 Part 26
8	Magnesium (as Mg)	<b>2117.02</b>	mg/l	30, Max	IS 3025 Part 46
9	Copper (as Cu)	<b>1.98</b>	mg/l	1.5, Max	APHA 3113 B

**Food Hygiene & Health Laboratory, A-512-513, Megacentre, Pune – Solapur Road, Hadapsar, Pune-411013**

<b>Sr. No.</b>	<b>Test Done</b>	<b>Result</b>	<b>Unit</b>	<b>Permissible Limit</b>	<b>Test Method</b>
10	Manganese (as Mn)	<b>79.91</b>	mg/l	0.3, Max	APHA 3113 B
11	Sulphate (as SO <sub>4</sub> )	<b>1670.04</b>	mg/l	400, Max	IS 3025 Part 24
12	Nitrate (as NO <sub>3</sub> )	<b>229.45</b>	mg/l	45, Max	APHA 4500-NO <sub>3</sub> -B
13	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	<0.001	mg/l	0.002, Max	IS 3025 Part 43
14	Selenium (As Se)	<0.005	mg/l	0.01, Max	IS 3025 Part 56
15	Silver (as Ag)	<b>0.71</b>	mg/l	0.1, Max	Annex J of IS 13428
16	Zinc ( as Zn )	<0.05	mg/l	15, Max	IS 3025 Part 49
17	Anionic detergent (as MBAS)	0.050	mg/l	1.0, Max	Annex K of IS 13428
18	Mineral oil	<0.5	mg/l	0.5, Max	Clause 6 of IS 3025
19	Total Alkalinity (as CaCO <sub>3</sub> )	206.00	mg/l	600, Max	IS 3025 Part 23
20	Aluminum (as Al)	0.05	mg/l	0.2, Max	IS 3025 Part 55
21	Ammonia (as total ammonia -N)	<b>8.01</b>	<b>mg/l</b>	0.5, Max	IS 3025 Part 34



22	Boron	0.44	mg/l	1.0, Max	IS 3025 Part 57
23	Barium(as Ba)	<0.5	mg/l	0.7, Max	Annex F of IS 13428
24	Sulphide (as H <sub>2</sub> S)	<0.05	mg/l	0.05, Max	IS 3025 Part 29
25	BOD	<b>950</b>	mg/l	Not Specified	IS 3025 Part 44
26	COD	<b>3744.0</b>	<b>mg/l</b>	Not Specified	APHA 5220 B
27	Total Suspended Solids	<b>240</b>	mg/l	Not Specified	IS 3025 Part 17

**Food Hygiene & Health Laboratory, A-512-513, Megacentre, Pune**  
– Solapur Road, Hadapsar, Pune-411013

<b>Sr. No.</b>	<b>Test Done</b>	<b>Result</b>	<b>Unit</b>	<b>Permissible Limit</b>	<b>Test Method</b>
01	Polychlorinated biphenyls	<0.00001	mg/l	0.0005, Max	APHA 6431-C
02	Total Arsenic(as As)	<0.005	mg/l	0.01,Max	APHA 3114C
03	Total Chromium (as	<b>1.42</b>	mg/l	0.05,Max	APHA 3113B
04	Mercury (as Hg)	<0.001	mg/l	0.001,Max	APHA 3112 B
05	Molybdenum (as Mo)	0.007	mg/l	0.07,Max	APHA 3113B
06	Nickel(as Ni)	0.75	mg/l	0.02, Max	APHA 3113B
07	Cadmium ( as Cd)	<b>0.25</b>	mg/l	0.003, Max	APHA 3113B
08	Cyanide (as CN)	<0.005	mg/l	0.05, Max	IS 3025 Part 27
09	Lead (as Pb)	<b>1.15</b>	mg/l	0.01, Max	APHA 3113B
10	Polynuclear aromatic hydrocarbons (as PAH)	<0.0001	mg/l	0.0001, Max	APHA 6440
11	<b>Trihalomethanes</b>				
a)	Bromoform	<0.05	mg/l	0.1,Max	APHA 6232B
b)	Dibromochlorometha	<0.05	mg/l	0.1,Max	
c)	Bromodichlorometha	<0.05	mg/l	0.06,Max	
d)	Chloroform	<0.05	mg/l	0.2,Max	

11. We have heard learned Counsel for the parties.

12. Question for consideration is whether the unit was and is compliant and if not its accountability for past or continuing non compliances.

13. It is patent that from 2010 till atleast 2.10.2020, the unit remained non-compliant. We have already referred to first violation seen in the year 2010 and subsequent reports of 2017, February 2018 and NEERI report of June 2019 show that the violations continued. Even in August 2020, the State PCB recorded violations and the PP filed undertaking on

2.10.2020 to take further remedial action. Thus, there could be no question of matter being beyond limitation. Relief can be confined to five years before filing of the application. Though status after 2020 is not on record, the PP has to take remedial action as well as be held accountable for past violations of ten years. There are rival oral versions about current status – version of the applicants that violations are still continuing and version of the PP that violations have now been remedied.

14. Analysis reports of groundwater indicate deterioration in water quality on account of cationic and anionic imbalances. However, trace/micro pollutants could not be detected through GC/MS. Contamination of groundwater may be attributable to discharge of concentrated effluents from solar evaporation ponds. As per CTO granted by MPCB on 26.04.2016, the industry was to be operated on ZLD mode and thus has not been complied.

15. In view of above, a joint Committee of CPCB and State PCB may visit the site and ascertain compliance status in terms of ground water contamination, status of soil contamination, impact on crops/production and other associated aspects of environmental damage. MPCB may consider compliance of stipulation under CTO after 2010 with reference to imposition of ZLD and liability to pay environmental compensation on polluter pays principle for restoration of environment. If the violations are still continuing, the State PCB may need to close the unit till compliance. For the past violations, for 5 years prior to filing of application and thereafter atleast till October 2020 compensation has to be levied which we quantify at Rs. 25 crores, following principles laid down inter alia in MC Mehta, (1987)1 SCC 395, Sterlite (2013) 4 SCC 575 and Goel Ganga (2018) 18 SCC 257. As per information in public domain, operative

revenue range of the PP is Rs. 100 to 500 crores. Learned Counsel for the PP, on instructions, states that its turnover is Rs. 250 to 300 crores. CSR amount as per section 135 of the Companies Act 2013 is 2% of profit per year. Taking into account totality of circumstances, we determine liability of the PP for violations from 2012 to 2020 at Rs.25 crore which is 10% of the turnover for one year i.e. Rs. 250 crores or 1% of turnover for 10 years at that rate. This amount may be deposited with MPCB within three months for being utilized for restoration of environment, as per restoration plan to be prepared by the CPCB, State PCB, District Magistrate and Director, Agriculture Department, Maharashtra and nominee of Ground Water Department of Maharashtra within three months. The restoration plan may take into account decontamination of groundwater with duly approved process and contaminated soil remediation by amelioration, as considered appropriate. The State PCB will be the nodal agency for coordination and compliance. If any amount is leftover after restoration of adjoining area, the same may be utilized in accordance with the District Environment Plan of District Buldana. Compliance report shall be posted on MPCB website within six months.

16. If any grievance survives or arises in future, it will be open to the aggrieved parties to take remedies in accordance with law.

The application will stand disposed of.

All pending applications will also stand disposed of.

A copy of this order be forwarded to CPCB, State PCB, District Magistrate, Buldana, Director, Agriculture Department, Maharashtra and Secretary, Ground Water Department, Maharashtra by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dinesh Kumar Singh, JM

Prof. A. Senthil Vel, EM

Dr. Vijay Kulkarni, EM

August 29, 2022  
Original Application No. 124/2017(WZ)  
M.A.No.299/2017(WZ)  
DV

**Annexure – II**  
**CSIR - NEERI report**

Final Report

# Assessment of Soil and Groundwater Pollution in and around Benzochem Industry

(Daraskhed, Buldhana, Maharashtra)



CSIR-National Environmental Engineering Research Institute



June 2019



## **Project Personnel**

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## Chapter 1 – INTRODUCTION

### 1.1. Background and Introduction

Established in 1986, Benzochem Industries is a privately owned firm by Mohatta Group. The company manufactures wide range of chemicals including Chlorophenol derivatives, Diclofenac Sodium and Miconazole Nitrate intermediates, Benzophenones, Acetophenones, Anisole and Phenetole derivatives. With time, the company diversified its production expertise and started producing derivatives based on Para Chloro Toluene, 2, 4-Dichloro Toluene, Meta Chloro Toluene, Ortho Chloro Toluene, 3, 4-Dichloro Toluene and specialty products like 2,4 Di Chloro Phenyl Acetyl Chloride, Para Chloro Benzyl Chloride, 2-Coumaranone, 3-isocoumaranone etc.

With respect to the project “Assessment of soil and groundwater pollution in and around Benzochem Industries, Dasarkhed, Malkapur, Dist. Buldhana” awarded to CSIR-NEERI by Benzochem Industries, Dasarkhed, CSIR-NEERI organized an initial scoping visit to the industry, Maharashtra Industrial Development Corporation (MIDC) area of Malkapur and nearby locations in order to understand the details of the plant under consideration and the nearby area in which sampling is to be carried out. The main objectives of the project are as follows:

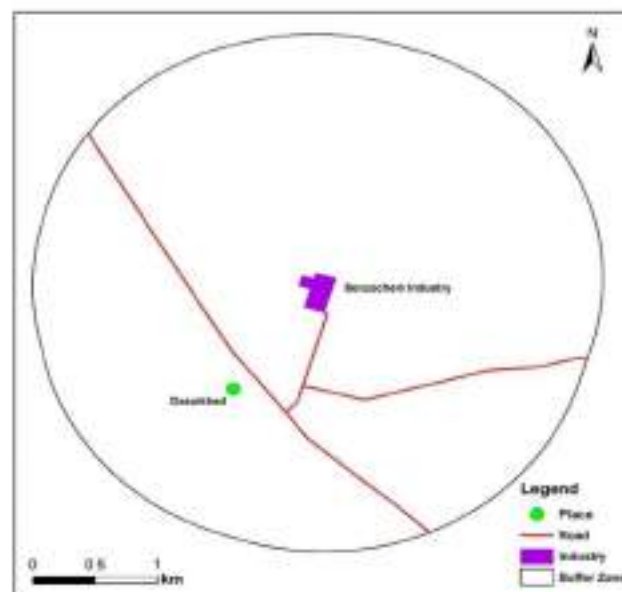
- To conduct an audit of the manufacturing process and material balance.
- To evaluate technical adequacy of the ETP and ZLD plant.
- To collect and preserve the groundwater and soil samples (around 25-30 samples in total for 2 km radius) from identified locations using standard methods.
- To analyse groundwater and soil sample for physio-chemical and heavy metals parameters with respect to manufacturing processes.
- To assess the impact of industrial activity on the soil and groundwater.

- To prepare final report of findings with spatial and statistical analysis.

## 1.2. Details of Initial Site Visit:

In order to get started on the project and plan out the steps, CSIR-NEERI team had a detailed discussion with team of Benzochem Industries during their initial visit on 8<sup>th</sup> and 9<sup>th</sup> of February 2018, on their manufacturing process being followed at the plant and the types of chemicals being manufactured. CSIR-NEERI team visited both new and old plants located in the MIDC Malkapur area and saw the operation of manufacturing and Effluent Treatment Plant (ETP) installed within the industry premises. Further the operation of Multi Effect Evaporator (MEE) was also seen which helps Benzochem maintain their Zero Liquid Discharge operation. Data requirements, in order to fulfil the objectives were also discussed during the meeting.

The following **Figure-1** is the base map of the study region. While exploring the nearby area around the plant, CSIR-NEERI team covered the study area and identified the proposed sampling sites for collection of samples of water and soil. During this field visit, CSIR-NEERI team also interacted with the local stakeholders in order to understand their perspective of the problem.





**Figure 1.**Base map (2km radius) of the study region around Benzochem Industries

The following data was retrieved from Benzochem during the initial visit of CSIR-NEERI team:

1. Maps of the study area including location of bore wells and wells in the study region
2. Details of Effluent Treatment Plant (ETP) and Multi Effect Evaporator (ETP) installed in the industry premises.
3. Production capacity of the plant for each of the product with corresponding load to ETP

In order to collect the primary data, sampling locations were decided and the samples were collected during 19-20 March 2018.



## Chapter 2 – PLANT AUDIT AND MATERIAL BALANCE

Benzochem industries operate two units in the area of MIDC Malkapur. Operation wise both the plants are separate and produce different chemicals. The effluent treatment plant for the units are also separate. While Benzochem industries has consent to manufacture lot of chemicals but depending on the demand, there are only few chemicals produced in these Malkapur MIDC units. The following key chemicals are produced in the units:

### UNIT 1:

- 2,4 Di Chloro Phenyl Acetyl Chloride
- 2, 5 Di Methyl Phenyl Acetyl Chloride(2, 5 DMPACL)
- 2, 4,6 Tri Methyl Phenyl Acetyl Chloride(2, 4,6 TMPACL )
- Para Chloro Benzyl Chloride (PCBC)
- Para Chloro Benzyl Cyanide( PCCN) ( 2,4 DCPACL)

### UNIT 2:

- 2-Coumaranone (2C)
- Alpha Bromo-2-Chloro-Phenyl Acetic Acid Methyl Ester
- PCPAA
- 3- ISO Chromanone (3-IC)
- 2, 4, 6 Trimethyl Benzaldehyde (Mesitaldehyde) 84% In Acentone





## 2.1 Brief Process of Manufacturing

### UNIT-1:

#### 1. 2,4 Di Chloro Phenyl Acetyl Chloride (2,4 DCPACI):

The raw materials used in the process of manufacturing of 2,4 Di Chloro Phenyl Acetyl Chloride are 2, 4 Dichloro Benzyl Chloride (2, 4- DCBC); Sodium Cyanide (NaCN); TEA; PEG-400; TEBAC; Caustic Soda Lye/Flakes; HCl; Thionyl Chloride; DMF; Toluene. The first step towards manufacturing is Cynation which is Charge 2:4 DCBC & TEA, PEG-400 & TEBAC Solution, applied heating & do NaCN solution addition slowly to get Cr.2, 4-DCCN, followed by distillation, hydrolysis, centrifugation of filtered 2,4 DCPAA, chlorination using thionyl chloride and lastly distillation to produce pure 2,4, DCPACI.

On an average 385 Kgs per day of 2, 4 DCPACI was produced by the unit last year. Through mass balance, an effluent of 803 Kgs per ton of product was also produced during the manufacturing.

The total production by the unit for each chemical and corresponding effluent generation is given in the table below:

#### 2. 2, 5-Dimethyl Phenyl Acetyl Chloride (2,5 DMPACI):

The raw materials used in the process of manufacturing of 2, 5-Dimethyl Phenyl Acetyl Chloride are Para Xylene, PF, HCl, TEAB, PEG-400, K<sub>2</sub> CO<sub>3</sub>, Soda Ash, Sodium Cyanide, TEA, PEG-400, Soda Ash, Toluene, Caustic Soda Lye/Flakes, HCL, Thionyl Chloride. The first step towards manufacturing is Chlorination; which is charging of Para Xylene and addition of TEAB, PEG-400 & HCL. The reaction mass is heated to desired temperature and maintained for PF addition in order to achieve the conversion. After desired conversion is achieved, separation & washing with water is carried out,



followed by distillation, cyanation, redistillation, hydrolysis and acidification. The acidification is followed with centrifugation and drying in order to distil the desired product after chlorination. Distillation is the last step of the process yielding 2, 5 DMPACL.

On an average 1019 Kgs per day of 2, 5 DMPACL was produced by this unit last year. Through mass balance, it was determined that an effluent of 3395 Kgs per day was also produced during this manufacturing.

### 3. 2, 4, 6-Trimethyl Phenyl Acetyl Chloride:

The raw materials used in the process of manufacturing of 2, 4, 6-Trimethyl Phenyl Acetyl Chloride are Mesitylene, PF Solution, HCl, TEAB, PEG-400, K<sub>2</sub>CO<sub>3</sub>, Soda Ash, Sodium Cyanide (NaCN), TBAB Solution, Toluene, Caustic Soda Lye/Flakes, HCl, Thionyl Chloride. The first step towards manufacturing is chlorination which is addition of Mesitylene, TEAB, PEG-400 & HCL into the reactor. Heating the reaction mass to desired temperature is necessary for proper reaction to take place. PF Solution addition is started after completion of reaction. After desired conversion is achieved, separation & washing with water is carried out. After washing chloro mass is distilled, followed by cyanation, distillation, hydrolysis, acidification & centrifugation, drying, again chlorination and lastly distillation to produce pure 2, 4, 6 TMPACL.

On an average 320 Kgs per day of 2, 4, 6 TMPACL was produced by the unit last year. Though mass balance, an effluent of 1280 Kgs per was also produced during the manufacturing.

### 4. Para Chloro Benzyl Chloride (4- ChloroBenzyle Chloride):

Para Chloro Toluene (PCT), AIBN, and Chlorine are the raw materials used in the process of manufacturing of Para Chloro Benzyl Chloride. The first step towards manufacturing is chlorination which is Charging of PCT add AIBN in the reactor with the application of heat. The developed mass of chloro product is distilled under vacuum to produce pure PCBC

While this is one of the key products of Benzochem industries, the demand has been low for the product in the market. Hence, last year this product was not manufactured.

#### 5. Para Chloro Benzyl Cyanide"(4-Chloro Benzyl Cyanide):

The raw materials used in the process of manufacturing of Para Chloro Benzyl Cyanide are Para Chloro Toluene (PCT), AIBN, Chlorine, Sodium Cyanide, TEA, PEG-400, Soda Ash, and Toluene for aqueous layer Extraction. Initially PCT is charged in the reactor along with AIBN and heat is applied to strip  $Cl_2$ . The process is carried out till the desired conversion is achieved. This is followed by distillation to produce pure PCCN.

On an average 130 Kgs per day of PCBC was produced by the unit last year. Through mass balance, an effluent generation of 156 Kgs per day was estimated which is to be treated by the existing effluent treatment plant within the industry premises.

The effluent generation for each chemical and the production rate is summarised in the **Table 1** for Unit-1 of Benzochem Industries.

**Table 1: Average Production and Effluent generation for unit-1**

Sr. No.	Name of the product	Average production per day for 2016-17 (in Kgs)	Effluent Generation per day (in Kgs)
1	2.4 Di Chloro Phenyl Acetyl Chloride (2,4 DCPACL)	385	803
2	2.4 Di Methyl Phenyl Acetyl Chloride (2,5 DCPACL)	1019	3395



3	2,4 Tri Methyl Phenyl Acetyl Chloride (2,4 DCPACL)	320	1280
4	Para Chloro Benzyl Chloride (PCBC)	0	0
5	Para Chloro Benzyl Cyanide (PCCN)	130	156
<b>TOTAL</b>		<b>1854</b>	<b>5,634</b>

## UNIT-2:

### 1. 2-Coumaranone (2C):

The raw materials used in the process of manufacturing 2-COUMARANONE (2C) are Ortho chlorobenzyle cyanide (OCCN); Sodium Hydroxide lye; Copper sulphate; Hydrochloric acid and Acetic anhydride

Firstly, Hydrolysis of OCCN with lye is carried out and this sodium salt of OCPAA is transferred to autoclave, further copper sulphate NaOH lye is added in it, then the product is acidified using HCl in acidifier, the wet OHPAA cake produced is filtered. Distillation is the second last step followed by blending with acetic anhydride.

On an average, 1013 Kgs per day of 2C was produced by the unit last year. Through mass balance, an effluent of 803 Kgs per was also produced during the manufacturing.

### 2. 3- IsoChromanone (3-IC):

Ortho Methyl phenyl acetic acid is charged to reactor along with chloro benzene, AIBN and heated to 90-95°C and subsequently the chlorine gas is purged. After getting desired conversion chlorination is stopped and mass is



cooled, centrifuged and dried to get chloromethyl phenyl acetic acid (CMPAA). The CMPAA is further cyclised using sodium carbonate in toluene at reflux temperature to get crude 3-Iso Chromanone. Finally the pure 3 ISO Chromanone is distilled.

On an average, 334 Kgs per day of 3- ISO CHROMANONE (3-IC) was produced by the unit last year. Through mass balance, an effluent of 2799 Kgs per was also produced during the manufacturing.

### 3. Alpha Bromo-2-Chloro-Phenyl Acetic Acid Methyl Ester:

OCPAA is chlorinated with Thionyl chloride to make Ortho Chloro phenyl acetyl chloride. This reaction mass is then brominated in presence of MCB. After getting desired conversion, the reaction mass is cooled to room temperature and esterified with methanol. Crude mass with is washed with water & then 10% sodium thiosulphate is added. The crude mass is vaccum distilled to achieve the desired product. 2-Chloro phenyl acetic acid (OCPAA); Thionyl chloride; Chloro benzene. (MCB); Bromine; Methanol Sodium Thiosulphate (STS); Toluene are the raw materials used in the process

Similar to PCBC, this is also one of the key products of unit 2, however in the last financial year alpha bromo was not produced in the plant.

On an average, 0.5128 Kgs per day of Para Chloro Phenyl Acetic Acid (PCPAA) was produced by the unit last year. Through mass balance, an effluent of 2488 Kgs per was also produced during the manufacturing.

### 4. Para Chloro Phenyl Acetic Acid (PCPAA):

Distilled PCCN, Caustic lye, Toluene, Sulphuric acid are the raw materials used for manufacture of PCPAA. Crude PCCN is distilled first to achieve high purity and is further fractionate at high vacuum. This pure PCCN is hydrolysed with sodium hydroxide and acidified by sulphuric acid. Centrifuge and drying leads to production of PCPAA.



On an average, 16.77 Kgs per day of MESITALEDEHYDE was produced by the unit last year. Through mass balance, an effluent of 354 Kgs per was also produced during the manufacturing.

**5. 2, 4, 6 Trimethyl Benzaldehyde (Mesitaldehyde) 84% In Acetone:**

The raw materials used in the process of manufacture of Mesitaldehyde are Mesitylene, chloral, Titanium chloride ( $TiCl_4$ ), Methanol, Sodium carbonate ( $Na_2CO_3$ ), Tri ethyl benzyl ammonium chloride (TEBAC). Acetone is used to get 84% solution of mesitaldehyde. Chloral and mesitylene are reacted in presence of titanium chloride. The product obtained is isolated after quenching, the reaction mass is hydrolysed with soda ash to make product mesitaldehyde. Distilled mesitaldehyde is mixed with acetone to get 84% concentration to get the final product.

The effluent generation for each chemical and the production rate is summarised in the **Table 2** for Unit-2 of Benzochem Industries:

**Table 2: Average Production and Effluent generation for unit-2**

Sr. No.	Product Name	Average production per day for last 12 months (in kgs)	Effluent generation per day (Kgs)
1.	2C	1013.00	8398
2.	3IC	334	2799
3.	Mesitaldehyde	16.77	354
4.	Alpha Bromo	0 (in last year)	0
5.	PCPAA	0.5128	2488
<b>TOTAL</b>		<b>1364.28</b>	<b>14,039</b>

## 2.2. Control Systems for Air and Water Pollution:

### 2.2.1. Air:

There are various control systems installed in the units for the control of air pollution. Most of the pollutants are gases which cannot be released into the atmosphere hence scrubbers are installed to recover them. HCL Scrubber, Ammonia Scrubber and the Hydrobromic Acid Scrubber and installed in both the units. The schemes of all these control systems are illustrated below along with a brief description of their process.

#### ➤ HCL Scrubber:

The scrubber can handle 500 kg HCL/hr. During chlorination, Hydrochloric acid gas is generated & this gas is scrubbed in two columns with water circulation in it. Additional third column is also installed in series with caustic solution circulation for neutralisation if necessary. Dilute Hydrochloric acid produced is sold as a by-product or used in house for acidification.

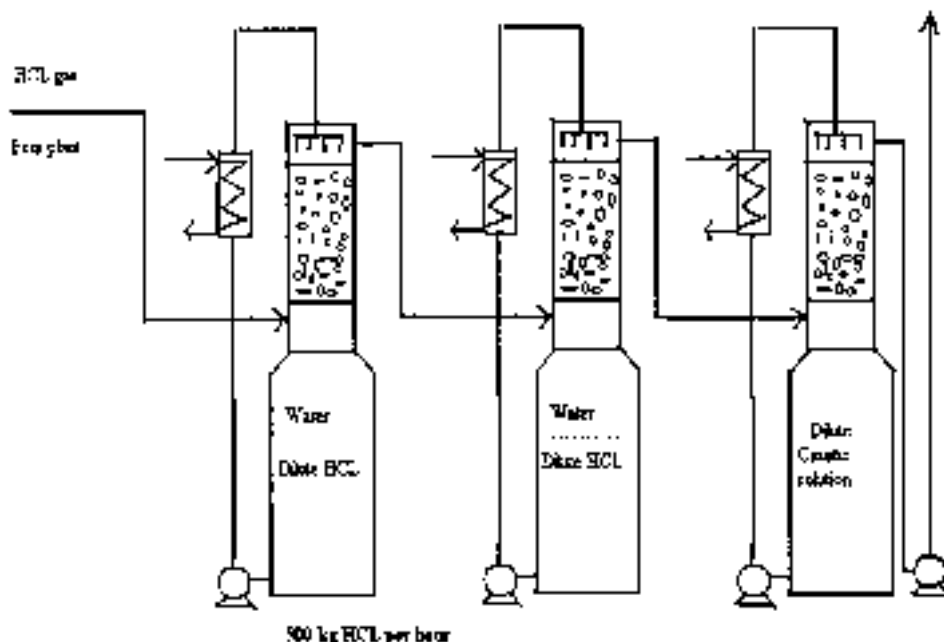
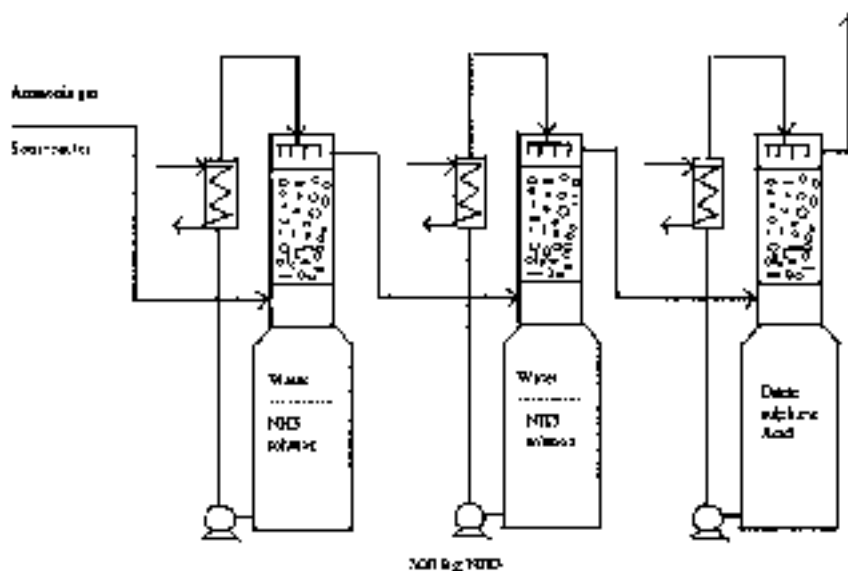


Figure 2: Scheme for the HCL Scrubber

➤ **Ammonia Scrubber:**

The capacity of this control system is 300 kg NH<sub>3</sub>. (Volumetric flow rates 400 m<sup>3</sup>/hr). During the Hydrolyses reaction, ammonia gas is generated and ammonia is scrubbed in the scrubbing system, having total 3 scrubbing column. Ammonia gas generated in reaction is absorbed in water, which circulated through 1st column & 2nd column then blower is connected. Blower outlet is connected to 3rd column, which has circulation of dilute Sulphuric Acid. Circulation where remaining unabsorbed ammonia is neutralized and outlet is let out at height through vertical mounted probe. Ammonia solution of 20-25% is sold as by-product.

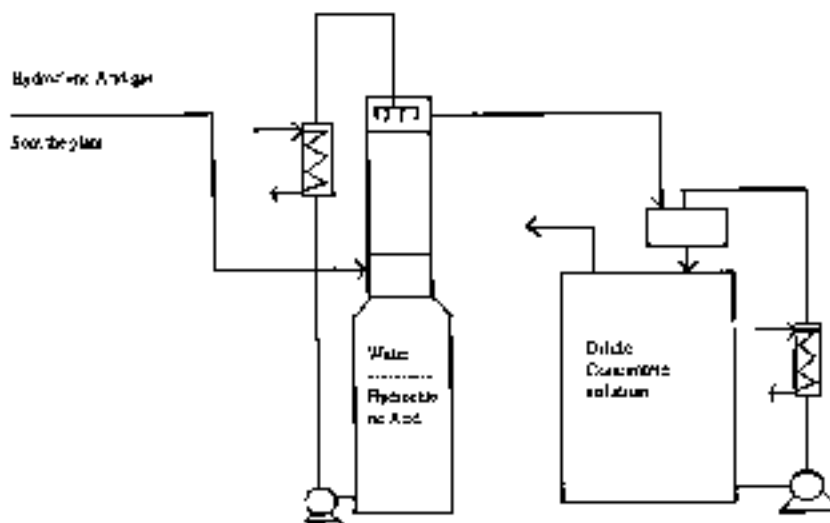


**Figure 3: Scheme of Ammonia Scrubber**

➤ **Hydrobromic Acid Scrubber:**

It has the same capacity as HCl Scrubber. During the bromination, Hydro bromic acid gas is generated, which is scrubbed in water to form Hydrobromic acid solution of 30-35%. Then residual gas is taken in to ejector system, where dilute caustic solution is in circulation, which forms Sodium Bromide. The system is operated under vacuum so no gas is released to air. Hydrobromic acid solution of 30-35% is sold on by-product.





**Figure 4:** Scheme of Hydrobromic Acid Scrubber

Both the units are having similar units with capacities and actual load, as communicated by the industry are given in following tables.

**Unit-1:**

**Table 3: Capacity and Actual Load of Scrubbers in unit-1**

Sr. No.	Scrubber Type	Capacity	Actual Load
1	HCL Scrubber	120 kg/hr	66.33 kg/hr
2	Ammonia Scrubber	100 kg/hr	30.00 kg/hr

## Unit-2:

**Table 4: Capacity and Actual Load of Scrubbers in unit 2**

Sr.No	Scrubber types	capacity	Actual Load
1	HCL scrubber	500 kg/hr	128.53 kg/hr
2	Ammonia Scrubber	300 kg/hr	134.65 kg/hr
3	Hydro bromic acid scrubber	500 kg/hr	55.59 kg/hr

### 2.2.2. Water:

The chemicals manufactured in both the units of Benzochem Industries at Malkapur are complex in nature and hence the effluent also contains lot of chemicals and is to be treated meticulously in order to not to pollute the surrounding water bodies or land. Both the units have separate effluent treatment plant along with multi effect evaporator which helps them maintain a zero liquid discharge policy. The schematics of effluent treatment plants of both units are given in the following **figures 5-7**.

Each of the ETP contains a collection tank to collect and equalise the influent from various production units. The collection tank is followed by neutralisation tank in which lime/caustic is added as per the requirement. Further the water from neutralisation tank is taken to clarifier and further to primary effluent settling tank. Aeration is carried out after settling and followed by secondary clarifier and settling. The water from secondary settling tank is taken to pressure filters and activated carbon filters. Finally the filtered effluent is taken to Multi Effect Evaporator so that there is absolutely not liquid discharge. The salts produced from MEE are sold as by products. The sludge from the clarifiers and settlers are taken to drying beds and sent to hazardous waste facility.

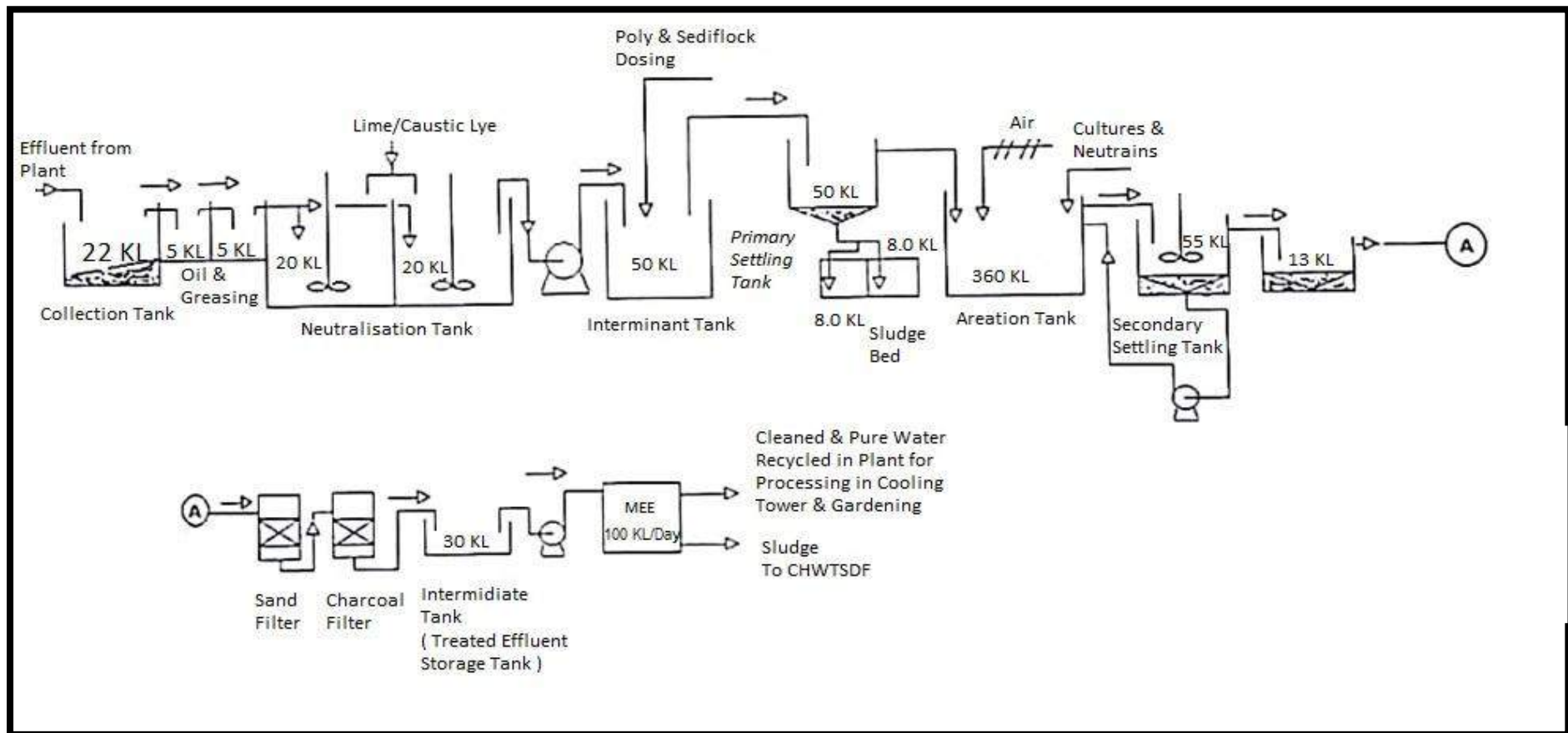
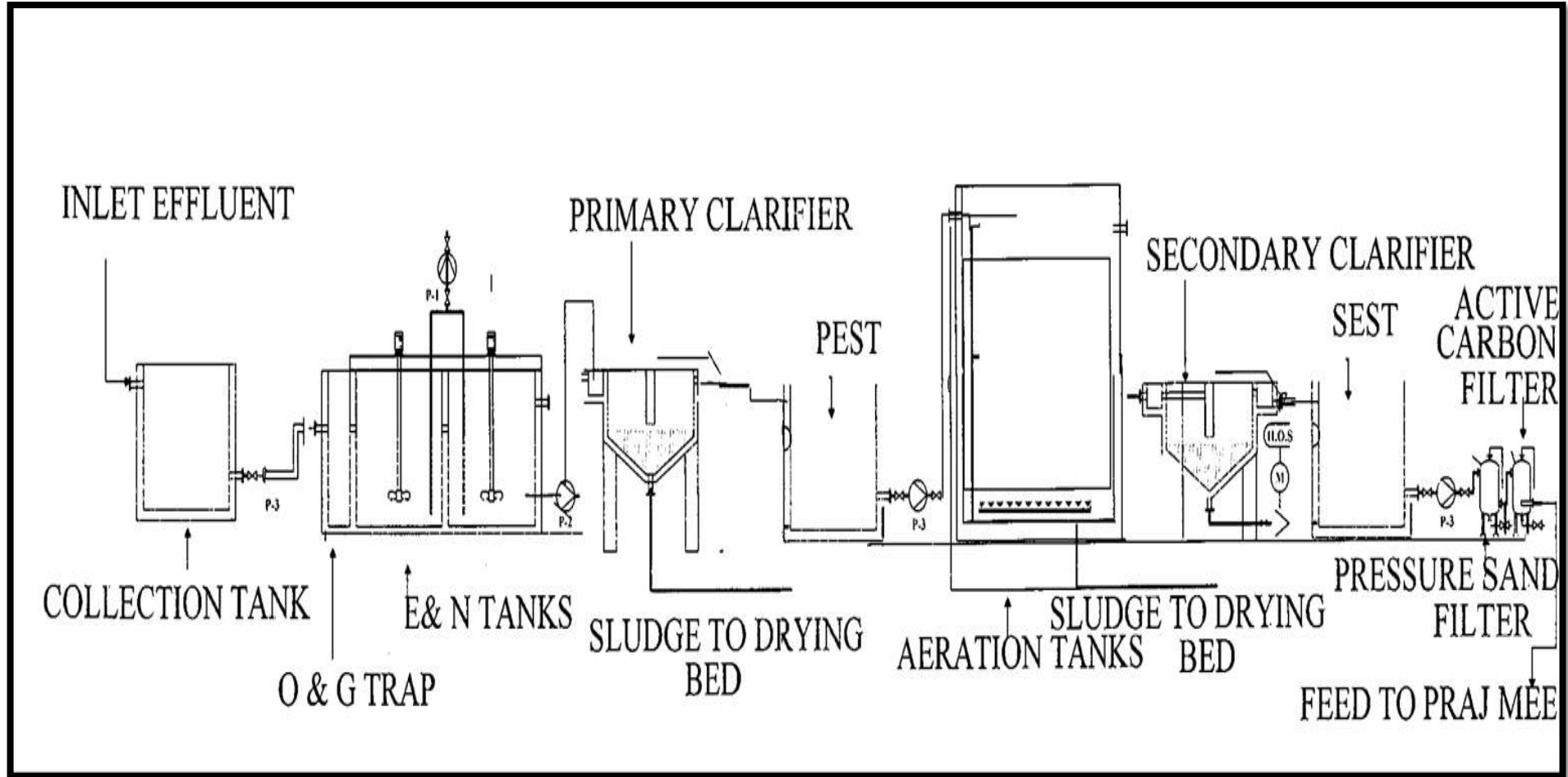


Figure 5: Effluent Treatment Plant of UNIT-1 along with MEE



**Figure 6: Effluent Treatment Plant of UNIT-2**

(Followed by Multi Effect Evaporator (MEE))

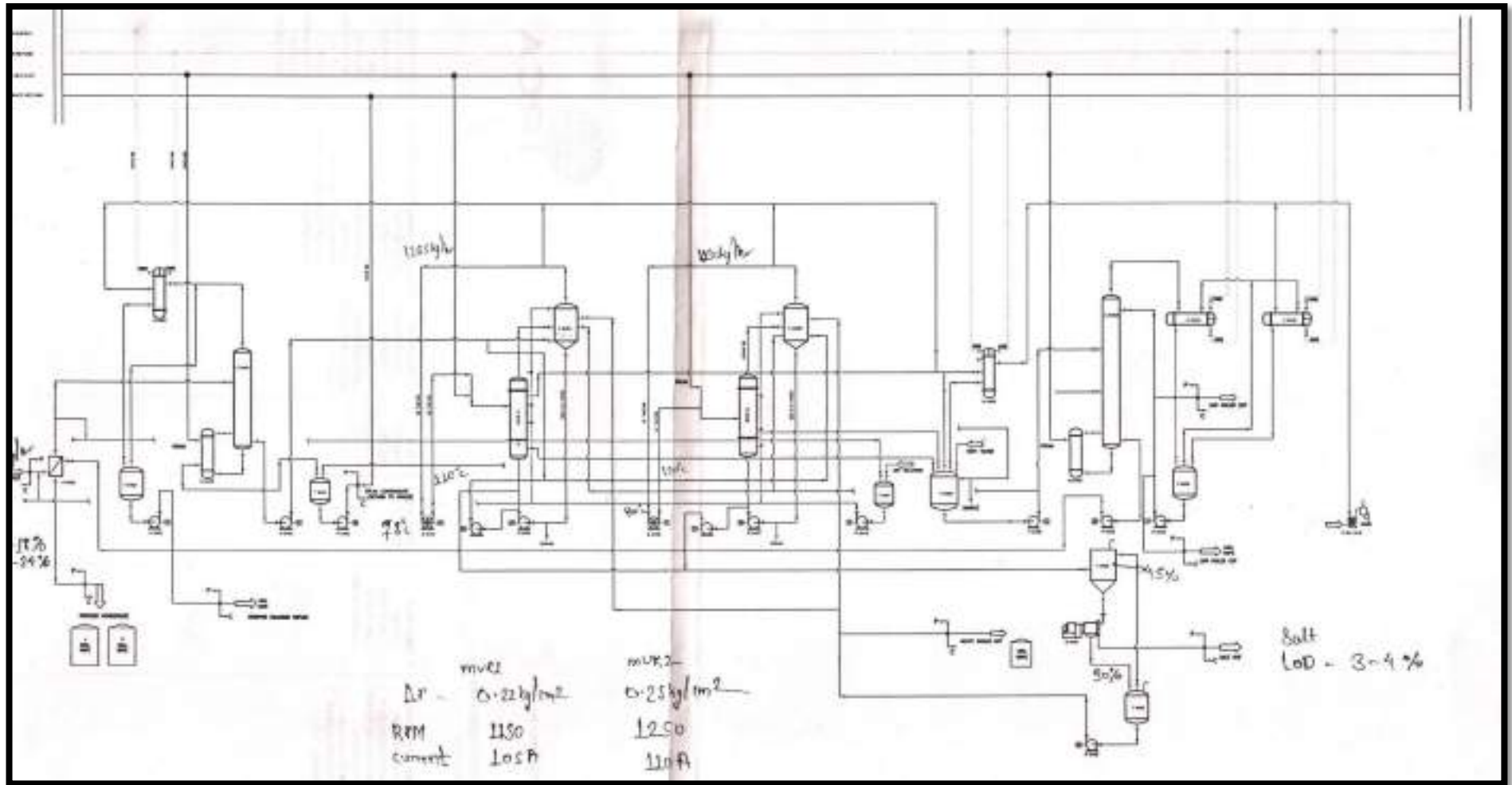


Figure 7: Multi Effect Evaporator



ETP of Unit 1 has a capacity of handling 100 m<sup>3</sup>/day while of unit 2 has a higher capacity of 120 m<sup>3</sup> /day. Unit 1 on an average have produced 5,634 KGs of effluent per day. Even if we assume a wider density range of 800 to 1200, the effluent rate is about 5 to 7 m<sup>3</sup>/day. The unit 1 ETP has more than sufficient capacity for treatment of wastewater.

Similarly, Unit-2 produces an effluent of 14,039 Kgs per day. Using similar density range, the effluent rate is about 12 to 18 m<sup>3</sup>/day; the ETP has sufficient capacity to treat the load.

The actual inlet of ETPs of Unit-1 and 2 along with their output is given in the following tables. This is as per the information received from the industry.

#### Unit-1:

**Table 5: Inlet and Outlet Parameters of ETP at unit-1**

Sr. No.	Parameter	ETP Inlet	Treated Effluent(MEE Outlet )
1	pH	1 to 5	7 to 8
2	SS	50 to 200	5 to 60
3	BOD	1000 to 1200	5 to 25
4	COD	20000 to 30000	150 to 200
5	Oil & Grease	4 to 25	< 1 to BDL
6	TDS	25000 to 35000	800 to 1600
7	Chloride	11000 to 18000	200 to 500
8	Sulphate	7000 to 10000	80 to 350
9	Cyanide	< 0.001 to BDL	< 0.001 to BDL

**Note: All parameter are in PPM except pH**



**Unit-2:**

**Table 6: Inlet and Outlet Parameters of ETP at unit-2**

<b>Sr. No</b>	<b>Parameter</b>	<b>ETP Inlet</b>	<b>Treated Effluent (MEE outlet )</b>
1	pH	2 to 3	7.5 to 8.7
2	SS	70 to 110	10 to 45
3	BOD	320 to 3500	10 to 40
4	COD	25000 to 30000	70 to 230
5	Oil & Grease	2.3 to 25	< 1 to Nil
6	TDS	18000 to 52000	180 to 600
7	Chloride	1700 to 8500	110 to 500
8	Sulphate	1500 to 8000	150 to 420
9	Cyanide	< 0.001 to BDL	< 0.001 to BDL
<b>Note: All parameter in PPM except pH</b>			

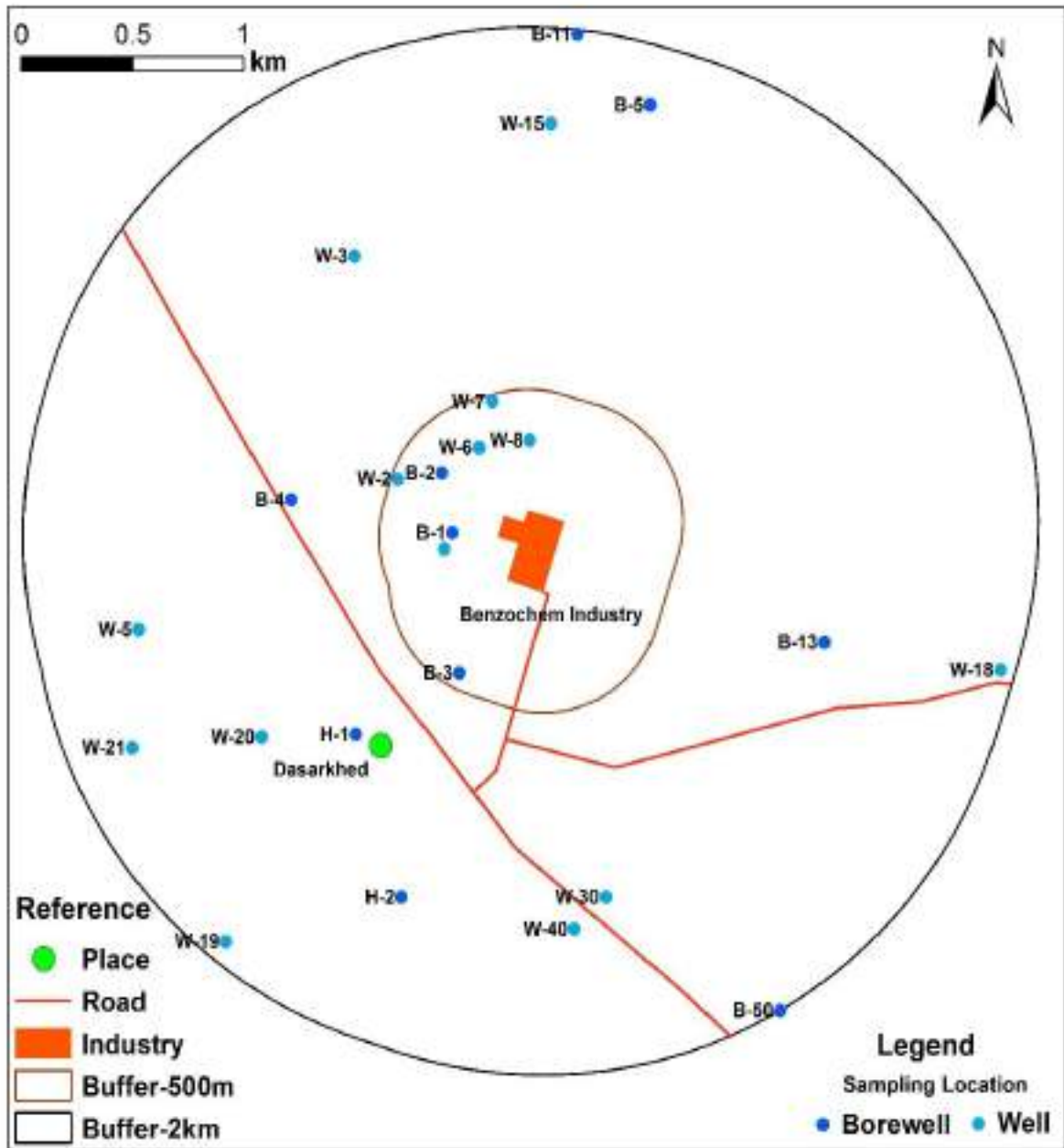


## Chapter 3 – DATA COLLECTION AND ANALYSIS

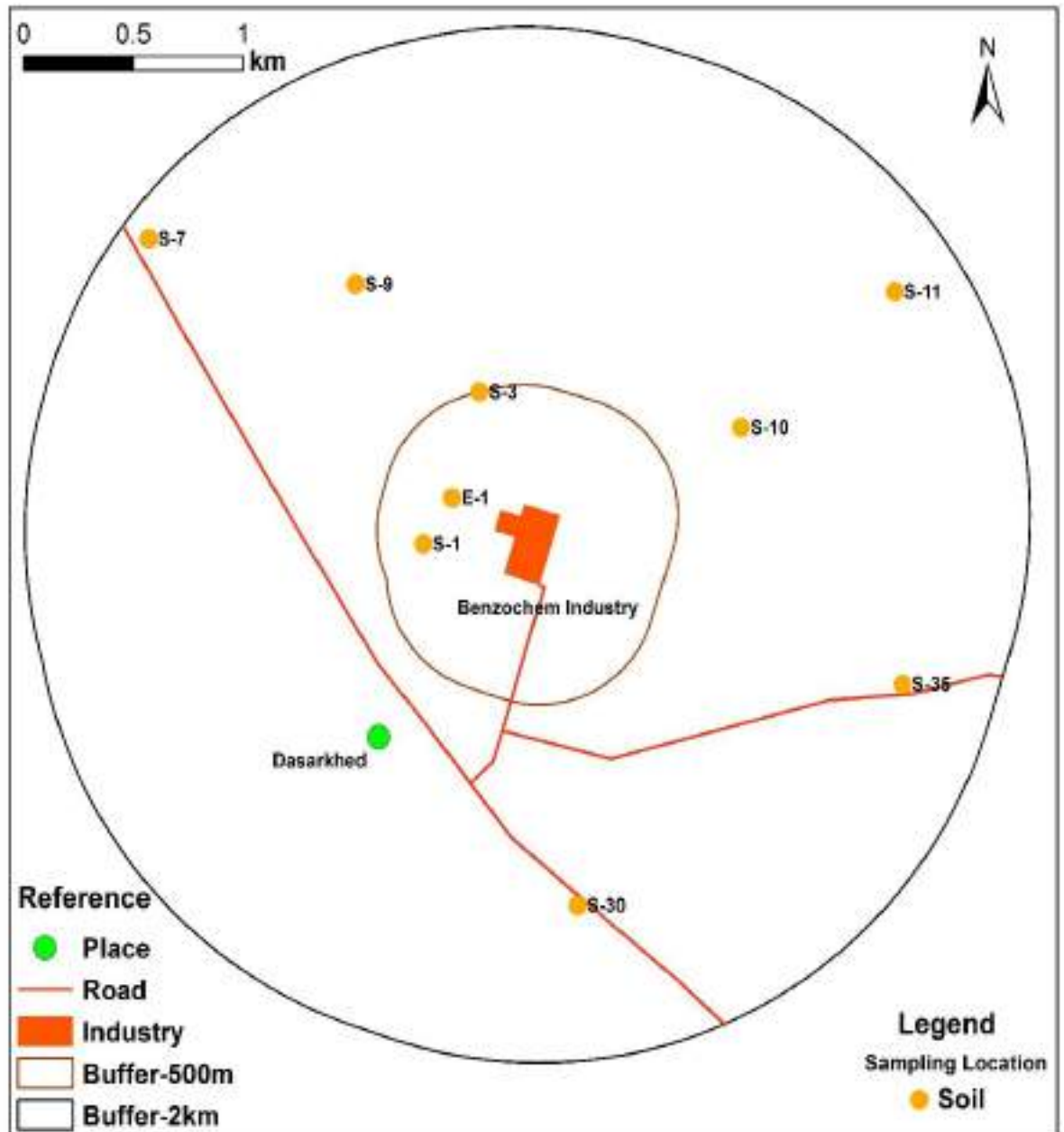
### 3.1. Data Collection:

Sampling locations were decided based on various factors like buffer zones of 500 m and 2 km, accessibility, drainage of the region etc. The study of water and soil environment was conducted by CSIR-NEERI officials at 19-21 March, 2018. The ground water samples were collected from open dug well bore well and hand pump during the field visit, preserved and brought to lab for analysis. The onsite parameters like pH, Dissolved Oxygen, Temperature, Total Dissolved solids were measured and recorded. The following **Figure 8 and 9** indicates the sampling locations of water and soil respectively, in the 500m and 2 km buffer. The details of the sampling locations are given in the **Table7 and 8**. Data collection by team of CSIR-NEERI along with local and company representatives are shown in photographs.





**Figure 8:** Water Sampling Locations in 500m and 2 km Buffer



**Figure 9:** Soil Sampling Locations in 500m and 2 km Buffer



**Table 7: Soil Sampling Locations**

<b>Sample ID</b>	<b>Latitude</b>	<b>Longitude</b>
S-3	20° 58' 41.944" N	76° 11' 10.790" E
S-1	20° 59' 29.976" N	76° 11' 33.659" E
S-35	20° 58' 2.136" N	76° 12' 13.172" E
S-30	20° 57' 31.993" N	76° 11' 25.246" E
S-7	20° 59' 2.792" N	76° 10' 21.985" E
S-9	20° 58' 56.624" N	76° 10' 52.480" E
S-10	20° 58' 37.093" N	76° 11' 49.358" E
S-11	20° 58' 55.596" N	76° 12' 11.973" E



**Table8:Bore well and Well Sampling Locations**

<b>Sample ID</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Depth Well</b>
B-1	20° 58' 23.617" N	76° 11' 6.356" E	850
B-11	20° 59' 30.743" N	76° 11' 24.612" E	0
B-13	20° 58' 8.868" N	76° 12' 0.648" E	900
B-2	20° 58' 31.627" N	76° 11' 4.783" E	575
B-3	20° 58' 4.731" N	76° 11' 7.345" E	200
B-4	20° 58' 28.031" N	76° 10' 42.809" E	900
B-5	20° 59' 21.199" N	76° 11' 35.214" E	700
B-50	20° 57' 19.313" N	76° 11' 54.150" E	0
E-1	20° 58' 27.565" N	76° 11' 6.715" E	0
H-1	20° 57' 56.444" N	76° 10' 52.309" E	0
H-2	20° 57' 34.574" N	76° 10' 58.904" E	230
W-1	20° 58' 21.418" N	76° 11' 5.136" E	50
W-15	20° 59' 18.679" N	76° 11' 20.713" E	100
W-18	20° 58' 5.138" N	76° 12' 26.302" E	110
W-19	20° 57' 28.580" N	76° 10' 33.281" E	70
W-2	20° 58' 30.835" N	76° 10' 58.379" E	0
W-20	20° 57' 56.110" N	76° 10' 38.500" E	115
W-21	20° 57' 54.680" N	76° 10' 19.657" E	80
W-3	20° 59' 0.833" N	76° 10' 52.096" E	100
W-30	20° 57' 34.574" N	76° 11' 28.734" E	150
W-40	20° 57' 30.262" N	76° 11' 24.148" E	100
W-5	20° 58' 10.574" N	76° 10' 20.564" E	100
W-6	20° 58' 35.062" N	76° 11' 10.248" E	0
W-7	20° 58' 41.271" N	76° 11' 12.140" E	0
W-8	20° 58' 36.052" N	76° 11' 17.693" E	0

**Pictures showing Sample Collection and On-site Measurement:**



Dug well from which the Sample was taken



Borewell Sampling



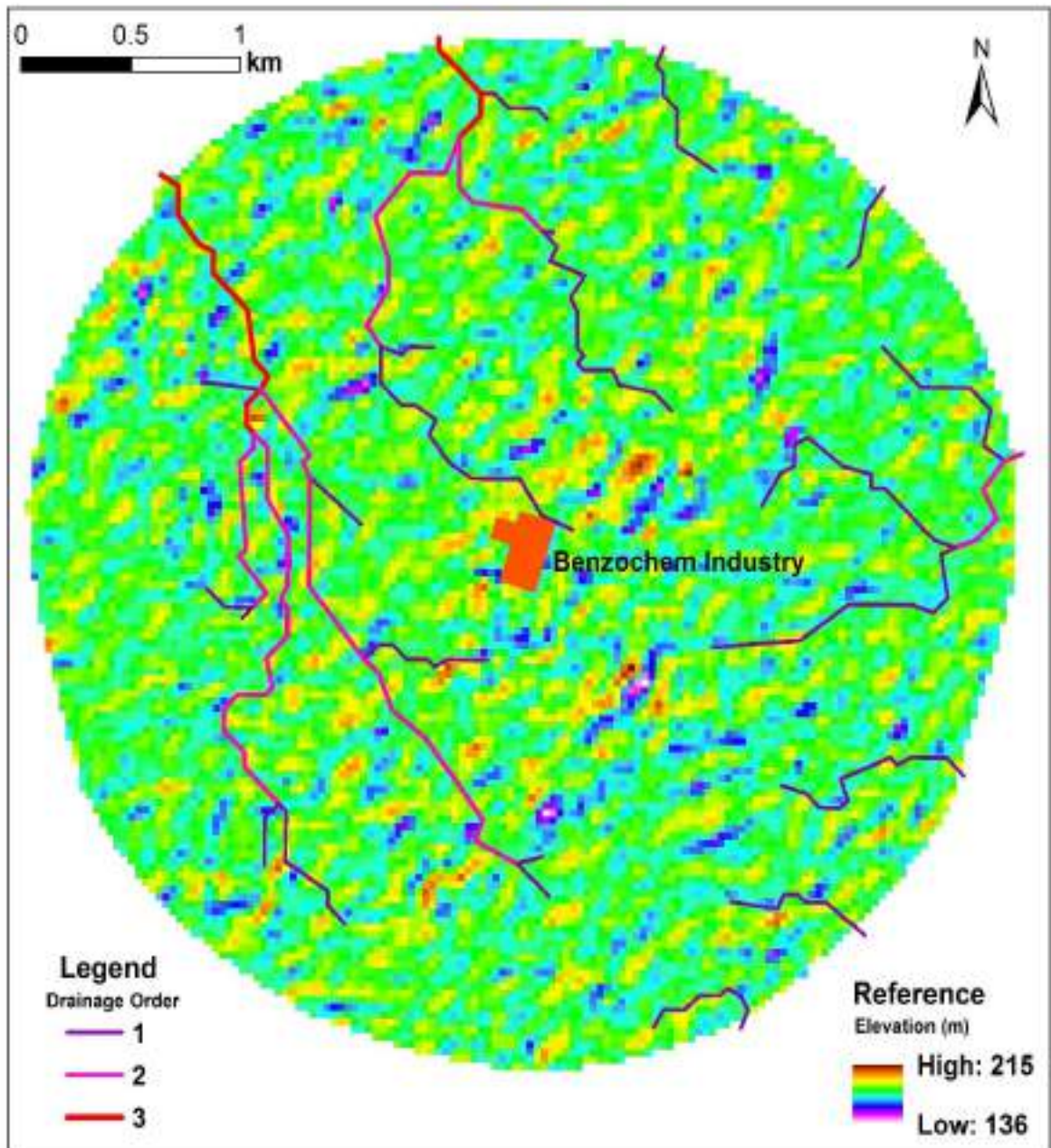
Onsite TDS, pH measurement

Soil Sampling



Sampling at Quarry Pit excavated area

Further, Advanced Spaceborne Thermal Emission and Reflection Radiometer Digital Elevation Model (ASTER DEM) having 30m spatial resolution was used to see the elevation of the study area and the DEM was downloaded from [usgs.gov/earth explorer](http://usgs.gov/earth_explorer). Elevation range of the study area is varying from 136 to 215 metre from the mean sea level. DEM was further used for stream ordering using ArcMap 10.5 software. The study area obtained 1<sup>st</sup> to 3<sup>rd</sup> order of drainages and most of the drainages are flowing in north-west direction towards Purna River and some are flowing in east direction. Drainage and DEM is shown in **Figure 10**.



**Figure 10:** Drainage and DEM of the 2km Buffer



### 3.2. Sample Preparation:

The water samples were extracted with Dichloromethane by the conventional liquid- liquid extraction method. The samples were first filtered with Whatman paper No.42 to remove the suspended solids. The compounds to be detected were all soluble in DCM, hexane, toluene and acetone. One litre of the filtered sample was taken in a separating funnel and extracted with 20 ml aliquots of DCM threetimes. The organic layer was allowed to separate for 10 minutes and passed through anhydrous sodium sulphate to remove any moisture from DCM. The organic solvent was concentrated using a rotary evaporator to dryness and then reconstituted with 1-2ml DCM. The reconstituted volume was again passed through anhydrous sodium sulphate as a precaution to remove any trace of moisture and transferred into vials for GC-MS/MS analysis.

The soil sample was prepared for GC-MS analysis by performing the soxhlet extraction. 10g of sieved (10 mm ASTM) soil and 10g Sodium sulphate were kept in a extraction thimble (Whatman 28mmx100mm , single thickness, cellulose) and soxhlet extraction was performed with dichloromethane at 40°C. The extraction was done for 20 cycles and extract was evaporated in rotary evaporator to dryness. The extract was reconstituted with 5 mL DCM and analysed by GC-MS.

All standards of the major Chemicals used for the production were obtained from Benzochem Industries along with the finished products with 99% purity (**Table 9**). The standards were prepared in the concentration range 0.1-5 mg/L. The analysis was done using GC-MS/MS





**Table 9: Major Raw Materials and finished products**

<b><i>Finished Products</i></b>	<b><i>Raw Materials</i></b>
2-Coumaranone	Ortho chloro benzyl cyanide (OCBC)
3-Coumaranone	O-Methyl Phenyl Acetic Acid (OMPAA)
Alpha Bromo Ortho Chloro Phenyl Acetic Acid Methyl Ester(OCPM)	O-Chloro Phenyl Acetic Acid (OCPAA)
Para Chloro Phenyl Acetic Acid (PCPAA)	Para chloro benzyl cyanide
Mesitaldehyde	Mesitylene

### **3.3. GC-MS/MS Analysis:**

The GC-MS analysis was carried out on a MS MODEL- CLARUS 600 C mass spectrometer and Turbo mass Software equipped with a GC CLARUS 680. The Method used was as given below:

Column- Capillary DB-5, Detector- MS

Scan time- 40-350 min, EI +Total Run time- 55min

Oven temperature program:

Initial temp - 50°C for 20 minutes.

Ramp 1- 10°C/min to 80°C, hold for 8 min.

Ramp 2- 5°C/min to 100°C, hold for 5 min.

Ramp 3- 10°C/min to 280°C, hold for 10 min.

### **3.4. Water Quality Analysis:**

The analysis for various physicochemical parameters of the samples was carried out as per Standard Methods for Examination of Water & Wastewater, 2017, 23rd edition.



The open dug well water quality is presented in **Tables 10-12**. It was observed that samples W1, W2, W6, W7 and W8 have high Total Dissolved Solids, Total Hardness, Calcium, Magnesium and Chlorides. According to the CPCB water quality for irrigation purposes. In general, all the samples were within 500m of the industry as seen in **Figure 11**. The sample W6 and W8 have pH in acidic range of 6.3 and 6.1, respectively and W3 sample had an alkaline pH of 8.9 which is beyond the permissible limits for irrigation purposes. The samples W1, 2, 3, 5, 7, 8, 15, 18, 19, 21 have conductivity beyond 2250  $\mu\text{S}/\text{cm}$ , which is Water Quality Criteria for designated best use in irrigation purposes. The sample from W1 which falls behind the Benzochem and adjacent paper mill industry is a very old well (1952) but not in use since 1994 has 5300mg/L Total Dissolved solids (TDS), very high suspended solids (1710 mg/L) and Chloride concentration of 2447 mg/L indicating saline water. The samples from W6, W7 and W8 had TDS of 7700, 9100 and 25700 mg/L and have not been in use for the past five years. The other well samples, W6, 20, 30 and 40 between 500m and 2 km radius had Total Dissolved solids in the range 608 -1800 mg/L.

**Table 10** gives the organic and nutrient parameter characteristics of well waters. The COD value of sample within the 500m boundary varied between 39 -313 mg/L. Extremely high value of 4152 mg/L in terms of Chemical Oxygen Demand (COD) was observed in W8 sample, which also falls within 500m radius of the industry indicating contamination of well from outside sources.

11 metals were analysed for the well waters using ICP-OES. Samples were filtered and preserved with nitric acid as per procedure before analysis. They were in the range 0.685 -15.914 mg/L in the samples within 500m of the industry. The water quality criteria for Boron is 2mg/l for irrigation purposes and all samples meet within this criteria.

The water quality of bore well and hand pump is given in **Tables 12-14**. The bore well and hand pump water are used for drinking and irrigation purposes. The pH of all samples is within range; however, the TDS is higher than permissible limits for sample B1 and B3. The water of B1, 2, 3, 11 and H1 are hard water with total



hardness above 600 mg/L permissible limit according to prescribed limits for drinking water. The nitrate levels of both the hand pumps are beyond permissible limits of 45 mg/L. B1 sample has more than acceptable limits for Total Chromium, Iron and lead. All samples except B11 and H2 are showing iron concentrations above acceptable limit for drinking water of 0.3 mg/L. Lead contamination in water is also seen for B2 and 3, whereas Nickel is seen above permissible limit for B3, 4, 11, 50 and both the hand pumps.

**Table 16** gives the list of fine chemicals which were analysed for the water samples along with the retention time and m/z ratios in GC-MS/MS spectra. The first m/z fragment gives the molecular ion at m/z with other m/z fragments. The raw materials used and the finished products both could be identified by GC-MS/MS and the spectra is presented in Annexure-I. The compounds are further confirmed through already loaded NIST Library in MS records.

The results obtained for water samples for the presence of fine chemicals are given in **Table 17**. It is observed that all open dug well W1, W7 and W8 samples falling within the 500m radius are contaminated. Mesitaldehyde chemical was observed in the concentration range 0.00021-0.0013mg/L. 2 Coumarone was detected in W1, 7 and 8 samples. O-Chloro benzyl cyanide was detected in samples W7 and W8. O Methyl Phenyl acetic acid and para Chloro Phenyl acetic acid were found present in W8 sample(See Annexure I). It may be noted that the chemical oxygen demand of the dug well samples within 500m radius except W2 are in the range 296-4152 mg/L, indicating high amount of organic in well waters.

**Table 18** presents the water quality of Bore well and hand pump sample with respect to fine chemicals. It is observed that fine chemicals were not detected in these waters in all the locations.

### 3.5. Soil quality:

Soil samples were collected from 15cm and 30cm depth for characterization from sampling points located in all directions from the industry keeping topography of



the land as reference. Standard Operating Procedures for soil analysis, as laid down by CSIR-NEERI (NABL accredited), was performed.

The general soil characteristics are presented in **Table 19**. Soil pH or soil reaction is an indication of the acidity or alkalinity of soil and is measured in pH units. Soil pH is defined as the negative logarithm of the hydrogen ion concentration. The pH scale goes from 0 to 14 with pH 7 as the neutral point. As the amount of hydrogen ions in the soil increases, then the soil pH decreases thus becoming more acidic. From pH 7 to 0 the soil is increasingly more acidic and from pH 7 to 14 the soil is increasingly more alkaline or basic. It is observed that the soil in the study area is slightly alkaline to moderately alkaline. The effect of soil pH is great on the solubility of minerals or nutrients. Fourteen of the seventeen essential plant nutrients are obtained from the soil. Before a nutrient can be used by plants it must be dissolved in the soil solution. Most minerals and nutrients are more soluble or available in acid soils than in neutral or slightly alkaline soils.

Phosphorus is never readily soluble in the soil but is most available in soil with a pH range centered around 6.5. Extremely and strongly acid soils (pH 4.0-5.0) can have high concentrations of soluble aluminium, iron and manganese which may be toxic to the growth of some plants. A pH range of approximately 6 to 7 promotes the most ready availability of plant nutrients. The soil has a slightly alkaline to moderately alkaline pH; hence Phosphorus is unlikely to be available to plants as nutrients. Total Phosphate concentrations were found to be in the range 0.78-27.3 kg/ha as P.

Soil electrical conductivity (EC) is a measurement that correlates with soil properties that affect crop productivity, including soil texture, cation exchange capacity (CEC), drainage conditions, organic matter level, salinity, and subsoil characteristics. Electrical conductivity (EC) is the most common measure of soil salinity and is indicative of the ability of an aqueous solution to carry an electric current. Plants are detrimentally affected, both physically and chemically, by excess salts in some soils and by high levels of exchangeable sodium in others.



The electrical conductivity of soils varies depending on the amount of moisture held by soil particles. Sands have a low conductivity, silts have a medium conductivity, and clays have a high conductivity. Consequently, EC correlates strongly to soil particle size and texture. The soils in the periphery of the industry are in the range w.r.t Conductivity measurements.

Potassium (K) is an essential nutrient for plant growth. It's classified as a macronutrient because plants take up large quantities of K during their life cycle. Potassium is associated with the movement of water, nutrients and carbohydrates in plant tissue. It's involved with enzyme activation within the plant, which affects protein, starch and adenosine triphosphate (ATP) production. The production of ATP can regulate the rate of photosynthesis.

Potassium also helps regulate the opening and closing of the stomata, which regulates the exchange of water vapour, oxygen and carbon dioxide. If K is deficient or not supplied in adequate amounts, it stunts plant growth and reduces yield. The available Potassium in the soil up to 15 cm and 30 cm depth, within 500m radius, were in the concentration range 139-796 kg/ha and 155-670 kg/ha, respectively. Soil samples up to 15 cm and 30 cm depth, within the 2km periphery had 351-998 kg/ha and 321-755 kg/ha.

Available nitrogen reflects the release of mineral nitrogen from organic matter by soil microorganisms. It is measured in milligrams of nitrogen per kilogram of soil (mg/kg) and is also known as potentially mineralizable nitrogen. Values of soil nitrogen supply can be classed into one of five descriptive categories from "Very Low" to "Very High". The higher the value for soil nitrogen supply the more likely it is that the microorganisms in a soil will convert more organic nitrogen into mineral nitrogen for plant uptake.

However, in coarse textured soils with higher values of soil nitrogen supply, it is also more likely that nitrate will be leached down the soil profile out of reach of plant roots and possibly into waterways. Intermediate levels of soil nitrogen supply provide a balance between maximizing nitrogen availability for plant



uptake and minimizing the risk of nitrate leaching. The samples from all locations in the study area were found to have very low (< 140 kg/ha) to low category (140-280 kg/ha) available nitrogen in the soil. The sample from location S11 was found to have medium quality soil with respect to available nitrogen.

The metals in the soil sample were analysed after digestion with concentrated nitric acid and the results are given in **Table 20**. It is observed that the metals concentrations in all soil samples were in the range commonly found in soil. The soil samples up to 30 cm did not show any presence of the fine chemicals studied **Table 15**.

The soil sample from Quarry pit was also analysed and the results are presented in **Table 21**. The pH was found to be 7.5 i.e. moderately alkaline with low conductivity (0.082 dS/m). The available nitrogen and Potassium were 906 and 130 kg/ha, respectively. No significant concentrations of metals were found in the sample (**Table 22**).

The sample showed presence of mestiladehydewhen the soxhlet extract was subjected to GC –MS/MS analysis (Table 23).All chromatograms of standards and samples are presented in **Annexure I**.



**Table 10: Water Quality of open Dug Wells: Physico-Chemical parameters**

Sr. No.	Sample	pH	DO	Temp °C	Alkalinity	Cond $\mu\text{S/cm}$	TSS	TDS	Total Hardness $\text{CaCO}_3$	Ca	Mg	Chloride	Na	K	SAR
<b>CPCB Water Quality Criteria for irrigation</b>		<b>6.5-8.5</b>	-		-	<b>2250</b>	-	-	-	-	-	-	-	-	<b>26</b>
1	<b>W1</b>	6.6	4.2	20.3	160	<b>7600</b>	1710	5300	4220	808	528	2447	1700	28	11.4
2	<b>W2</b>	7.5	3.0	18.8	60	<b>6900</b>	22	4800	2000	336	278.4	1552	630	10	6.1
3	<b>W3</b>	<b>8.9</b>	1.3	18.2	164	<b>1840</b>	462	1300	590	60	105.6	208	420	1	7.5
4	<b>W5</b>	7.5	4.8	22.6	112	<b>1980</b>	6	1300	720	112	105.6	416	34	0.4	0.2
5	<b>W6</b>	<b>6.3</b>	1.3	21	148	1140	94	7700	9120	1680	1180.8	4140	900	0.6	3.7
6	<b>W7</b>	6.5	2.5	22	148	<b>12900</b>	6	9100	8900	880	1608	5705	1020	0.6	5.1
7	<b>W8</b>	<b>6.1</b>	0.2	20.8	220	<b>36300</b>	156	25700	16280	4320	1315	9971	2640	1.0	10.9
8	<b>W15</b>	7.5	4.2	24	72	2200	10	1500	480	80	67.2	575	12	0.2	0.2
9	<b>W18</b>	7.9	5.2	23	80	1800	24	1300	500	104	57.6	370	10	0.2	0.2
10	<b>W19</b>	8.5	5.9	20	20	<b>2300</b>	6	1600	450	116	38.4	884	66	0.4	1.4
11	<b>W20</b>	8.2	5.4	21.2	80	1980	10	1300	1000	59.2	204	668	13	0.2	0.2
12	<b>W21</b>	7.7	4.0	21	72	<b>2600</b>	8	1800	740	112	110.4	925	36	0.4	0.6
13	<b>W30</b>	7.7	3.8	23.5	100	870	6	608	360	72	43.2	109	110	0.4	2.5
14	<b>W40</b>	7.9	0.9	21	88	1000	8	716	380	67.2	51	92	111	3.2	2.5

\*Units are mg/l except for pH, temperature, SAR (sodium absorption ratio) and conductivity.



**Table 11: Water Quality of open dug wells: Organic and nutrient parameters**

<b>Sample</b>	<b>COD</b>	<b>Sulphate</b>	<b>Phosphate PO<sub>4</sub></b>	<b>Nitrate</b>
<b>CPCB Water Quality Criteria for irrigation</b>	-		-	-
<b>W1</b>	296	350	BDL	<b>70</b>
<b>W2</b>	39	160	BDL	<b>67</b>
<b>W3</b>	63	BDL	BDL	4
<b>W5</b>	14	66	BDL	<b>55</b>
<b>W6</b>	313	491	BDL	<b>52</b>
<b>W7</b>	274	428	BDL	44
<b>W8</b>	4152	462	BDL	BDL
<b>W15</b>	155	91	BDL	<b>47</b>
<b>W18</b>	106	119	BDL	<b>67</b>
<b>W19</b>	91	150	BDL	7.0
<b>W20</b>	98	24	BDL	<b>61</b>
<b>W21</b>	120	33	BDL	<b>70</b>
<b>W30</b>	95	96	BDL	38
<b>W40</b>	81	28	BDL	26

\*Units are mg/L





**Table 12: Water Quality of open dug wells: Metals**

<i>SAMPLE</i>	<i>Al</i>	<i>B</i>	<i>Cd</i>	<i>Co</i>	<i>T. Cr</i>	<i>Cu</i>	<i>Fe</i>	<i>Mn</i>	<i>Ni</i>	<i>Pb</i>	<i>Zn</i>
<b>CPCB Water Quality Criteria for irrigation</b>	-	2	-	-	-	-	-	-	-	-	-
<i>W1</i>	3.57	0.180	0.003	BDL	0.026	0.055	15.914	5.85	BDL	0.009	0.030
<i>W2</i>	0.00	0.445	BDL	0.063	0.033	0.010	2.676	0.11	BDL	0.009	BDL
<i>W3</i>	2.08	0.050	0.001	BDL	0.012	0.020	6.352	0.56	BDL	0.004	BDL
<i>W5</i>	BDL	0.184	BDL	BDL	0.034	BDL	0.953	0.02	BDL	0.009	BDL
<i>W6</i>	BDL	0.423	BDL	BDL	0.010	BDL	2.200	12.93	BDL	0.003	BDL
<i>W7</i>	BDL	0.943	BDL	BDL	0.004	0.005	0.685	15.99	BDL	0.016	0.008
<i>W8</i>	BDL	0.718	BDL	BDL	0.004	0.005	9.454	22.26	BDL	0.015	0.022
<i>W15</i>	BDL	0.133	BDL	BDL	0.027	BDL	1.075	0.01	BDL	0.003	BDL
<i>W18</i>	0.52	0.012	BDL	BDL	0.012	0.005	1.684	0.15	BDL	0.023	0.062
<i>W19</i>	0.15	0.712	BDL	BDL	0.029	BDL	0.410	BDL	BDL	0.007	0.014
<i>W20</i>	BDL	0.144	BDL	BDL	0.030	BDL	0.417	BDL	BDL	0.005	BDL
<i>W21</i>	BDL	0.139	BDL	BDL	0.031	0.002	0.367	BDL	BDL	0.042	BDL
<i>W30</i>	BDL	0.076	BDL	BDL	0.034	0.001	0.973	0.05	BDL	0.059	0.015
<i>W40</i>	0.07	0.125	0.002	BDL	0.288	0.072	14.176	1.95	BDL	0.068	0.114

\*Units are mg/L



**Table 13: Water Quality of Bore Wells and Hand pump: Physico-Chemical parameter**

Sr No	Sample	pH	DO	Temp °C	Alkalinity	Cond mS/cm	TSS	TDS	Depth (ft.)	Total Hardness CaCO <sub>3</sub>	Ca	Mg	Chloride	Na	K
<b>IS 10500:2012</b> Acceptable/ Permissible		6.5-8.5	-		200/600	-	-	500/2000	-	200/600	75/200	30/100	250/1000	-	
1.	<b>B1</b>	7.8	0.74	31	12	3.1	10	<u>2200</u>	850	<u>1360</u>	160	<u>230</u>	<u>1059</u>	646	0.8
2.	<b>B2</b>	8.3	3.6	31	8	2.6	8	<u>1800</u>	575	<u>700</u>	164	69.6	<u>1007</u>	490	0.8
3.	<b>B3</b>	7.0	3.4	25	112	3.6	4	<u>2500</u>	200	<u>1040</u>	<u>240</u>	<u>105.6</u>	997	720	0.4
4.	<b>B4</b>	7.3	2.5	30	64	2.9	6	<u>2000</u>	900	500	136	38.4	781	380	0.6
5.	<b>B5</b>	8.7	4.0	25	68	5.5	10	387	700	300	56	38.4	142	52	1.6
6.	<b>B11</b>	8.3	4.5	22	8	2.0	12	1400		<u>900</u>	80	<u>168</u>	399	362	0.8
7.	<b>B13</b>	8.1	0.85	27	20	1.8	2	1300	900	400	134.4	15.36	378	92	0.6
8.	<b>B50</b>	8.2	5.5	27	52	1.0	BDL	716		184	54.4	5.04	124	256	3.2
9.	<b>H1</b>	7.6	3.3	25.3	100	16.3	BDL	1100		<u>680</u>	43.2	<u>137.28</u>	230	342	2
10.	<b>H2</b>	7.4	1.5	26	108	1.1	BDL	734	230	440	88	52.8	201	140	4

\*Units are mg/L except for pH, temperature and conductivity



**Table 14: Water Quality of Bore Wells and Hand pump:Organic and nutrient parameters**

<b>Sample</b>	<b>COD</b>	<b>Sulphate</b>	<b>Phosphate PO<sub>4</sub></b>	<b>Nitrate</b>
<b>IS 10500:2012</b>	<b>-</b>	<b>200/400</b>		<b>45</b>
<b>B1</b>	BDL	112	BDL	9
<b>B2</b>	BDL	160	BDL	8
<b>B3</b>	BDL	150	BDL	33
<b>B4</b>	BDL	4	BDL	5
<b>B5</b>	BDL	214	BDL	9
<b>B11</b>	BDL	114	BDL	12
<b>B13</b>	BDL	94	BDL	18
<b>B50</b>	BDL	56	BDL	30
<b>H1</b>	7.0	74	BDL	68
<b>H2</b>	BDL	58	BDL	61

\*Units are mg/L.



**Table 15: Water Quality of Bore well and Hand pump: Metal**

<i>SAMPLE</i>	<i>Al</i>	<i>B</i>	<i>Cd</i>	<i>Co</i>	<i>T. Cr</i>	<i>Cu</i>	<i>Fe</i>	<i>Mn</i>	<i>Ni</i>	<i>Pb</i>	<i>Zn</i>
<i>IS 10500:2012</i>	<b>0.03/0.2</b>	<b>0.5/1.0</b>	<b>0.003</b>	-	<b>0.05</b>	<b>0.05</b>	<b>0.3</b>	<b>0.1/0.3</b>	<b>0.02</b>	<b>0.01</b>	<b>5</b>
<i>Detection Limit</i>	<b>0.011</b>	<b>0.0015</b>	<b>0.0015</b>	<b>0.003</b>	<b>0.0015</b>	<b>0.0034</b>	<b>0.0003</b>	<b>0.0008</b>	<b>0.0008</b>	<b>0.0067</b>	<b>0.0133</b>
<i>B1</i>	0.04	BDL	0.001	BDL	<u><b>0.058</b></u>	BDL	<u><b>3.388</b></u>	0.45	BDL	<u><b>0.017</b></u>	0.022
<i>B2</i>	0.08	0.289	BDL	BDL	0.008	0.048	<u><b>1.389</b></u>	0.17	BDL	<u><b>0.031</b></u>	0.100
<i>B3</i>	0.03	0.257	BDL	BDL	0.008	BDL	<u><b>1.401</b></u>	0.02	<u><b>0.064</b></u>	<u><b>0.024</b></u>	0
<i>B4</i>	0.04	0.093	BDL	BDL	BDL	BDL	<u><b>0.420</b></u>	0.00	<u><b>0.083</b></u>	0.003	0
<i>B5</i>	BDL	0.568	BDL	BDL	BDL	BDL	<u><b>0.402</b></u>	0.00	0	0.007	0
<i>B11</i>	BDL	0.365	BDL	BDL	BDL	BDL	<u><b>0.163</b></u>	0.00	<u><b>0.031</b></u>	0	0
<i>B13</i>	0.02	0.232	BDL	BDL	BDL	BDL	<u><b>0.352</b></u>	0.05	0.016	0.002	0
<i>B50</i>	0.043	0.002	BDL	BDL	0.012	BDL	<u><b>0.310</b></u>	0.00	<u><b>0.169</b></u>	0	0
<i>H1</i>	0.056	0.122	BDL	BDL	BDL	BDL	<u><b>0.324</b></u>	0.00	<u><b>0.115</b></u>	0.001	0
<i>H2</i>	0.066	0.072	BDL	BDL	BDL	BDL	0.222	0.00	<u><b>0.079</b></u>	0.001	0

\*Units are mg/l except for pH, temperature and conductivity

**Table16: List of Fine Chemicals (raw materials and finished products) with retention time in GC-MS/MS spectra and m/z ratio**

Sr No	Standards	Retention time (min)	Characterization fragments (m/z)
A	Mesitylene	14.09	120,105,98
B	2-Coumaranone	27.56	134,78
C	Mesitaldehyde	29.34	147,119,120
D	O-Chloro Benzyl Cyanide	30.17	116,117,114
E	O-Methyl Phenyl Acetic Acid (OMPAA)	30.52	105,150,152
F	O-Chloro Phenyl Acetic Acid (OCPAA)	31.88	125, 170, 91
G	Para Chloro Phenyl Acetic Acid (PCPAA)	32.19	125, 89
H	3-Coumaranone	32.86	104,105,91
I	Alpha Bromo Ortho Chloro Phenyl Acetic Acid Methyl Ester (OCPM)	33.8	185

**Table 17: Water quality of open dug wells with respect to Fine chemicals**

Sample	Mesti	2C	MA	OCBC	OMPAA	OCPAA	PCPAA	3C	$\alpha$ -Bromo
Concentration in mg/L									
W1	ND	0.0014	0.00021	ND	ND	ND	0.0026	ND	ND
W2	ND	ND	ND	ND	ND	ND	ND	ND	ND
W3	ND	ND	ND	ND	ND	ND	BDL	ND	ND
W5	ND	ND	ND	ND	ND	ND	ND	ND	ND
W6	ND	ND	ND	ND	ND	ND	ND	ND	ND
W7	ND	0.0010	0.00027	0.0002	ND	0.0002	ND	ND	ND
W8	ND	0.0006	0.00071	0.0028	0.0014	ND	0.0014	ND	ND
W15	ND	ND	ND	ND	ND	ND	ND	ND	ND
W18	ND	ND	ND	ND	ND	ND	ND	ND	ND
W19	ND	ND	ND	ND	ND	ND	ND	ND	ND
W20	ND	ND	ND	ND	ND	ND	ND	ND	ND
W21	ND	ND	ND	ND	ND	ND	ND	ND	ND
W30	ND	ND	ND	ND	ND	ND	ND	ND	ND
W 40	ND	ND	ND	ND	ND	ND	ND	ND	ND



**Table 18: Water quality of bore wells and hand pump samples with respect to Fine chemicals**

Sample	Mesti	2C	MA	OCBC	OMPAA	OCPAA	PCPAA	3C	$\alpha$ -Bromo
Concentration in mg/L									
B1	ND	ND	ND	ND	ND	ND	ND	ND	ND
B2	ND	ND	ND	ND	ND	ND	ND	ND	ND
B3	ND	ND	ND	ND	ND	ND	ND	ND	ND
B4	ND	ND	ND	ND	ND	ND	ND	ND	ND
B5	ND	ND	ND	ND	ND	ND	ND	ND	ND
B11	ND	ND	ND	ND	ND	ND	ND	ND	ND
B13	ND	ND	ND	ND	ND	ND	ND	ND	ND
B50	ND	ND	ND	ND	ND	ND	ND	ND	ND
H1	ND	ND	ND	ND	ND	ND	ND	ND	ND
H2	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Table 19: Soil quality within 500m and 2 km periphery of Benzochem industry**

Sample Name	pH	Electric Conductivity	Available Potassium	Total Nitrogen	Available Nitrogen	Total Phosphate P
		dS/m	kg/ha			
S1 15 cm	7.9	0.342	139	138	65	0.78
S1 30 cm	7.7	0.799	155	73.9	129	9.9
S3 15 cm	7.7	0.196	<u>796</u>	601	83.2	2.0
S3 30 cm	7.7	0.332	<u>617</u>	138	101	5.6
S7 15 cm	7.6	0.060	351	305	111	4.9
S7 30 cm	7.5	0.039	321	138	120	4.9
S9 15 cm	8.7	0.193	<u>832</u>	924	83.1	4.5
S9 30 cm	7.9	0.281	<u>780</u>	878	92.4	4.1
S10 15 cm	8.2	0.098	<u>787</u>	971	83.1	10.7
S10 30 cm	8.1	0.106	<u>622</u>	46.2	139	6.9
S11 15 cm	8.1	0.107	<u>894</u>	1109	212	9.2
S11 30 cm	8.5	0.085	<u>540</u>	878	369	2.8
S30 15 cm	7.9	0.092	<u>472</u>	757	120	9.2
S30 30 cm	8.1	0.080	<u>426</u>	785	110	7.6
S35 15 cm	7.5	0.184	<u>998</u>	1294	102	7.7



Sample Name	pH	Electric Conductivity	Available Potassium	Total Nitrogen	Available Nitrogen	Total Phosphate P
S35 30 cm	7.6	0.119	<u>755</u>	572	92.4	<u>27.3</u>



**Table 20: Soil quality within 500m and 2 km periphery of Benzochem industry: Metal**

Sample	Al	B	Cd	Co	Cr	Cu	Fe	Mn	Ni	Pb	Zn
	mg/kg										
S1 15 cm	6700	50	2	BDL	BDL	70	12000	1000	20	BDL	20
S1 30 cm	7700	50	2	BDL	10	70	13100	800	20	BDL	30
S3 15 cm	15200	80	3	BDL	40	90	16800	1000	40	1	60
S3 30 cm	14600	80	3	BDL	40	90	16200	900	40	1	50
S7 15 cm	12400	70	2	BDL	40	80	14600	800	30	2	50
S7 30 cm	12900	90	3	BDL	30	90	16700	700	30	1	50
S9 15 cm	12200	70	2	BDL	30	70	14300	700	30	1	50
S9 30 cm	11200	80	3	BDL	30	80	15600	700	30	1	40
S10 15 cm	12700	60	2	BDL	30	60	12800	700	40	3	50
S10 30 cm	12200	60	2	BDL	30	50	12800	700	40	5	60
S11 15 cm	8100	50	2	BDL	20	60	11500	600	30	1	40
S11 30 cm	8800	60	2	BDL	30	70	12500	900	40	1	50
S30 15 cm	12200	70	2	BDL	30	80	14300	900	40	2	50
S30 30 cm	11100	60	2	BDL	30	70	13600	800	30	1	50
S35 15 cm	10200	60	2	BDL	30	70	13400	800	40	2	50
S35 30 cm	9200	50	2	BDL	30	60	12500	700	30	2	50

**Table 21: Soil Characteristics from Quarry Pit**

Sample Name	pH	Electric Conductivity	Available Potassium	Total Nitrogen	Available Nitrogen	Total Phosphate P
		dS/m	kg/ha			
E1	7.5	0.082	130	906	120	5.5

**Table 22: Soil Characteristics from Quarry Pit: Metal**

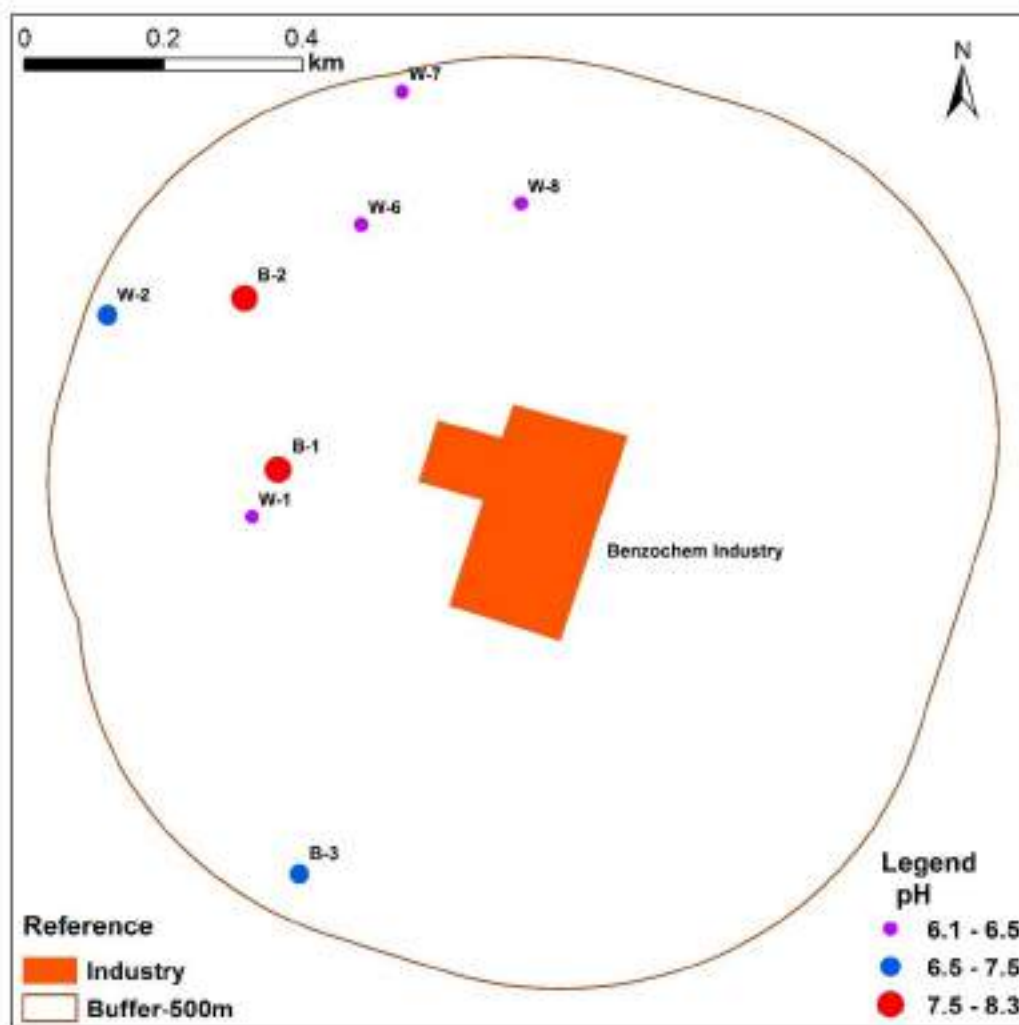
Sample	Al	B	Cd	Co	Cr	Cu	Fe	Mn	Ni	Pb	Zn
	mg/kg										
E1	10000	80	3	BDL	20	110	15600	1900	30	1	40



**Table 23: Soil quality of Query pit Area: Fine Chemicals**

Sample	Mesti	2C	MA	OCBC	OMPAA	OCPAA	PCPAA	3C	$\alpha$ -Bromo
Query pit Area	ND	ND	0.018	ND	ND	ND	ND	ND	ND
Soil (mg/Kg)									

The results have been represented in the form of figures as well. **Figure 11** shows the pH level at various sampling locations. The TDS and COD levels are indicated in **Figure 12** and **13**. The presence of fine chemicals is indicated in **Figure 14**.



**Figure 11: pH at Sampling Locations**

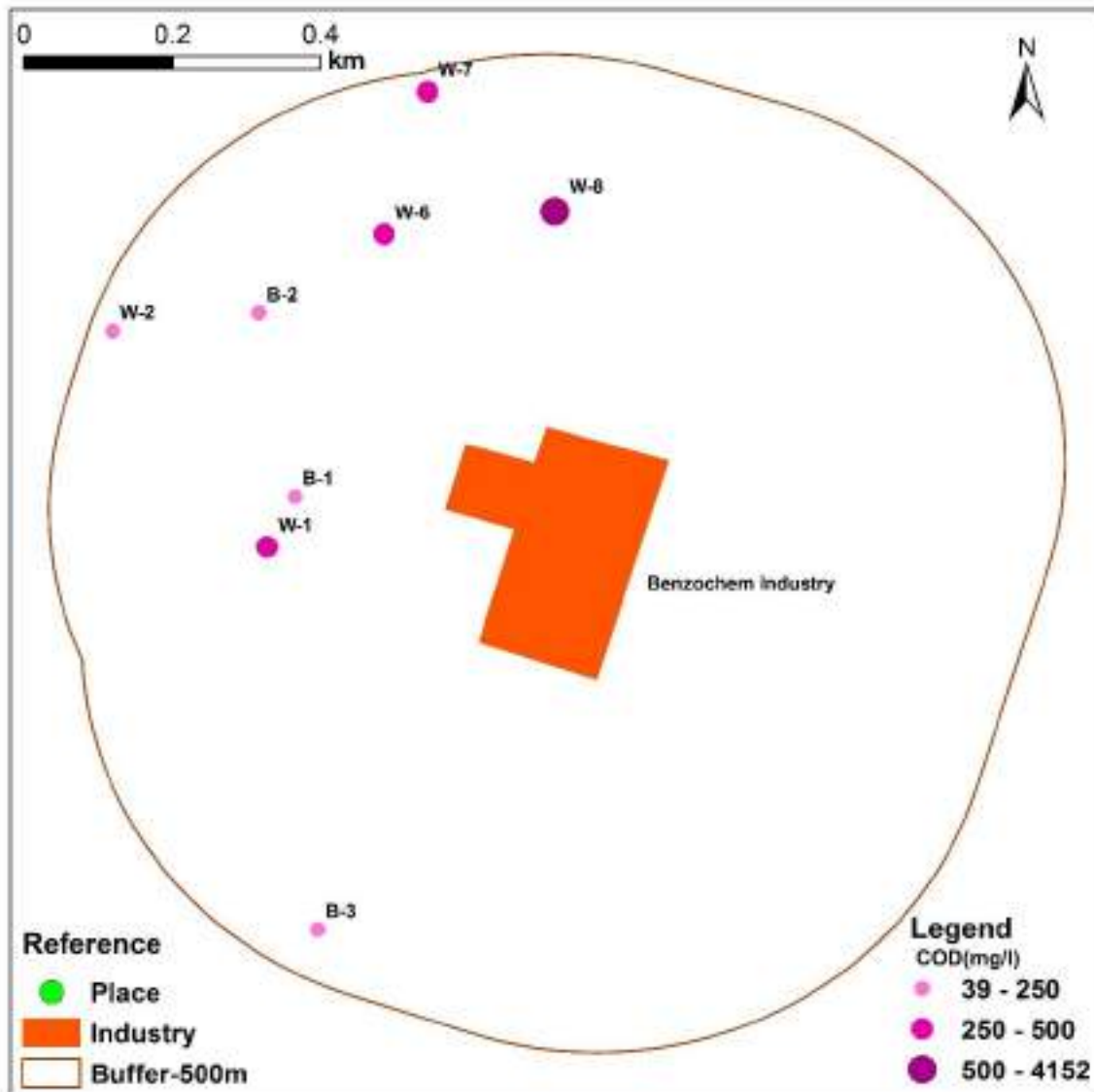


Figure 12: COD at Sampling Locations

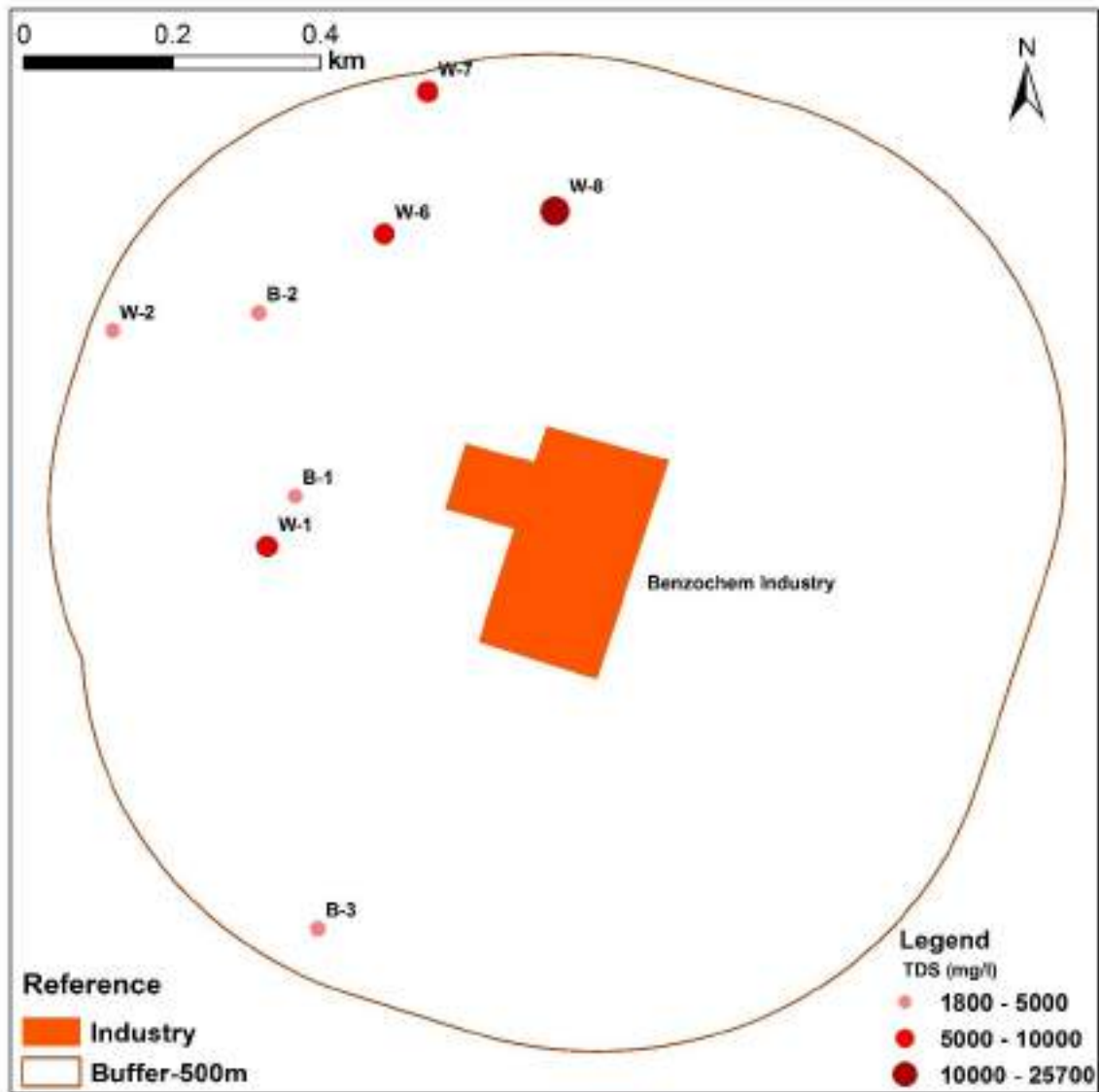


Figure 13: TDS at Sampling Locations

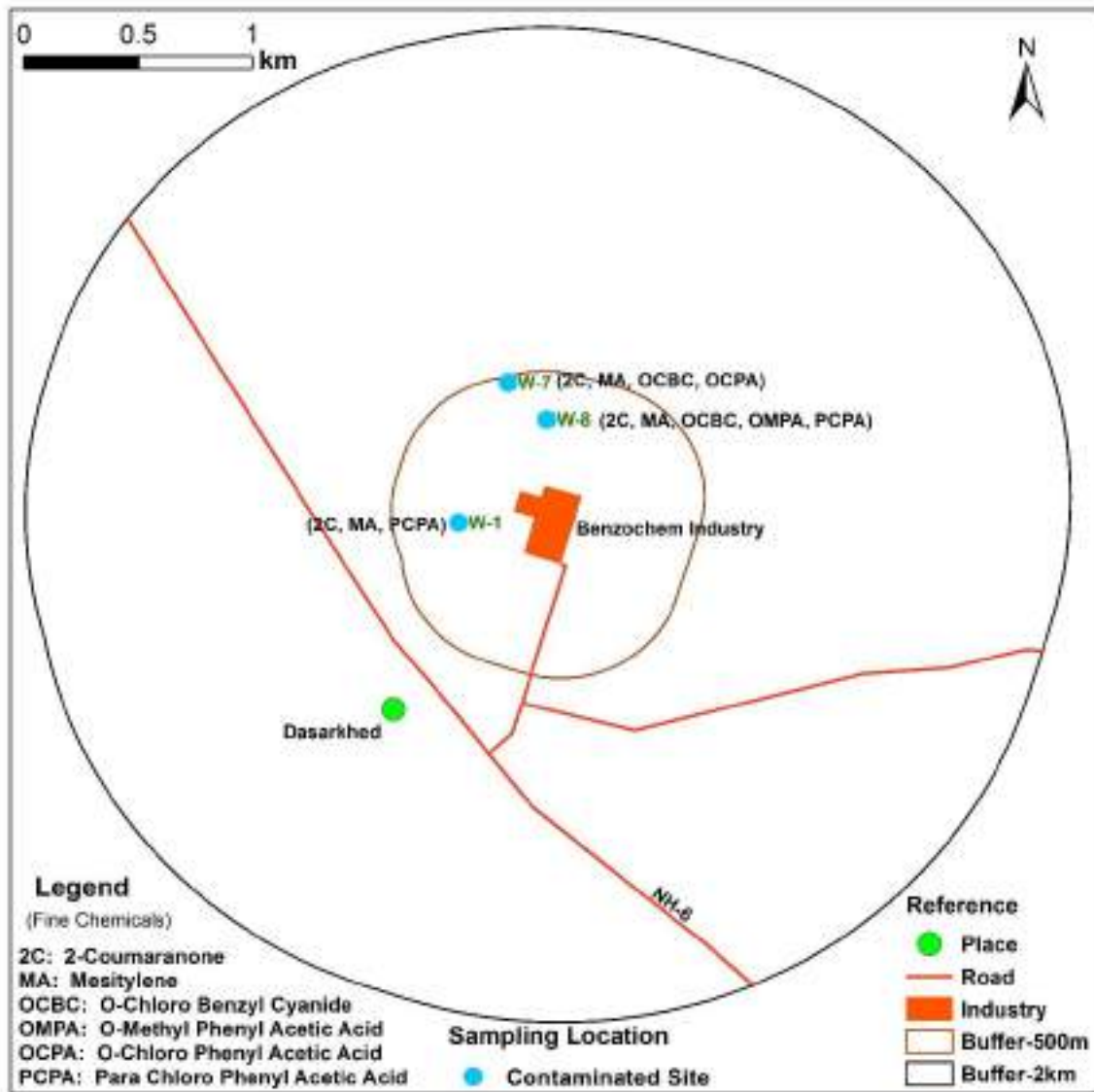


Figure 14: Presence of Fine Chemicals at Water Samples

### 3.6 Post Monsoon Monitoring

The study of water samples was conducted by CSIR-NEERI officials on 4<sup>th</sup> and 5<sup>th</sup> December 2018 for post monsoon season from selected sampling sites. The sites were selected based on the results obtained in the first sampling, the topography of land and its use. The ground water samples were collected from open dug wells W1, W3, W7, W8, W20 and W40 as well as from hand pump H2 during the field visit, preserved and brought to lab for analysis. The onsite parameters like pH, conductivity and Total Dissolved solids were measured and recorded. The analysis for various physicochemical parameters of the samples was carried out as per Standard Methods for Examination of Water & Wastewater, 2017, 23rd edition.

The open dug well and hand pump water quality for post monsoon is presented in **Tables 24**. It was observed that samples W1, W3, W7 and W8 have high Total Dissolved Solids, Total Hardness, Calcium, Magnesium and Chlorides. In general, all these samples are within 500m of the industry. The sample W8 has pH in acidic range i.e. 6.3 and beyond water quality criteria for irrigation purposes during post monsoon season also.

The conductivity of well samples W1, 3, 7 and 8 are beyond the water quality criteria fit for irrigation purposes i.e. 2250  $\mu\text{S}/\text{cm}$ . The sample from W1 has high Total dissolved solids of 5140 mg/l, very high suspended solids, 350 mg/l and Chloride concentration of 3503 mg/l indicating saline water. The samples from W7 and W8 had TDS of 7240 and 17000 mg/l and have not been in use for the past five years. The other well samples between 500m and 2 km radius W20 and W40 had Total Dissolved solids in the range 493 -723 mg/l. The sodium absorption ratio (SAR) values of all samples are within the prescribed criteria for irrigation purposes.

**Table 25** gives the organic and nutrient parameter characteristics of well waters. The COD value of sample within the 500m boundary varied between 16 -248 mg/l. Extremely high value of 3900 mg/l in terms of Chemical Oxygen Demand (COD)



was observed in W8 sample, which also falls within 500m radius of the industry indicating contamination of well from outside sources.

11 metals were analysed for the well waters using ICP-OES. Samples were filtered and preserved with nitric acid as per procedure before analysis. Iron concentrations were in the range 0.18– 4.2 mg/l in the samples within 500m of the industry. The Boron concentrations of all wells were below the criteria for irrigation purposes (**Table 26**).

The water quality of hand pump is given in **Table 24**. The hand pump water is used for drinking and irrigation purposes. The pH of all samples is within range, however, the TDS is higher than permissible limits for sample H2. The water is hard water with total hardness above 600 mg/l permissible limit according to drinking water prescribed standards for drinking. The concentration of metals is within acceptable and permissible limits for drinking water.

It is observed from **Table 27** that all open dug well W1, W7 and W8 samples falling within the 500m radius are contaminated in post monsoon season. Mesitaldehyde chemical was observed in the concentration range 0.00015-0.00045 mg/l. 2 Coumarone was detected in W1, 7 and 8 samples in the range 0.0004-0.0008 mg/l. O-Chloro benzyl cyanide was detected in samples W7 and W8. O Methyl Phenyl acetic acid and para Chloro Phenyl acetic acid were found present in W8 sample. The values of chemical oxygen demand of the dug well samples within 500m radius except W2 are in the range 220-3900 mg/l, indicating high amount of organic in well waters. During the post monsoon seasons no contaminants from the fine chemicals list was observed in any of the hand pump samples.



Table 24: Post Monsoon Monitoring: Water Quality of open Dug Wells and hand pump: Physico-Chemical parameters

Sr No	Sample	pH	Alkalinity	Cond. $\mu\text{S/cm}$	SS mg/L	TDS mg/L	Total Hardness $\text{CaCO}_3$	Ca	Mg	Chloride	Na	K	SAR
CPCB Water Quality Criteria for irrigation		6.5 - 8.5	-	2250	-	-	-	-	-	-	-	-	26
1	W1	7.2	550	<b>8566</b>	350	5140	4150	1194	284	3503	748	4.8	5
2	W3	7.8	210	<b>5640</b>	94	3720	4400	1138	379	3684	179	2.7	1.2
3	W7	6.6	470	<b>12400</b>	33	7240	13500	2806	1579	8284	636	3.1	2.4
4	W8	<b>6.3</b>	<b>750</b>	<b>35000</b>	78	17000	15200	4368	1044	12088	3292	16.0	9.5
5	W20	8.3	280	1095	5	723	570	128	61	500	161	1.5	2.9
6	W40	7.7	280	740	17	493	550	72.1	90	220	113	1.6	2.4
7	H2	<b>7.5</b>	290	1320	4	845	920	112	155	220	133	2.4	1.9

\*Units are mg/l except for pH, temperature & SAR (sodium absorption ratio).



**Table 25 :Post Monsoon Monitoring Water Quality of open dug wells & hand pump:**

*Organic and nutrient parameters*

Sample	COD	Sulphate	Phosphate PO <sub>4</sub>	Nitrate
<b>CPCB Water Quality Criteria for irrigation</b>	-	-	-	-
<b>W1</b>	248	20	3.6	20.0
<b>W3</b>	16	24	BDL	4.7
<b>W7</b>	220	50	3.3	<b><u>54.7</u></b>
<b>W8</b>	3900	120	4.9	43.5
<b>W20</b>	240	2	BDL	4.9
<b>W40</b>	80	16	BDL	0.4
<b>H2</b>	12	0.2	0.2	1.2





**Table 26: Post Monsoon Monitoring: Water Quality of open dug wells and hand pump: Metal**

SAMPLE	Al	B	Cd	Co	T. Cr	Cu	Fe	Mn	Ni	Pb	Zn
<b>CPCB Water Quality Criteria for irrigation</b>	-	<b>2</b>	-	-	-	-	-	-	-	-	-
<b>W1</b>	0.61	0.10	BDL	BDL	0.008	0.008	3.3	3.5	BDL	0.001	0.073
<b>W3</b>	BDL	0.03	BDL	BDL	0.011	BDL	0.32	0.08	0.062	BDL	BDL
<b>W7</b>	BDL	0.49	BDL	0.012	BDL	BDL	0.18	8.1	0.062	BDL	0.005
<b>W8</b>	BDL	0.41	BDL	BDL	0.006	BDL	4.2	11.3	0.036	BDL	0.028
<b>W20</b>	BDL	0.01	BDL	BDL	BDL	BDL	0.21	0.11	0.016	BDL	0.007
<b>W40</b>	BDL	BDL	BDL	BDL	BDL	BDL	0.091	0.10	0.032	BDL	BDL
<b>H2</b>	BDL	BDL	BDL	BDL	0.003	BDL	0.13	0.02	BDL	BDL	BDL

*\*Units are in mg/L*



**Table 27 : Post Monsoon:Water quality of open dug wells wrt Fine chemicals**

Sample	Mesti	2C	MA	OCBC	OMPAA	OCPAA	PCPAA	3C	$\alpha$ - Bromo
Concentration in mg/L									
W1	ND	0.0008	0.00015	ND	ND	ND	0.0015	ND	ND
W7	ND	0.0004	0.00018	0.00014	ND	0.00011	ND	ND	ND
W8	ND	0.0004	0.00045	0.0018	0.0011	ND	0.0082	ND	ND



## Chapter 4 – SUMMARY AND RECOMMENDATIONS

### 4.1. Material Balance

- The ETPs of both the units 1 and 2 have sufficient capacity to take up the liquid load generated by each of the units. The plants have enough spare capacity to take up the shock loads as well.
- The MEE at the end of the plants, makes it possible for the industry to maintain zero liquid discharge (ZLD)
- The air scrubbers too have sufficient capacity to handle the loads of air pollutants generated in each unit.

### 4.2. Water Environment

- The farming as well as domestic activities are being performed with the water from dug well and bore wells. Electricity is available for a few hours in the morning and during late evening and night, hence water from these sources is used during these hours.
- The depth of these wells is between 40-100 ft and water was found upto 40 ft during summer season.
- The water samples from within 500m of the industry had pH: 6.1-7.8 and TDS, Ca, Mg and Chloride beyond permissible limits for drinking water standards in both pre and post monsoon.
- Extremely high organic content are observed in sample, COD of W8: 4152 mg/l (pre monsoon) and 3900 mg/l (post monsoon).—and COD of W1, 6 and 7 in the range 274-313 mg/l. During post monsoon, W1 and W7 were observed to have COD of 248mg/l and 220 mg/l, respectively. Nitrate levels were also beyond permissible limits for Drinking water in W1, 2, 5, 6 15,18,20 and 21 during pre monsoon and W7 in post monsoon. In general, the iron content in all the well waters is above the permissible limit of 0.3 mg/l. Manganese was found above



permissible limits in samples from W1,6, 7 and 8 in both pre and post monsoon except W6 which was not selected for post monsoon monitoring.

- Based on the groundwater GC-MS/MS analysis for fine chemicals (2C, MA, OCBC, OMPAA, OCPAA and PCPAA) used as raw materials as well as finished products of the Benzochem industry are observed in low concentration in the groundwater in the wells 1, 7 and 8 within 500m radius of Benzochem Pvt. Ltd for both pre and post monsoon seasons.
- For post monsoon, water quality of W20, W40 and H2 samples was monitored based on the results obtained in pre monsoon since no contamination with fine chemicals was observed. These three samples were selected to represent the other samples in the 2km radius but not falling within 500m.
- During pre monsoon monitoring, the bore well samples within 500 m of the industry had pH in the range 7.0-8.3 and TDS: 1800-2500 mg/l. The water is hard (Hardness 700- 1360 mg/l and Chloride: 997-1059 mg/l) as well as saline. Comparatively the hand pump samples had total hardness and chloride within permissible limits in absence of alternate source.
- The bore well and hand pump samples had no organic content (COD: not detected )
- During pre monsoon monitoring, the iron content in all these samples except H2 were found beyond acceptable limits for drinking water and GC-MS/MS analysis revealed that the samples were not contaminated with fine chemicals at this depth.

### **4.3. Recommendations for Water Environment**

Based on the groundwater analysis for both pre and post monsoon seasons, fine chemical contaminants are observed in the groundwater specially in well no 1,7 and 8, which are adjacent to Benzochem Pvt. Ltd. Although, the concentrations of the fine chemicals contaminants are low, however, since the water quality does



not meet drinking water standards, use of well water from W1, 7 and 8 for drinking and irrigation purposes should be discontinued immediately.

Some of the immediate measures are to be pump and treat, adsorption of residual organics by activated carbon followed by regular monitoring of the well water quality post treatment. This would restore well water quality as well prevent percolation of the contamination in the groundwater. The treatment option hence would be :

Pumping of ground water and its treatment via existing ETP of Benzochem Industries Private Limited (Pumping strategies with activated carbon water treatment/ Reverse Osmosis followed by Multiple effect Evaporation). The treatment of these well water should be carried out until the water quality becomes potable and fine chemicals are not detected. These wells are to be monitored at periodic intervals throughout the treatment procedure.

Further, in terms of priority, W8 has most number of fine chemicals and has the highest priority in terms of treatment. Considering the spare capacity in ETP of the industry, W8 water can be treated there along with the MEE. W1 and W7 are also to be treated and methods listed above can be utilized for these.

Alternatively, other options available for treatment of such contaminated ground water are:

- Recharge of the wells
- In-situ groundwater treatment
- In-situ immobilization of the contaminants (sealing, stabilization, capping, cutting-off, fixing, advanced oxidation process)
- Permeable reactive barrier technology for treatment of dissolved phase organic fraction



Further exploration of the feasibility of either/or options mentioned above needs to be undertaken in order to prevent further deterioration and spread of groundwater quality.

#### **4.4. Summary and Recommendation for Soil Environment**

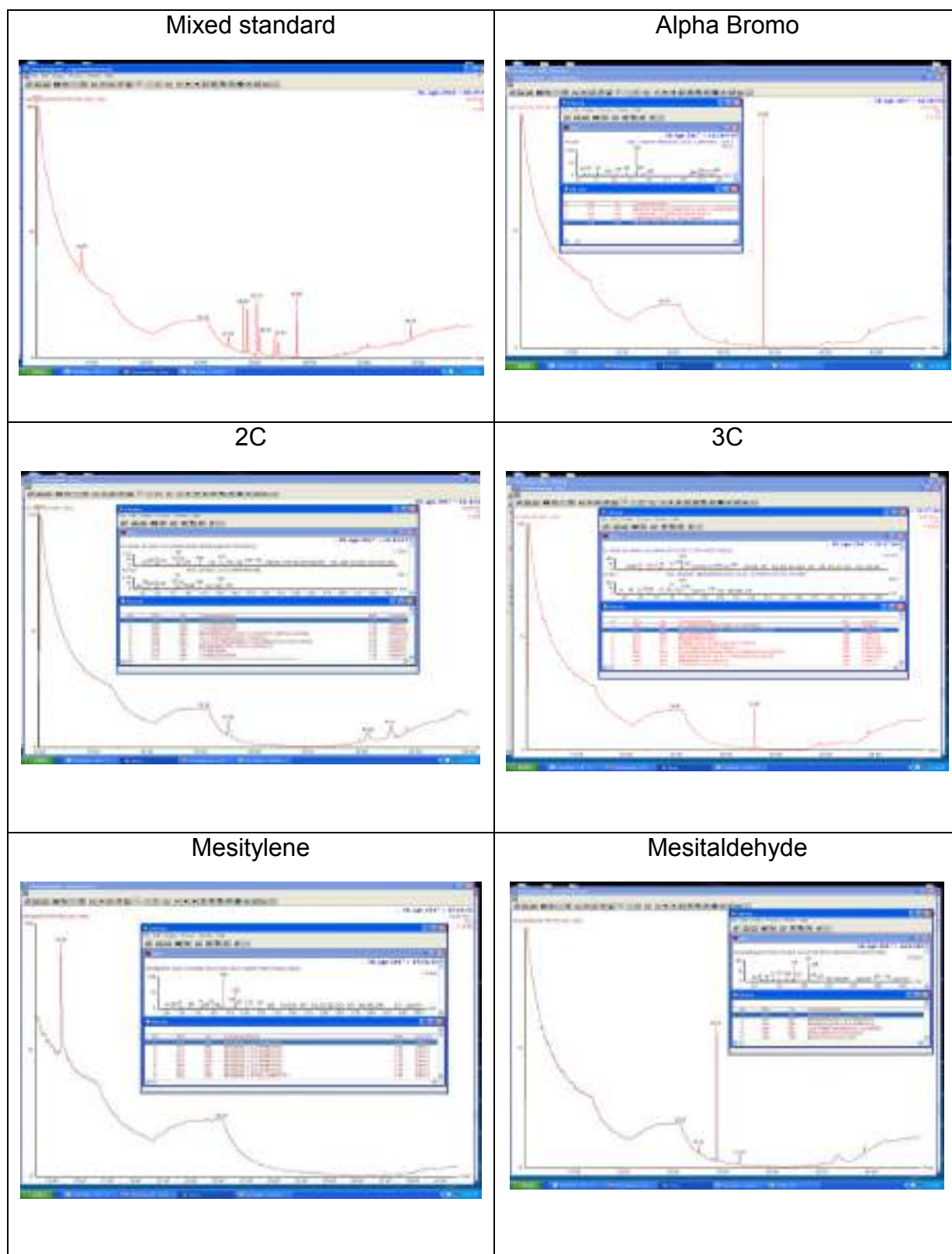
Soil samples were examined during the pre-monsoon period from the study area for general parameters as well as for the fine chemicals. The samples were taken from 15 cm and 30 cm before the surface. However, no fine chemicals were obtained in the samples at the respective depths. Soil sample from the query pit area (E1) was found to contain fine chemical.

Treatment of contaminated pit need to be assessed as per the level and depth of fine chemicals in the soil strata. Based on this, treatment options will be considered as per following

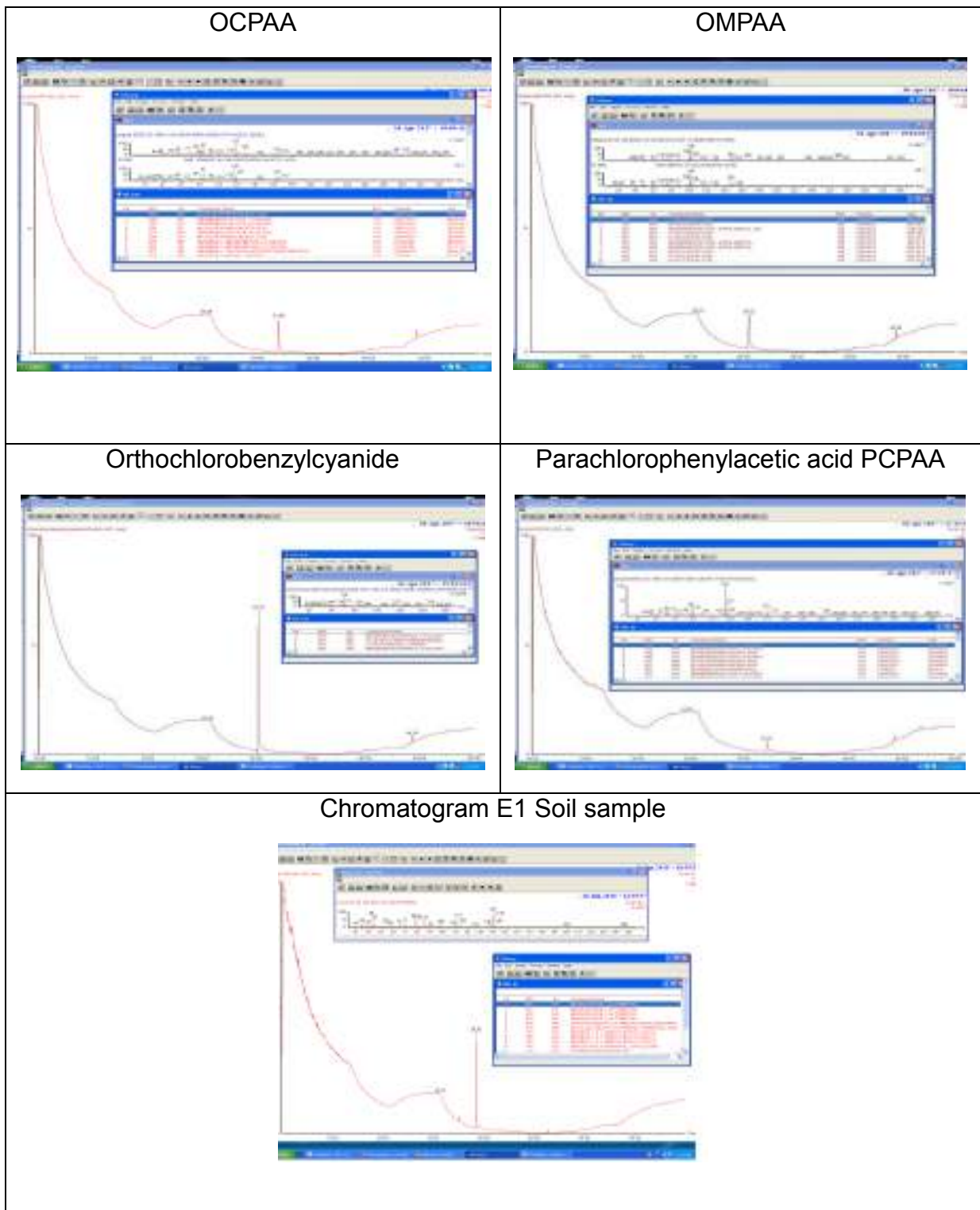
- Soil depth analysis should be performed to assess the quantity of soil to be stabilized and check for no toxic leachates.
- Alternatively, the contaminated soil can be sent to Common Hazardous Waste Treatment and Disposal Facility (CHWTDF).

Till the treatment option for contaminated soil in the query pit area is finalized, the query pit area must not be used for any purpose.

## Annexure - I

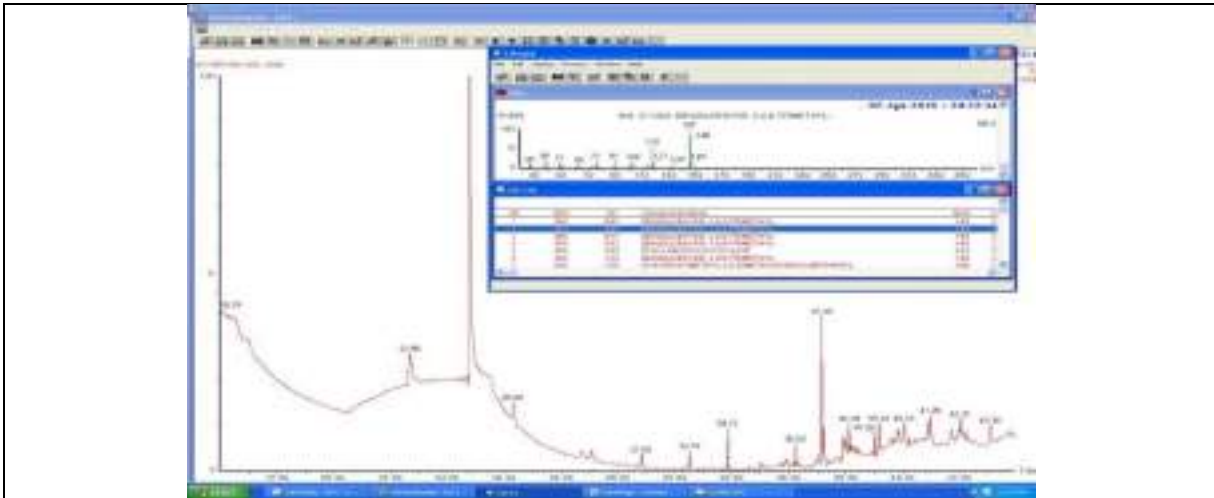


**Plate 1:** Chromatograms of fine chemicals

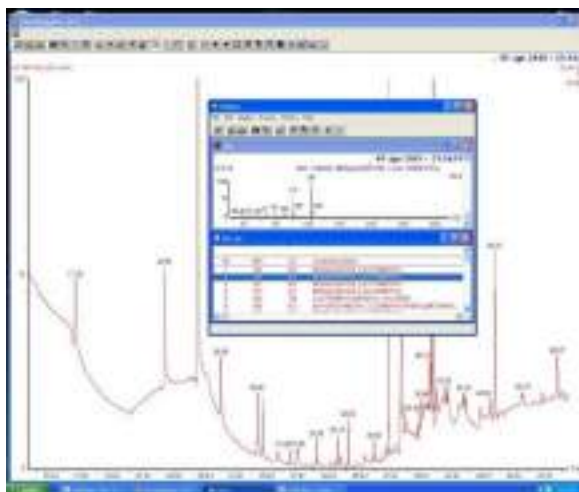


**Plate2:** Chromatograms of fine chemicals

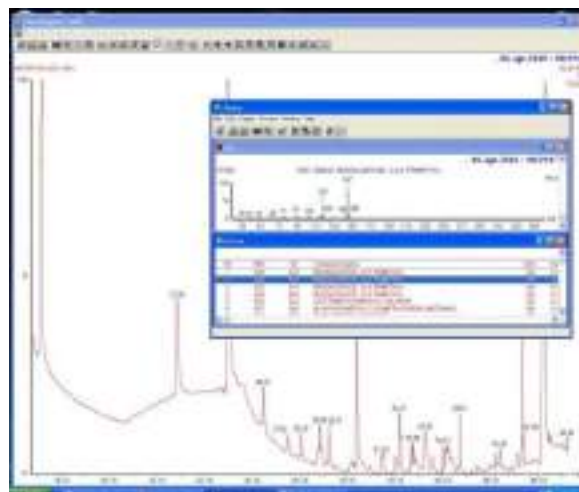




Chromatogram of Sample W1



Chromatogram of Sample W7



Chromatogram of Sample W8

Plate3: Chromatograms of Samples

**Annexure – III**

**Affidavit submitted to the**

**NGT**

BEFORE THE NATIONAL GREEN TRIBUNAL

WESTERN ZONE BENCH, PUNE

ORIGINAL APPLICATION NO. 124 OF 2017 (WZ)

NOTED AND REGISTERED

Sr. No. 285-204

Date: 25-5-2021

Page - No. 01 to 16

25 MAY 2021

**In the Matter of-**

Arvind Manohar Mahajan & Ors.

... Applicants

Versus.

M/s Benzo Chem Industries Pvt. Ltd. & Ors.

... Respondents

**COMPLIANCE AFFIDAVIT ON BEHALF OF THE RESPONDENT NO. 1**

I, Mr. Pralhad<sup>P</sup>Zope, Age: 57 Years, Occupation: Director, Having Office At: Cawasji Patel Street, Fort, Mumbai- 400001, currently located at: M/s Benzo Chem Industries Pvt. Ltd., MIDC Area, Dasarkhed, Malkapur, Buldhana- 443101, do hereby state on solemn affirmation as:

1. That I am one of the Directors of the Respondent No. 1 Industry viz. M/s Benzo Chem Industries Pvt. Ltd. Vide the Board Resolution dated 21.05.2021, I am authorized to affirm the present Affidavit on behalf of the Respondent No. 1 before this Hon'ble Tribunal. I am also, well versed with the facts and circumstances arising in the present O. A. No. 124 of 2017 (WZ) and therefore also competent to file the present Affidavit on behalf of the Respondent No. 1. A copy of the Board Resolution dated 21.05.2021 is enclosed herewith as **ANNEXURE R-1**.
2. The Applicants in O. A. No. 124 of 2017 (WZ) had raised a question u/s 14 of the National Green Tribunal Act, 2010 pertaining to the pollution being caused to the land (soil) as well as the ground water in the Village of Dasarkheda, Tal- Malkapur, Dist- Buldhana due to the Industrial Operations of the Respondent No. 1 and therefore, the Applicants had sought closure of the Industrial Unit of the Respondent No. 1. This Hon'ble Tribunal, vide its order dated 24.07.2017 was pleased to issue notice in O. A. No. 124 of 2017 (WZ) which was made returnable on 28.08.2017. Thereafter, the Respondent No. 1 has filed a Reply in terms of Rule 16(2) of the National Green Tribunal Rules, 2011 opposing the O. A. No. 124 of 2017 (WZ) as filed by the Applicants. The Respondent No. 1 has also filed a M. A. No. 299 of 2017 raising Preliminary Objections to the O. A. No. 124 of 2017, the same being



barred by limitation. This Hon'ble Tribunal on 31.10.2017 was pleased to hear the submissions of the Respondent No. 1 on the point of limitation; however, the Ld. Counsel appearing on behalf of the Applicants sought time to rebut the arguments put forth on behalf of the Respondent No. 1. The MA No. 299 of 2017 raising preliminary objection pertaining to limitation is partially heard by this Hon'ble Tribunal and therefore, the issue of limitation may be decided as a preliminary issue prior to the adjudication of OA No. 124 of 2017 on merits.

3. Thereafter, the matter was listed for hearing before this Hon'ble Tribunal on 08.12.2017. During the course of hearing on 08.12.2017, the Ld. Counsel appearing on behalf of Applicants made a statement that the Respondent No. 1 had duly compensated the Applicants at Rs. 40,000/- per acre of land and, therefore sought permission to withdraw the present Application. However, this Hon'ble Tribunal considered that the question raised in the present Application was not merely concerning individuals, but also the pollution of land and ground water. Therefore, this Hon'ble Tribunal vide its order dated 08.12.2017, was pleased to grant a period of 3 months to the Respondent No. 1 to engage NEERI, Nagpur for Assessment of Soil and Groundwater Pollution due to percolation of waste water as a consequence of the operations of Respondent No. 1 Industry within the periphery of 2 kms radius. Accordingly, even though, the Applicants were fairly compensated by the Respondent No. 1, this Hon'ble Tribunal refrained from allowing the O. A. No. 124 of 2017 (WZ) to be withdrawn at that stage. A copy of the order dated 08.12.2017 passed by this Hon'ble Tribunal in O. A. No. 124 of 2017 (WZ) is enclosed herewith as **ANNEXURE R-2**.

4. Thereafter, the O. A. No. 124 of 2017 (WZ) was listed before this Hon'ble Tribunal on 10.07.2018, wherein, the Ld. Advocate appearing on behalf of Respondent No. 1 sought time from this Hon'ble Tribunal to submit the Report of NEERI, Nagpur as directed by this Hon'ble Tribunal in its order dated 08.12.2017, as on 24.06.2018, the General Manager of the Respondent No. 1 had received a letter from NEERI, Nagpur seeking time to submit the aforesaid Report. The prayer seeking time by the Respondent No. 1 to submit the Report of NEERI, Nagpur was accepted by this Hon'ble Tribunal. A copy of the order dated 10.07.2018 passed by this Hon'ble Tribunal in O. A. No. 124 of 2017 (WZ) is enclosed herewith as **ANNEXURE**

**R-3.**



**Tushar S. Patel**  
**ADVOCATE & NOTARY**  
 E. No. No. MAH/2327/05  
 Notary Regd. No. 29303  
 Muktainagar, Dist. Jalgaon  
 Mob. No. 9970289947



5. In pursuance of the submissions made by the Ld. Counsel appearing on behalf of the Respondent No. 1 and as recorded in the order dated 10.07.2018, the Respondent No. 1 was to submit a copy of the Report of NEERI, Nagpur with regards to Assessment of Soil and Groundwater Pollution due to percolation of waste water from the units of the Respondent No. 1 Industry within a periphery of 2 kms radius. Accordingly, NEERI, Nagpur has submitted its Report of June, 2019 to the Respondent No. 1, which the Respondent No. 1 vide the present Affidavit is placing the same on record before this Hon'ble Tribunal.
6. In terms of the directions issued by the Respondent No. 2 dated 23.10.20217 as well the directions of this Hon'ble Tribunal dated 08.12.2017 and 10.07.2018, the Respondent No. 1 has received the CSIR-NEERI Report of June 2019. The main objectives of the CSIR-NEERI Report viz. "Assessment of Soil and Groundwater Pollution in and around Benzo Chem Industry" were as follows:
- *To conduct an audit of the manufacturing process and material balance.*
  - *To evaluate technical adequacy of the ETP and ZLD plant.*
  - *To collect and preserve the ground water and soil samples (Around 25 to 30 samples in total for 2 Km radius) from identified locations using standard methods.*
  - *To analyse ground water and soil sample for physio-chemical and heavy metals parameters with respect to manufacturing processes.*
  - *To assess the Impact of the Industrial Activity on the soil and ground water.*
  - *To prepare final report of findings with spatial and statistical analysis.*
7. In order to analyze the groundwater, samples were collected from open dug wells, bore wells and handpump located within 500 mtrs and 2 kms periphery of the Respondent No. 1 Industry during the field visit. For the soil quality analysis, soil samples were collected within 500 mtrs and 2 kms periphery of the Respondent No. 1. The collection of samples at the Respondent No. 1 Industry was conducted in two phases- Pre-Monsoon Period and Post-Monsoon Period. For the Pre-Monsoon Period, the samples were collected during 19<sup>th</sup>-20<sup>th</sup> March, 2018 and for the Post-Monsoon Period, the samples were collected during 4<sup>th</sup>-5<sup>th</sup> December, 2018.



B. On the basis of the study of water samples as well as the soil samples conducted by CSIR-NEERI, the analysis for various Physio-Chemicals Parameters of the samples was carried out as per Standard Methods for Examination of Water and Waste Water, 2017, 23<sup>rd</sup> Edition. The summary and recommendations of CSIR-NEERI in its Report on "Assessment of Soil and Groundwater Pollution in and around Benzo Chem Industry" are as follows:

**"Chapter 4 – SUMMARY AND RECOMMENDATIONS**

**4.1. Material Balance**

- The ETPs of both the units 1 and 2 have sufficient capacity to take up the liquid load generated by each of the units. The plants have enough spare capacity to take up the shock loads as well.
- The MEE at the end of the plants, makes it possible for the industry to maintain zero liquid discharge (ZLD)
- The air scrubbers too have sufficient capacity to handle the loads of air pollutants generated in each unit.

**4.2. Water Environment**

- The farming as well as domestic activities are being performed with the water from dug well and bore wells. Electricity is available for a few hours in the morning and during late evening and night, hence water from these sources is used during these hours.
- The depth of these wells is between 40-100 ft and water was found upto 40 ft during summer season.
- The water samples from within 500m of the industry had pH: 6.1-7.8 and TDS, Ca, Mg and Chloride beyond permissible limits for drinking water standards in both pre and post monsoon.
- Extremely high organic content are observed in sample, COD of W8: 4152 mg/l (pre monsoon) and 3900 mg/l (post monsoon). and COD of W1, 6 and 7 in the range 274-313 mg/l. During post monsoon, W1 and W7 were observed to have COD of 248mg/l and 220 mg/l, respectively. Nitrate levels were also beyond permissible limits for Drinking water in W1, 2, 5, 6, 15, 18, 20 and 21 during pre monsoon and W7 in post monsoon. In general, the iron content in all the well waters is above the permissible limit of 0.3 mg/l. Manganese was found above permissible limits in samples from W1, 6, 7 and 8 in



both pre and post monsoon except W6 which was not selected for post monsoon monitoring.

- Based on the groundwater GC-MS/MS analysis for fine chemicals (2C, MA, OCBC, OMPAA, OCPAA and PCPAA) used as raw materials as well as finished products of the Benzochem industry are observed in low concentration in the groundwater in the wells 1, 7 and 8 within 500m radius of Benzochem Pvt. Ltd for both pre and post monsoon seasons.
- For post monsoon, water quality of W20, W40 and H2 samples was monitored based on the results obtained in pre monsoon since no contamination with fine chemicals was observed. These three samples were selected to represent the other samples in the 2km radius but not falling within 500m.
- During pre monsoon monitoring, the bore well samples within 500 m of the industry had pH in the range 7.0-8.3 and TDS: 1800-2500 mg/l. The water is hard (Hardness 700- 1360 mg/l and Chloride: 997-1059 mg/l) as well as saline. Comparatively the hand pump samples had total hardness and chloride within permissible limits in absence of alternate source.
- The bore well and hand pump samples had no organic content (COD: not detected )
- During pre monsoon monitoring, the iron content in all these samples except H2 were found beyond acceptable limits for drinking water and GC-MS/MS analysis revealed that the samples were not contaminated with fine chemicals at this depth.

#### 4.3. Recommendations for Water Environment

Based on the groundwater analysis for both pre and post monsoon seasons, fine chemical contaminants are observed in the groundwater specially in well no 1,7 and 8, which are adjacent to Benzochem Pvt. Ltd. Although, the concentrations of the fine chemicals contaminants are low, however, since the water quality does not meet drinking water standards, use of well water from W1, 7 and 8 for drinking and irrigation purposes should be discontinued immediately.

Some of the immediate measures are to be pump and treat adsorption of residual organics by activated carbon followed by regular monitoring of the well water quality post treatment. This



would restore well water quality as well prevent percolation of the contamination in the groundwater. The treatment option hence would be :

Pumping of ground water and its treatment via existing ETP of Benzochem Industries Private Limited (Pumping strategies with activated carbon water treatment/ Reverse Osmosis followed by Multiple effect Evaporation). The treatment of these well water should be carried out until the water quality becomes potable and fine chemicals are not detected. These wells are to be monitored at periodic intervals throughout the treatment procedure.

Further, in terms of priority, W8 has most number of fine chemicals and has the highest priority in terms of treatment. Considering the spare capacity in ETP of the industry, W8 water can be treated there along with the MEE. W1 and W7 are also to be treated and methods listed above can be utilized for these.

Alternatively, other options available for treatment of such contaminated ground water are:

- Recharge of the wells
- In-situ groundwater treatment
- In-situ immobilization of the contaminants (sealing, stabilization, capping, cutting-off, fixing, advanced oxidation process)
- Permeable reactive barrier technology for treatment of dissolved phase organic fraction

Further exploration of the feasibility of either/or options mentioned above needs to be undertaken in order to prevent further deterioration and spread of groundwater quality.

#### **4.4. Summary and Recommendation for Soil Environment**

Soil samples were examined during the pre-monsoon period from the study area for general parameters as well as for the fine chemicals. The samples were taken from 15 cm and 30 cm before the surface. However, no fine chemicals were obtained in the samples at the respective depths. Soil sample from the query pit area (E1) was found to contain fine chemical.

Treatment of contaminated pit need to be assessed as per the level and depth of fine chemicals in the soil strata. Based on this, treatment options will be considered as per following





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- Soil depth analysis should be performed to assess the quantity of soil to be stabilized and check for no toxic leachates.
- Alternatively, the contaminated soil can be sent to Common Hazardous Waste Treatment and Disposal Facility (CHWTDF).  
Till the treatment option for contaminated soil in the query pit area is finalized, the query pit area must not be used for any purpose."

A copy of the CSIR-NEERI Report on "Assessment of Soil and Groundwater Pollution in and around Benzo Chem Industry" of June, 2019 is enclosed herewith as **ANNEXURE R-4**.

9. In terms of the recommendations given by CSIR NEERI, it was apparent that, the well water from the dug wells bearing No. W1, W7 and W8, which were adjacent to the Respondent No. 1 Industry did not meet the drinking standards and were suggested to be discontinued immediately. At the outset, it is submitted that, the Report submitted by CSIR NEERI itself suggests that W1 which falls behind the Respondent No. 1 Industry is a very old well (1952), not in use since 1994 and W6, W7 and W8 have not been in use for the past 5 years. Therefore, without prejudice, the Respondent No. 1 states that, primarily that the high values of PH, TDS, COD found at W1, W7 and W8 could be attributed to the non-use of the well water for a considerable amount of time. Irrespective, CSIR NEERI, recommended to the Respondent No. 1 that, the Respondent No. 1 should immediately undertake measures to pump and treat, adsorption of residual organics by activated carbon, followed by regular monitoring of the well water quality post treatment for W1,W7 and W8.

10. Besides the recommendations for restoration of well water, CSIR-NEERI, in the Report of 2019 has also recommended ways to restore the soil environment. The report of 2019 suggest that the soil sample from the query pit area (E1) was found to contain fine chemicals and therefore a treatment of the contaminated pit was to be assessed as per the level and depth of fine chemicals in the soil strata. Accordingly, CSIR-NEERI suggested the Respondent No. 1 to consider the following treatment options:

- Soil depth analysis should be performed to assess the quantity of soil to be stabilized and check for no toxic leachates.
- Alternatively, the contaminated soil can be sent to Common Hazardous Waste Treatment and Disposal Facility (CHWTDF).



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11. In terms of the recommendations suggested by CSIR-NEERI, in its Report of June, 2019, the Respondent No. 1 has undertaken the following measures with regard to restoration of the Water Environment:

**A. The restoration of well water of W8:**

- a) CSIR-NEERI, in its recommendation to the Respondent No. 1 in its Report of June, 2019 had recommended that the use of W8 for drinking and irrigation purposes should be discontinued immediately. (**Refer Para 4.3 of the Report**). It was also suggested that, in terms of priority, W8 has most number of fine chemicals and therefore, ought to have highest priority in terms of treatment (**Refer Para 4.3 of the Report**). However, it is apparent to note that, W8 has not been in use for the past 5 years and no water as such is drawn from W8 for drinking or irrigation purposes. (**Refer Para 3.4 of the Report**)
- b) In terms of the recommendations issued by CSIR-NEERI, the Maharashtra Pollution Control Board on 29.09.2020 issued Interim directions u/s 33-A of the Water (Prevention and Control of Pollution) Act, 1974 and u/s 31-A of the Air (Prevention and Control of Pollution) Act, 1981 and Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016. The Respondent No. 2 vide the directions dated 29.09.2020 directed the Respondent No. 1 to carry out the work as per the CSIR-NEERI Report proactively and the Respondent No. 1 was to carry out the well water restoration work as per the directions of the Board within 3 months period. A copy of the interim directions issued by the Maharashtra Pollution Control Board dated 29.09.2020 to the Respondent No. 1 Industry is enclosed herewith as **ANNEXURE R-5**.
- c) The Respondent No. 1 on 02.10.2020 Replied to the Interim directions issued by the Respondent No. 2 dated 29.09.2020. Vide the Reply dated 02.10.2020, the Respondent No. 1 categorically stated that, the contentions raised by the Respondent No. 2 in the interim directions dated 29.09.2020 were absolutely baseless and frivolous and much contrary to record. The Respondent No. 1 Industry was under constant surveillance of the Field Officers of the Respondent No. 2, who visited the site on more than one occasion. One such visit dated 27.11.2019 was undertaken to inspect the ETP of the Respondent No. 1 wherein, it was found that, there was no discharge of Trade Effluents outside the Respondent No. 1's Unit. Similar visit was undertaken by the Field Officer of the Respondent No. 2 on 17.07.2020 and several other visits were



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undertaken between November, 2019 to July, 2020. However, on no occasion, did the Field Officer of the Respondent No. 2 find discharge of Trade Effluents outside the Respondent No.1's Unit. Vide the letter dated 02.10.2020, the Respondent No. 1 also undertook to carry out the well restoration work as per the CSIR-NEERI Report. The Respondent No. 1 however, had informed the Respondent No. 2 that the Respondent No. 1 had approached the farmers to discuss the well restoration work but, the farmers aggressively refused to talk with the Respondent No. 1. Therefore, the Respondent No. 1 suggested that, the Respondent No. 1 could carry out the well restoration work only in the presence of the Officials of the Respondent No. 2 and the Revenue Department, under Police protection. A copy of the letter dated 02.10.2020 of the Respondent No. 1 to the Respondent No. 2 is enclosed herewith as

**ANNEXURE R-6.**

- d) It is stated that, W8 is located at Gut No. 40 of village Dasarkhed, Taluka Malkapur, Dist. Buldhana. In the month of October, 2020 to February, 2021, cotton was being cultivated at Gut No. 40 of village Dasarkhed, Taluka Malkapur, Dist. Buldhana by the owner of Gut No. 40 viz. Mr. Ashok Patil. For the Respondent No. 1 to comply with the recommendations of CSIR- NEERI, it was necessary for the Respondent No. 1 to physically pump water from W8 into tankers and carry the same to the ETP of the Respondent No. 1 for further treatment. However, since there was a standing crop of cotton at Gut No. 40, the Respondent No. 1 was met with great opposition from the farmers from restoration of W8 as the same would destroy the standing crop. Therefore, the Respondent No. 1 was unable to physically reach Gut No. 40 where W8 is located till February 2021. After, persuasion from the officers of the Respondent No. 2, after the standing crop was harvested by the farmer only in February, 2021, the restoration work of W8 commenced by March, 2021. It is pertinent to note that, prior to commencing the restoration work for W8, the Respondent No. 1 had already restored W1 and W7.
- e) The restoration of W8 commenced on 21.03.2021 and was completed on 05.04.2021 i.e. within 15 days. In order to restore W8, the Respondent No. 1 pumped out the water from W8 by installing pipes and connecting the same to the water tankers that were used to transport the polluted water from W8 to ETP of the Respondent No. 1. The Respondent No. 1 had to install pipes admeasuring around 400-500m long from W8 to the



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water tankers used for transportation. The pipes that were installed for pumping of the well water had to be dismantled daily as Gut No. 40 was not in the private ownership of Respondent No. 1. The Respondent No. 1, had deployed its own labor for the purpose of the installing and dismantling the pipes. Besides, laying down of the pipes, it is pertinent to note that there was no electricity available at site of W8. Therefore, in order to pump the polluted water from W8, the Respondent No. 1 had stationed a diesel generator acquired by the Respondent No. 1 for pumping the water. The Respondent No. 1 would run the diesel generator for 4 hours approximately daily to pump the polluted water from W8. The diesel required for running of the Diesel Generator was also procured by the Respondent No. 1 on its own. During the 4 hours that the generator was in operation, approximately two trips of water tankers could be completed. Therefore, approximately, 34,000 L of water was pumped out daily from W8, filled into water tankers and transported to the ETP of the Respondent No. 1 for further treatment.

- f) The Respondent No. 1 issued a Work Order to Shivraj Water Suppliers, Dasarkhed dated 17.11.2020. As per the work order Issued to Shivraj Water Suppliers, it was agreed that, the Water Supplier would provide water tankers having capacity of 17,000 L for which, the Respondent No. 1 would be paying an amount of Rs. 4,000/- per trip. A copy of the Work Order dated 17.11.2020 issued by Respondent No. 1 to Shivraj Water Suppliers is enclosed herewith as **ANNEXURE R-7**. In order to restore W8, Shivraj Water Suppliers had to undertake 24 trips between 23.03.2021 and 05.04.2021 (Barring the days when the unit of the Respondent No. 1 was closed). The Respondent No. 1 has pumped 4,08,000 Liters of polluted water from W8 and the same has been treated at the ETP of the Respondent No. 1. For the purpose of transporting 4,08,000 L of water from W8 to the ETP of the Respondent No. 1, the Respondent No. 1 paid an amount of Rs. 96,000/- to Shivraj Water Suppliers. This amount was paid to Shivraj Water Supplier through NEFT from authorized account of the Respondent No. 1.
- g) As on date, the restoration work of W8 is complete. The Respondent No. 1 has also called upon its own Environmental Consultant viz. Ashwamedh Engineers and Consultants, Nashik to undertake the monitoring of samples from W8. The Environmental Consultant of the Respondent No. 1 shall undertake the sampling of water from W8 on 19.05.2021 and then

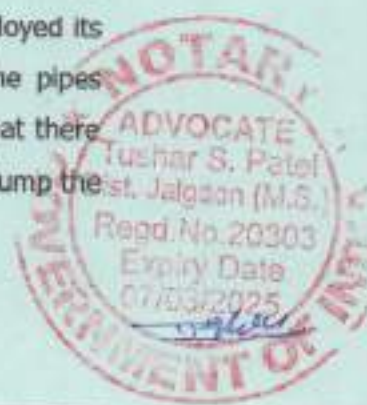


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Date: 25-3-201

the same shall be analyzed in the Government Accredited Laboratory of the Environmental Consultant of Respondent No. 1. The Respondent No. 1 undertakes to file the copy of the reports of its Environmental Consultant as and when available.

**B. Restoration of Well Water of W1:**

- a) CSIR- NEERI, in its recommendation to the Respondent No. 1 in its Report of June, 2019 had recommended that the use of W1 for drinking and irrigation purposes should be discontinued immediately. (*Refer Para 4.3 of the Report*). However, it is apparent to note that, CSIR-NEERI in its Report of June 2019 has categorically found that W1 which falls behind the Respondent No. 1 Industry and adjacent to a paper mill, is a very old well (1952) but not in use since 1994 and no water as such is drawn from W1 for drinking or irrigation purposes. (*Refer Para 3.4 of the Report*).
- b) It is stated that, W1 is located at Gut No. 29 of village Dasarkhed, Taluka Malkapur, Dist. Buldhana. Gut No. 29 of Village Dasarkhed, wherein W1 is located is a private ownership of Mr. Baburao Laxman Thakur. The officers of the Respondent No. 2 assisted the Respondent No. 1 in communicating with the local farmers and therefore in December 2020, Mr. Baburao Thakur was pleased to grant permission to the Respondent No. 1 to commence with the restoration work of W1. Since, there were bushes and vegetation on Gut No. 29, the Respondent No. 1 paved a way of about 400-500 m in and around Gut No. 29 so that the tankers appointed by the Respondent No. 1 could reach W1. After the vegetation was cleared, the work of the restoration of W1 commenced on 03.12.2020 and was completed on 23.12.2020 i.e. within 20 days. In order to restore W1, the Respondent No. 1 pumped out the water from W1 by installing pipes and connecting the same to the water tankers that were used to transport the polluted water from W1 to ETP of the Respondent No. 1. The Respondent No. 1 had to install pipes admeasuring around 300m long from W1 to the water tankers used for transportation. The pipes that were installed for pumping of the well water had to be dismantled daily as Gut No. 29 was not in the private ownership of Respondent No. 1. The Respondent No. 1, had deployed its own labor for the purpose of the installing and dismantling the pipes daily. Besides, laying down of the pipes, it is pertinent to note that there was no electricity available at site of W1. Therefore, in order to pump the



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polluted water from W1, the Respondent No. 1 had stationed a diesel generator acquired by the Respondent No. 1 for pumping the water. The Respondent No. 1 would run the diesel generator for 4 hours approximately daily to pump the polluted water from W1. The diesel required for running of the Diesel Generator was also procured by the Respondent No. 1 on its own. During the 4 hours that the generator was in operation, approximately two trips of water tankers could be completed. Therefore, approximately, 34,000 L of water was pumped out daily from W1, filled into water tankers and transported to the ETP of the Respondent No. 1 for further treatment.

- c) The Respondent No. 1 issued a work order to Shivraj Water Suppliers, Dasarkhed dated 17.11.2020. As per the Work Order issued to Shivraj Water Suppliers, it was agreed that, the Water Tanker Supplier would provide water tankers having capacity of 17,000 Liters for which, the Respondent No. 1 would be paying an amount of Rs. 4,000/- per trip. A copy of the Work Order dated 17.11.2020 issued by Respondent No. 1 to Shivraj Water Suppliers is already annexed herein above as Annexure R-7. In order to restore W1, Shivraj Water Suppliers had to undertake 30 trips between 03.12.2020 and 23.12.2020 (barring the days when the Respondent No. 1 unit was closed). The Respondent No. 1 has pumped 5,10,000 L of polluted water and the same was treated at the ETP of the Respondent No. 1. For the purpose of transporting 5,10,000 L of water from W1 to the ETP of the Respondent No. 1, the Respondent No. 1 paid an amount of Rs. 1,20,000/- to Shivraj Water Suppliers. This amount was paid to Shivraj Water Supplier through NEFT from authorized account of the Respondent No. 1.
- d) As on date, the restoration work of W1 is complete. The Respondent No. 1 has also called upon its own Environmental Consultant viz. Ashwamedh Engineers and Consultants, Nashik to undertake the monitoring of samples from W1. The Environmental Consultant of the Respondent No. 1 shall undertake the sampling of water from W1 on 19.05.2021 and then the same shall be analyzed in the Government Accredited Laboratory of the Environmental Consultant of Respondent No. 1. The Respondent No. 1 undertakes to file the copy of the reports of its Environmental Consultant as and when available.



NOTED AND REGISTERED  
Sr. No. 285/2021  
Date: 25-5-2024

25 MAY 20

**C. Restoration of well water from W7:**

- a) CSIR-NEERI, in its recommendation to the Respondent No. 1 in its Report of June, 2019 had recommended that the use of W7 for drinking and irrigation purposes should be discontinued immediately. (*Refer Para 4.3 of the Report*). However, it is apparent to note that, W7 has not been in use for the past 5 years and no water as such is drawn from W7 for drinking or irrigation purposes. (*Refer Para 3.4 of the Report*)
- b) It is stated that, W7 is located at Gut No. 39 of village Dasarkhed, Taluka Malkapur, Dist. Buldhana. Gut No. 39 of Village Dasarkhed was owned by Mr. Bhagwan Ramkrishna Sonawane. Like the position in Gut No. 40, wherein the W8 is located, in the month of October, 2020 to February, 2021, cotton was being cultivated at Gut No. 39 of village Dasarkhed, Taluka Malkapur, Dist. Buldhana by the owner of Gut No. 39. For the Respondent No. 1 to comply with the recommendations of CSIR- NEERI, it was necessary for the Respondent No. 1 to physically pump water from W7 into tankers and carry the same to the ETP of the Respondent No. 1 for further treatment. However, since there was a standing crop of cotton at Gut No. 39, the Respondent No. 1 was met with great opposition from the farmers from restoration of W7 as the same would destroy the standing crop. Therefore, the Respondent No. 1 was unable to physically reach Gut No. 39 where W7 is located till January 2021. After, persuasion from the officers of the Respondent No. 2, after the standing crop was harvested by the farmer only in February, 2021, the restoration work of W7 commenced only in February 2021.
- c) The restoration of W7 commenced on 11.02.2021 and was completed on 25.03.2021 i.e. within 43 days. However, It is stated that the duration for restoring W7 was little on the longer side as for substantial period the water tankers appointed by the Respondent No. 1 were under maintenance for a period of about 10 days. Once the tankers were available, the Respondent No. 1 re-commenced with the restoration work of the W7. In order to restore W7, the Respondent No. 1 pumped out the water from W7 by installing pipes and connecting the same to the water tankers that were used to transport the polluted water from W7 to ETP of the Respondent No. 1. The Respondent No. 1 had to install pipes admeasuring around 400m long from W7 to the water tankers used for transportation. The pipes that were installed for pumping of the well water had to be dismantled daily as Gut No. 39 was not in the private



NOTED AND REGISTERED  
Dr. No. 285/2024  
Date: 25/3/2024

ownership of Respondent No. 1. The Respondent No. 1, had deployed its own labor for the purpose of the installing and dismantling the pipes. Besides, laying down of the pipes, it is pertinent to note that there was no electricity available at site of W7. Therefore, in order to pump the polluted water from W7, the Respondent No. 1 had stationed a diesel generator acquired by the Respondent No. 1 for pumping the water. The Respondent No. 1 would run the diesel generator for 4 hours approximately daily to pump the polluted water from W7. The diesel required for running of the Diesel Generator was also procured by the Respondent No. 1 on its own. During the 4 hours that the generator was in operation, approximately two trips of water tankers could be completed. Therefore, approximately, 34,000 L of water was pumped out daily from W7, filled into water tankers and transported to the ETP of the Respondent No. 1 for further treatment.

- d) The Respondent No. 1 issued a work order to Shivraj Water Suppliers, Dasarkhed dated 17.11.2020. As per the Work Order issued to the Shivraj Water Suppliers, it was agreed that, the Water Tanker Supplier would provide water tankers having capacity of 17,000 Liters for which, the Respondent No. 1 would be paying an amount of Rs. 4,000/- per trip. A copy of the Work Order dated 17.11.2020 issued by the Respondent No. 1 to Shivraj Water Suppliers is already annexed herein above as Annexure R-7. In order to restore W7, Shivraj Water Suppliers had to undertake 21 trips between 11.02.2020 and 25.03.2021 (barring the days when the Respondent No. 1 unit was closed and the days when the water tankers used by the Respondent No. 1 were under maintenance). The Respondent No. 1 has pumped 3,57,000 L of polluted water and the same was treated at the ETP of the Respondent No. 1. For the purpose of transporting 3,57,000 L of water from W7 to the ETP of the Respondent No. 1, the Respondent No. 1 paid an amount of Rs. 84,000/- to Shivraj Water Suppliers. This amount was paid to Shivraj Water Supplier through NEFT from authorized account of the Respondent No. 1.
- e) As on date, the restoration work of W7 is complete. The Respondent No. 1 has also called upon its own Environmental Consultant viz. Ashwamedh Engineers and Consultants, Nashik to undertake the monitoring of samples from W7. The Environmental Consultant of the Respondent No. 1 shall undertake the sampling of water from W7 on 19.05.2021 and then the same shall be analyzed in the Government Accredited



Jushar S. Patel  
ADVOCATE & NOTARY  
E. No. No. MAH/2327/05  
Notary Regd. No. 20303  
Muktainagar, Dist. Jalgaon  
Mob. No. 997029



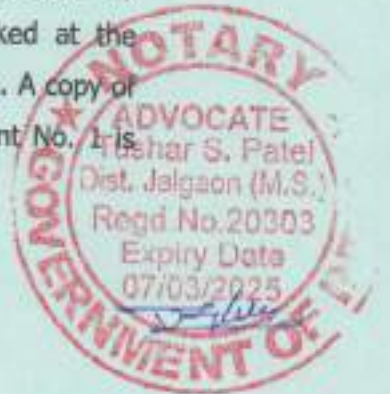


NOTED AND REGISTERED  
Sr. No. 235/04  
Date: 25-3-2024

Laboratory of the Environmental Consultant of Respondent No. 1. The Respondent No. 1 undertakes to file the copy of the reports of its Environmental Consultant as and when available.

12. In terms of the recommendations suggested by CSIR-NEERI, in its Report of June, 2019, the Respondent No. 1 has undertaken the following measures with regard to restoration of the Soil Environment:

- A. The CSIR-NEERI Report of 2021 has found that no fine chemicals were obtained in the samples taken from 15 cm and 30 cm below the surface. However, the soil samples from query pit area (E1), contained fine chemicals. In order to restore the soil environment CSIR -NEERI had recommended to send the contaminated soil to the Common Hazardous Waste Treatment and Disposal Facility (CHWTDF).
- B. It is submitted that the recommendations of CSIR-NEERI in the Report of June 2019 were received by the Respondent No. 1 in June 2019. However, the Respondent No. 2 only on 29.09.2020 directed the Respondent No. 1 to comply with the recommendations of CSIR-NEERI. In September 2020, Buldhana District was receiving its seasonal rainfall and therefore the Respondent No. 1 was not in a position to restore the soil environment as per the recommendations of CSIR-NEERI. It was only when the monsoons within the State of Maharashtra subsided in the month of October 2020 and therefore the restoration of soil could commence only after October 2020. Also, the restoration of soil could not commence immediately in October 2020 as the query pit area (E1) was filled with water and the area could be restored only once the ground had dried completely.
- C. The query pit area (E1) was completely dry by March 2021, thereafter the Respondent No. 1 commenced the restoration of the query pit area (E1). For the purpose of restoring the query pit area the Respondent No. 1 undertook the excavation of the polluted soil at the query pit area (E1) using a JCB and got the entire affected area by excavation. The Excavation work for entire polluted area was completed by the Respondent No. 1 by May 2021. A copy of the photographs showing the excavated query pit area (E1) is enclosed herewith as **ANNEXURE R-8**. A total of about 3 to 4 tons of polluted soil was excavated by Respondent No. 1. The excavated soil was collected by Respondent No. 1 in HDPE Woven Bags and is currently stocked at the earmarked Hazardous Waste Storage area of the Respondent No. 1. A copy of the photographs where the excavated soil collected by Respondent No. 1 is



NOTED AND REGISTERED  
Sr. No. 285/2021  
Date: 25-5-2021

Page No. of J...  
16 with ad...  
2021-  
25 MAY 2021

stocked in the Respondent No. 1's earmarked area are enclosed herewith as **ANNEXURE R-9.**

D. The Respondent No. 1 vide a letter dated 18.05.2021 addressed to the Respondent No. 2 has sought the permission of Respondent No. 2 to allow the Respondent No. 1 to transfer the excavated soil to a Common Hazardous Waste Treatment and Disposal Facility(CHWTDF) and in compliance to the recommendations of CSIR-NEERI Report of June 2019. A copy of the letter dated 18.05.2021 addressed by the Respondent No. 1 to the Respondent No. 2 is enclosed herewith as **ANNEXURE R-10.** Thus, if the Respondent No. 2 permits the transportation of the excavated soil to CHWTDF, the Respondent No. 1 would have then be in compliance of the CSIR-NEERI recommendations.

13. That the Respondent No. 1 as is evident from statements made herein above has complied with the recommendations of CSIR-NEERI in later and spirit. Also, the Respondent No. 1 vide a letter dated 16.05.2021 has requested the officers of CSIR-NEERI to inspect the present status of the recommendations qua the water environment as well as the soil environment as per the Report of June 2019. A copy of the letter dated 16.05.2021 addressed by the Respondent No. 1 to CSIR-NEERI is enclosed herewith as **ANNEXURE R-11.**

14. The Respondent No. 1 further undertakes that if any recommendations are suggested by CSIR-NEERI, the Respondent No. 1 undertakes to comply with the same immediately.

Whatever stated herein above is true and correct to the best of my knowledge and belief and nothing material has been concealed there from. Also, the Annexures enclosed herewith this Affidavit are true copies of the Original Documents. Solemnly affirmed at Muktainagar 25<sup>th</sup> day of May, 2021.

NOTARY  
ADVOCATE  
Tushar S. Patel  
Dist. Jalgaon (M.S.)  
Regd. No. 20303



*Tushar S. Patel*  
DEPONENT



**AFFIDAVIT**

Solemnly affirmed and signed before me by  
Shri. Mahad. P. Zope case-57  
at Sasarkhede who is identified by  
Shri. Yogesh S. Londe  
whom I know Personally.

*Yogesh S. Londe*

Sing.  
**BEFORE ME**  
12/5/2021 only  
Adv. Tushar S. Patel  
Notary Govt. of India  
Regd. No. 20303  
Muktainagar, Dist. Jalgaon  
Mob. No. 9870209947




**भारत सरकार**  
 Government of India


**प्रधान पंचायत अधिकारी**  
 Pralhad Pawar  
 जन्म तिथि/DOB: 01-02-1964  
 लिंग/ GENDER: MALE



**2293 4912 2460**

**माझी आधार, माझी ओळख**

*Pralhad Pawar*  
 9370327217




**भारत सरकार**  
 Unique Identification Authority of India

**पति:**  
 301, Minar Apartment, Sharda Nagar,  
 Bhujana, Jalgaon,  
 Maharashtra - 425001



**2293 4912 2460**

## **Annexure – IV**

**Correspondence with MPCB  
informing it about the stay on the NGT  
order**



**M Z M L E G A L L L P**

**(EMAIL/SPEED-POST)**

**MZM/WP/0845/2022**

**12 December 2022**

**To,**  
**Maharashtra Pollution Control Board**  
**Regional Office Amravati**  
Sahkar Surbhi Bapat Wadi,  
Near Vivekanand, Amravati,  
Pin-444601.  
**Email: [roamravati@mpcb.gov.in](mailto:roamravati@mpcb.gov.in)**  
**Kind Attention: Mr. Rajendra A Rajput**  
**(Regional Officer, Amravati)**

- Re : 1. Letter dated 06.12.2022 sent by us to you regarding the filing of Appeal against the Order dated 29.08.2022 passed by Hon'ble NGT in O.A No 124 of 2017 (WZ).**
- 2. Letter dated 29.11.2022 sent by us to you regarding the extension of time for complying with the Order dated 29.08.2022 passed by Hon'ble NGT in O.A No 124 of 2017 (WZ).**
- 3. Order dated 28.11.2022 passed by the Hon'ble Supreme Court of India in Special Leave Petition (Civil) no. 21613/2022.**
- 4. Regarding your notice for compliance of the order passed by Hon'ble NGT in the matter O.A No 124 of 2017 (WZ), M.A. No. 299/2017 (WZ) Shri Arvind Mahajan & Ors. v/s. M/s. Benzochem Industries Pvt. Ltd. & Ors ("said Notice").**
- 5. Order passed by Hon'ble NGT in the matter O.A No 124 of 2017 (WZ), M.A. No. 299/2017 (WZ) Shri Arvind Mahajan**



M Z M L E G A L L L P

**& Ors. v/s. M/s. Benzochem Industries Pvt. Ltd. & Ors  
dated 29.08.2022 ("said Order").**

**Sub : Letter intimating stay of the order dated 29.08.2022 passed by  
Hon'ble NGT in O.A No 124 of 2017 (WZ), M.A. No. 299/2017 (WZ)  
Shri Arvind Mahajan & Ors. v/s. M/s. Benzochem Industries Pvt.  
Ltd. & Ors.**

Respected Sir,

We are concerned for Benzochem Industries Private Limited (hereinafter referred to as "**Benzochem**" / "**our Client**" / "**the Company**") having its registered office at 26/28-A, Cawasji Patel Street, Fort, Mumbai Maharashtra 400001. On behalf of and under our Client's instructions we state to you as follows:

1. We refer to our Letter dated 06.12.2022. As intimated by us in the letter, our Client had exercised its legal rights as per the National Green Tribunal Act 2010 ("**the Act**") and the rules framed thereunder and has filed a civil appeal bearing diary number 39320 of 2022 against the said Order before the Hon'ble Supreme Court of India ("**Appeal**"). The Appeal was mentioned on 02.12.2022 and the Hon'ble Supreme Court of India was pleased to pass an order listing the Appeal for hearing on 09.12.2022.
2. On 09.12.2022, the Hon'ble Supreme Court of India, upon hearing our Counsel, was pleased to grant a stay on the execution of the said Order ("**Stay Order**"). A copy of the Stay Order is attached hereto as **Annexure A** for your reference.
3. In pursuance of the Stay Order of the Hon'ble Supreme Court, we request you to hold any acts with respect to the execution of the said Order of the Hon'ble National Green Tribunal in O.A. 124 of 2017 and not proceed to take any adverse actions against our Client in pursuance thereof. It is humbly requested that you comply with the directions of the Supreme Court passed in the Stay Order.



MZM LEGAL LLP

4. This letter is being issued without prejudice to contentions and submissions of the Company taken under the Appeal, Special Leave Petition, Review Application and the Interim Applications before the Hon'ble National Green Tribunal and further the same are without prejudice to any other right or remedy available to the Company under applicable law and should not be considered as a waiver of the same.

Regards,

A handwritten signature in blue ink, appearing to read 'Waseem Pangarkar'.

**For MZM Legal**

**Waseem Pangarkar, Senior Partner**

**Copy to:**

1. **The Hon'ble Member Secretary, MPCB Mumbai.**
2. **The Principal Scientific Officer (PSO), MPCB, Mumbai.**
3. **The Law Officer (HQ), MPCB Mumbai.**
4. **Sub Regional Officer MPCB, Akola.**

ITEM NO.65

COURT NO.9

SECTION XVII

S U P R E M E C O U R T O F I N D I A  
R E C O R D O F P R O C E E D I N G S

CIVIL APPEAL Diary No(s). 39320/2022

(Arising out of impugned final judgment and order dated 29-08-2022 in OA No. 124/2017 22-11-2022 in RA No. 07/2022 passed by the National Green Tribunal, western Zone, Pune)

BENZO CHEM INDUSTRIAL PRIVATE LIMITED

Petitioner(s)

VERSUS

ARVIND MANOHAR MAHAJAN &amp; ORS.

Respondent(s)

(IA No.192800/2022-EXEMPTION FROM FILING C/C OF THE IMPUGNED JUDGMENT and IA No.192798/2022-STAY APPLICATION and IA No.192797/2022-CONDONATION OF DELAY IN FILING APPEAL )

Date : 09-12-2022 This petition was called on for hearing today.

CORAM :

HON'BLE MR. JUSTICE B.R. GAVAI  
HON'BLE MR. JUSTICE VIKRAM NATH

For Petitioner(s)

Mr. Atmaram Nadkarni, Sr. Adv.  
Mr. Zulfiquar Menon, Adv.  
Mr. Vivek Jain, AOR  
Mr. Waseem Pangarkar, Adv.  
Ms. Nadiya Sarguroh, Adv.  
Mr. Swapnil Srivastava, Adv.  
Mr. S.S. Rebello, Adv.  
Ms. Deepti Arya, Adv.  
Ms. Arzu Paul, Adv.  
Ms. Manisha Gupta, Adv.  
Mr. Rajat Jain, Adv.

For Respondent(s)

UPON hearing the counsel the Court made the following  
O R D E R

Delay condoned.

Issue notice to show cause as to why the appeal should not be admitted.



In the meantime, the operation of the impugned judgment and order passed by the Tribunal shall remain stayed.

(DEEPAK SINGH)  
COURT MASTER (SH)

(ANJU KAPOOR)  
COURT MASTER (NSH)

## **Annexure –9**

# **Environmental monitoring reports**

Report Date: 05.01.2023

**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	17.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Zodga Village well Water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/11		Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Zodga Village well Water	Date			
			17.12.2022			
1	Colour	1.00			5	15
2	Odour	Agreeable		--	Agreeable	Agreeable
3	pH	8.02		--	6.5 -8.5	No Relaxation
4	Turbidity	0.1		NTU	1	5
5	Total Dissolved Solids	1880		mg/lit	Max 500	2000
6	Total Suspended Solid	<1		mg/lit	Not Specified	Not Specified
7	Aluminium as Al	<0.03		mg/lit	Max 0.03	0.2
8	Ammonia-N	<0.5		mg/lit	Max 0.5	No Relaxation
9	Boron	<0.1		mg/lit	Max 0.5	1
10	Calcium as Ca	144		mg/lit	Max 75	200
11	Chlorides as Cl	336		mg/lit	Max 250	1000
12	Copper	<0.03		mg/lit	Max 0.05	1.5
13	Fluoride as F	1.32		mg/lit	Max 1.0	1.5
14	Free residual chlorine	<0.2		mg/lit	Min 0.2	1
15	Iron as Fe	<0.05		mg/lit	Max 0.3	No Relaxation
16	Magnesium as Mg	27.3		mg/lit	Max 30	100
17	Manganese as Mn	<0.1		mg/lit	Max 0.1	0.3
18	Nitrate as NO <sub>3</sub>	12.7		mg/lit	Max 45	No Relaxation
19	Phenolic compounds	<0.001		mg/lit	Max 0.001	0.002
20	Sulphate	199.44		mg/lit	Max 200	400
21	Sulphide	<0.05		mg/lit	Max 0.05	No Relaxation
22	Total Alkalinity as CaCO <sub>3</sub>	529		mg/lit	Max 200	600

For Goldfinch Laboratory

Verified and Authorized by

Page 1 of 2

**NABL Accreditation in Process**

QF/LA/09

Report Date: 05.01.2023

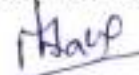
**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s.Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	17.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Zodga Village well Water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/11		Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Zodga Village well Water	Date			
			17.12.2022			
23	Total Hardness as CaCO <sub>3</sub>	474		mg/lit	Max 200	600
24	Selenium	<0.01		mg/l	Max 0.01	No Relaxation
25	Zinc as Zn	0.3517		mg/lit	Max 5	15
26	Cadmium	<0.002		mg/lit	Max 0.003	No Relaxation
27	Lead	<0.01		mg/lit	Max 0.01	No Relaxation
28	Mercury	<0.001		mg/lit	Max 0.001	No Relaxation
29	Nickel as Ni	<0.02		mg/lit	Max 0.02	No Relaxation
30	Total Arsenic	<0.005		mg/lit	Max 0.01	0.05
31	Total Chromium as Cr	<0.05		mg/lit	Max 0.05	No Relaxation
32	Cyanide (CN)	<0.005		mg/lit	Max 0.05	No Relaxation
33	BOD	3		mg/lit	Not Specified	Not Specified
34	COD	10		mg/lit	Not Specified	Not Specified
35	PolyChlorinated Biphenyls	<0.0005		mg/lit	Max 0.0005	No Relaxation
36	Poly Aromatic Hydrocarbons	<0.0001		mg/lit	Max 0.0001	No Relaxation
37	<b>Trihalomethanes</b>					
1	Bromoform	<0.1		mg/lit	Max 0.1	No Relaxation
2	Dibromochloromethane	<0.1		mg/lit	Max 0.1	No Relaxation
3	Bromodichloromethane	<0.06		mg/lit	Max 0.06	No Relaxation
4	Chloroform	<0.2		mg/lit	Max 0.2	No Relaxation

----- End of Report -----

For Goldfinch Laboratory



Verified and Authorized by

Page 2 of 2

**NABL Accreditation in Process**

**Note :** 1. Test results related only to the sample(s) tested. 2. This Certificate may not be reproduced in full or part, without the permission of this Laboratory. 3. Samples will be retained by us for a period of fifteen days only, unless specific instructions are given by the client. 4. Goldfinch Lab is not responsible for the authenticity of photocopies or computer scanned reports / certificates.

QF/LA/09

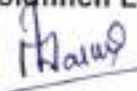
Report Date: 05.01.2023

**Analysis Test Report**

Name & Address of the Client :	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
Date of Sample Collection :	18.12.2022	Sample Description :	Ground Water
Date of Receipt of Sample :	26.12.2022	Sample Quantity :	1000 ml
Date of Analysis Started :	27.12.2022	Sample Collected by :	Laboratory
Date of Analysis Completed :	05.01.2023	Sample Container :	Plastic Carboy
Sampling Plan :	QF/LA/01-B 28.11.2022	Sampling Location :	Malakapur village Bore well Water
Sampling Method :	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/08		Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Malakapur village Bore well Water	Date			
			18.12.2022			
1	Colour	1.00			5	15
2	Odour	Agreeable		--	Agreeable	Agreeable
3	pH	7.87		--	6.5 -8.5	No Relaxation
4	Turbidity	0.1		NTU	1	5
5	Total Dissolved Solids	900		mg/lit	Max 500	2000
6	Total Suspended Solid	<1		mg/lit	Not Specified	Not Specified
7	Aluminium as Al	<0.03		mg/lit	Max 0.03	0.2
8	Ammonia-N	<0.5		mg/lit	Max 0.5	No Relaxation
9	Boron	<0.1		mg/lit	Max 0.5	1
10	Calcium as Ca	92		mg/lit	Max 75	200
11	Chlorides as Cl	196		mg/lit	Max 250	1000
12	Copper	<0.03		mg/lit	Max 0.05	1.5
13	Fluoride as F	1.02		mg/lit	Max 1.0	1.5
14	Free residual chlorine	<0.2		mg/lit	Min 0.2	1
15	Iron as Fe	<0.05		mg/lit	Max 0.3	No Relaxation
16	Magnesium as Mg	27.3		mg/lit	Max 30	100
17	Manganese as Mn	<0.1		mg/lit	Max 0.1	0.3
18	Nitrate as NO <sub>3</sub>	18.62		mg/lit	Max 45	No Relaxation
19	Phenolic compounds	<0.001		mg/lit	Max 0.001	0.002
20	Sulphate	61.68		mg/lit	Max 200	400
21	Sulphide	<0.05		mg/lit	Max 0.05	No Relaxation
22	Total Alkalinity as CaCO <sub>3</sub>	414		mg/lit	Max 200	600

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QF/LA/09

Report Date: 05.01.2023

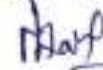
**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	18.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Malkapur village Bore well Water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/08	Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Malkapur village Bore well Water			
	<b>Date</b>	<b>18.12.2022</b>			
23	Total Hardness as CaCO <sub>3</sub>	344	mg/lit	Max 200	600
24	Selenium	<0.01	mg/l	Max 0.01	No Relaxation
25	Zinc as Zn	<0.05	mg/lit	Max 5	15
26	Cadmium	<0.002	mg/lit	Max 0.003	No Relaxation
27	Lead	<0.01	mg/lit	Max 0.01	No Relaxation
28	Mercury	<0.001	mg/lit	Max 0.001	No Relaxation
29	Nickel as Ni	<0.02	mg/lit	Max 0.02	No Relaxation
30	Total Arsenic	<0.005	mg/lit	Max 0.01	0.05
31	Total Chromium as Cr	<0.05	mg/lit	Max 0.05	No Relaxation
32	Cyanide (CN)	<0.005	mg/lit	Max 0.05	No Relaxation
33	BOD	3	mg/lit	Not Specified	Not Specified
34	COD	10	mg/lit	Not Specified	Not Specified
35	PolyChlorinated Biphenyls	<0.0005	mg/lit	Max 0.0005	No Relaxation
36	Poly Aromatic Hydrocarbons	<0.0001	mg/lit	Max 0.0001	No Relaxation
37	<b>Trihalomethanes</b>				
1	Bromoform	<0.1	mg/lit	Max 0.1	No Relaxation
2	Dibromochloromethane	<0.1	mg/lit	Max 0.1	No Relaxation
3	Bromodichloromethane	<0.06	mg/lit	Max 0.06	No Relaxation
4	Chloroform	<0.2	mg/lit	Max 0.2	No Relaxation

----- End of Report -----

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**NABL Accreditation in Process**

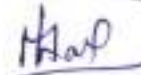
Report Date: 05.01.2023

**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	18.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Mhaiswadi Village Well water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/10	Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Mhaiswadi Village Well water			
Date		18.12.2022			
1	Colour	1.00		5	15
2	Odour	Agreeable	--	Agreeable	Agreeable
3	pH	8.18	--	6.5 -8.5	No Relaxation
4	Turbidity	0.1	NTU	1	5
5	Total Dissolved Solids	720	mg/lit	Max 500	2000
6	Total Suspended Solid	<1	mg/lit	Not Specified	Not Specified
7	Aluminium as Al	<0.03	mg/lit	Max 0.03	0.2
8	Ammonia-N	<0.5	mg/lit	Max 0.5	No Relaxation
9	Boron	<0.1	mg/lit	Max 0.5	1
10	Calcium as Ca	32	mg/lit	Max 75	200
11	Chlorides as Cl	159	mg/lit	Max 250	1000
12	Copper	<0.03	mg/lit	Max 0.05	1.5
13	Fluoride as F	0.7	mg/lit	Max 1.0	1.5
14	Free residual chlorine	<0.2	mg/lit	Min 0.2	1
15	Iron as Fe	<0.05	mg/lit	Max 0.3	No Relaxation
16	Magnesium as Mg	90.7	mg/lit	Max 30	100
17	Manganese as Mn	<0.1	mg/lit	Max 0.1	0.3
18	Nitrate as NO <sub>3</sub>	12.62	mg/lit	Max 45	No Relaxation
19	Phenolic compounds	<0.001	mg/lit	Max 0.001	0.002
20	Sulphate	64.82	mg/lit	Max 200	400
21	Sulphide	<0.05	mg/lit	Max 0.05	No Relaxation
22	Total Alkalinity as CaCO <sub>3</sub>	368	mg/lit	Max 200	600

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QF/LA/09

Report Date: 05.01.2023

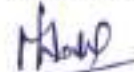
**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	18.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Mhaiswadi Village Well water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/10		Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Mhaiswadi Village Well water	Date			
			18.12.2022			
23	Total Hardness as CaCO <sub>3</sub>	458		mg/lit	Max 200	600
24	Selenium	<0.01		mg/l	Max 0.01	No Relaxation
25	Zinc as Zn	0.2902		mg/lit	Max 5	15
26	Cadmium	<0.002		mg/lit	Max 0.003	No Relaxation
27	Lead	<0.01		mg/lit	Max 0.01	No Relaxation
28	Mercury	<0.001		mg/lit	Max 0.001	No Relaxation
29	Nickel as Ni	<0.02		mg/lit	Max 0.02	No Relaxation
30	Total Arsenic	<0.005		mg/lit	Max 0.01	0.05
31	Total Chromium as Cr	<0.05		mg/lit	Max 0.05	No Relaxation
32	Cyanide (CN)	<0.005		mg/lit	Max 0.05	No Relaxation
33	BOD	<2		mg/lit	Not Specified	Not Specified
34	COD	<10		mg/lit	Not Specified	Not Specified
35	PolyChlorinated Biphenyls	<0.0005		mg/lit	Max 0.0005	No Relaxation
36	Poly Aromatic Hydrocarbons	<0.0001		mg/lit	Max 0.0001	No Relaxation
37	<b>Trihalomethanes</b>					
1	Bromoform	<0.1		mg/lit	Max 0.1	No Relaxation
2	Dibromochloromethane	<0.1		mg/lit	Max 0.1	No Relaxation
3	Bromodichloromethane	<0.06		mg/lit	Max 0.06	No Relaxation
4	Chloroform	<0.2		mg/lit	Max 0.2	No Relaxation

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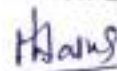
Report Date: 05.01.2023

**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Prvate Limited at Plot No. B-24,B-25, and B-16,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	19.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Dasarkhed Village Bore well Water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/09	Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Dasarkhed Village Bore well Water			
Date		19.12.2022			
1	Colour	1.00			
2	Odour	Agreeable	--	5	15
3	pH	7.86	--	Agreeable	Agreeable
4	Turbidity	0.2	NTU	6.5-8.5	No Relaxation
5	Total Dissolved Solids	730	mg/lit	1	5
6	Total Suspended Solid	<1	mg/lit	Max 500	2000
7	Aluminium as Al	<0.03	mg/lit	Not Specified	Not Specified
8	Ammonia-N	<0.5	mg/lit	Max 0.03	0.2
9	Boron	<0.1	mg/lit	Max 0.5	No Relaxation
10	Calcium as Ca	134.4	mg/lit	Max 0.5	1
11	Chlorides as Cl	135	mg/lit	Max 75	200
12	Copper	<0.03	mg/lit	Max 250	1000
13	Fluoride as F	0.73	mg/lit	Max 0.05	1.5
14	Free residual chlorine	<0.2	mg/lit	Max 1.0	1.5
15	Iron as Fe	<0.05	mg/lit	Min 0.2	1
16	Magnesium as Mg	25.9	mg/lit	Max 0.3	No Relaxation
17	Manganese as Mn	<0.1	mg/lit	Max 30	100
18	Nitrate as NO <sub>3</sub>	17.4	mg/lit	Max 0.1	0.3
19	Phenolic compounds	<0.001	mg/lit	Max 45	No Relaxation
20	Sulphate	112.68	mg/lit	Max 0.001	0.002
21	Sulphide	<0.05	mg/lit	Max 200	400
22	Total Alkalinity as CaCO <sub>3</sub>	354	mg/lit	Max 0.05	No Relaxation
				Max 200	600

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QF/LA/09

Report Date: 05.01.2023

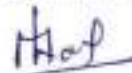
**Analysis Test Report**

<b>Name &amp; Address of the Client :</b>	M/s. Benzochem Industries Private Limited at Plot No. B-24,B-25, and B-16 ,B-17 dasarkhed ,Malakapur MIDC, Dist. Buldhana Malakapur		
<b>Date of Sample Collection :</b>	19.12.2022	<b>Sample Description :</b>	Ground Water
<b>Date of Receipt of Sample :</b>	26.12.2022	<b>Sample Quantity :</b>	1000 ml
<b>Date of Analysis Started :</b>	27.12.2022	<b>Sample Collected by :</b>	Laboratory
<b>Date of Analysis Completed :</b>	05.01.2023	<b>Sample Container :</b>	Plastic Carboy
<b>Sampling Plan :</b>	QF/LA/01-B 28.11.2022	<b>Sampling Location :</b>	Dasarkhed Village Bore well Water
<b>Sampling Method :</b>	APHA 1060B 23 <sup>rd</sup> Edition		

Sr. No	Parameters	GFL/BCIPLM/EW/09		Unit	Limits as per IS 10500:2012	Permissible Limits as per IS 10500:2012
		Dasarkhed Village Bore well Water	Date			
			19.12.2022			
23	Total Hardness as CaCO <sub>3</sub>	444		mg/lit	Max 200	600
24	Selenium	<0.01		mg/l	Max 0.01	No Relaxation
25	Zinc as Zn	0.0672		mg/lit	Max 5	15
26	Cadmium	<0.002		mg/lit	Max 0.003	No Relaxation
27	Lead	<0.01		mg/lit	Max 0.01	No Relaxation
28	Mercury	<0.001		mg/lit	Max 0.001	No Relaxation
29	Nickel as Ni	<0.02		mg/lit	Max 0.02	No Relaxation
30	Total Arsenic	<0.005		mg/lit	Max 0.01	0.05
31	Total Chromium as Cr	<0.05		mg/lit	Max 0.05	No Relaxation
32	Cyanide (CN)	<0.005		mg/lit	Max 0.05	No Relaxation
33	BOD	<2		mg/lit	Not Specified	Not Specified
34	COD	<10		mg/lit	Not Specified	Not Specified
35	PolyChlorinated Biphenyls	<0.0005		mg/lit	Max 0.0005	No Relaxation
36	Poly Aromatic Hydrocarbons	<0.0001		mg/lit	Max 0.0001	No Relaxation
37	<b>Trihalomethanes</b>					
1	Bromoform	<0.1		mg/lit	Max 0.1	No Relaxation
2	Dibromochloromethane	<0.1		mg/lit	Max 0.1	No Relaxation
3	Bromodichloromethane	<0.06		mg/lit	Max 0.06	No Relaxation
4	Chloroform	<0.2		mg/lit	Max 0.2	No Relaxation

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**STACK EMISSION MONITORING REPORT**

Sample ID : 5A/11/22/0608	Report No. 5A/11/22/0608	Report Date	03/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Stack Emission
Sample Quantity / Packing	PM: 1 no. thimble SO <sub>2</sub> : 30 ml x 1 no. plastic bottle NO <sub>2</sub> : 25 ml x 1 no. plastic bottle CO <sub>2</sub> : 1 x 1 no. bladder CO: 1 x 1 no. bladder O <sub>2</sub> : 1 x 1 no. bladder	Date - Sampling	26/11/2022
		Date - Receipt of Sample	29/11/2022
Sampling Procedure	IS 11255 (Part 1):1985,(Part 2):1985,(Part 3):2008,(Part 7):2005	Date - Start of Analysis	29/11/2022
Order Reference	Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	Date - Completion of Analysis	03/12/2022

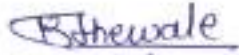
Stack Details	
~ Stack Identity	Stack No. 4
~ Stack attached to	Boiler Thermopack
~ Material of construction	MS
~ Stack height above ground level	33 m
~ Stack diameter	1.1 m
~ Stack shape at top	Round
~ Type of Fuel	Coal
~ Fuel Consumption	12 T/d

Parameter	Result	Limits as per MPCB Consent	Unit	Method
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Flue Gas Temperature	142	-	°C	IS 11255 (Part 3):2008
Flue Gas Velocity	10.9	-	m/s	IS 11255 (Part 3):2008
Flue Gas Flow Rate	25574	-	Nm <sup>3</sup> /h	IS 11255 (Part 3):2008
Particulate Matter (PM)	19	150	mg/Nm <sup>3</sup>	IS 11255 (Part 1):1985
Sulphur Dioxide (SO <sub>2</sub> )	8.42	Not specified	mg/Nm <sup>3</sup>	* IS 11255 (Part 2):1985
Sulphur Dioxide (SO <sub>2</sub> )	5.17	240	kg/d	IS 11255 (Part 2):1985
Oxides of Nitrogen (NO <sub>x</sub> )	16.4	Not specified	mg/Nm <sup>3</sup>	IS 11255 (Part 7):2005
Carbon Dioxide (CO <sub>2</sub> )	3	Not specified	%	IS 13270:1992
Oxygen (O <sub>2</sub> )	5	Not specified	%	IS 13270:1992
Carbon Monoxide (CO)	2.3	Not specified	%	IS 13270:1992

  
Kavita Shewale  
Section In-charge (Chemical)  
Reviewed & Authorised by



Sample ID : SA/11/22/0608	Report No. SA/11/22/0608	Report Date	03/12/2022
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Kavita Shewale  
Section In-Charge (Chemical)  
Reviewed & Authorised by



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3. In case sampling is not done by laboratory, the results apply to the sample as received.
4. There are no additions to, deviations or exclusions from the method.

**Disclaimer**

Information is supplied by the customer (~) and can affect the validity of results.



**AMBIENT AIR QUALITY MONITORING REPORT**

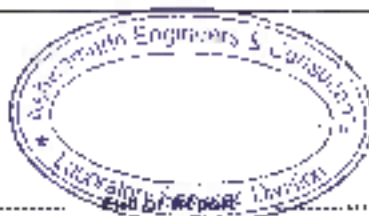
Sample ID: AA/11/22/0606	Report No. AA/11/22/0606	Report Date	09/12/2022
Name and address of Customer	Benzo Chem Industries Pvt. Ltd. B - 24/25, Dhanushad MIDC Area, Malkajour, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ambient Air
Sampling Location	Near Main Gate	Date - Sampling	28/11/2022
Sample Quantity / Packing	PM <sub>10</sub> : 1 x 1 no. filter paper SPM: 1 no. zip bag SO <sub>2</sub> , NO <sub>2</sub> : 30 ml x 2 no. plastic bottle each	Date - Receipt of Sample	29/11/2022
Sampling Procedure	As per method reference	Date - Start of Analysis	29/11/2022
Order Reference	Quo. Ref. No. ABC/B6/Q 05 dated 02.05.2022	Date - Completion of Analysis	08/12/2022

**Meteorological Data / Environmental Conditions**

Average Wind Velocity 7.8 km/h	Wind Direction SE	Relative Humidity (Max./Min.): 72/54%	Temperature (Max./Min.): 33/27°C	Duration of Survey 8 h
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Parameter	Result	Unit	Method
<b>Chemical Testing; Group: Atmospheric Pollution</b>			
Sulphur Dioxide (SO <sub>2</sub> )	4.85	µg/m <sup>3</sup>	IS 3025 Part 13: 2017
Nitrogen Dioxide (NO <sub>2</sub> )	7.34	µg/m <sup>3</sup>	IS 3025 Part 13: 2017
Particulate Matter (size less than 10 µm) or PM <sub>10</sub>	46	µg/m <sup>3</sup>	IS 3025 Part 13: 2017
Suspended Particulate Matter (SPM)	50	µg/m <sup>3</sup>	IS 3025 Part 13: 2017

*Kavita Shewale*  
Kavita Shewale  
Section In-charge (Chemical)  
Reviewed & Authored by



**Note:**

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3. In case sampling is not done by laboratory, the results apply to the sample as received.
4. There are no additions to, deletions or exclusions from the method.



**AMBIENT AIR QUALITY MONITORING REPORT**

Sample ID : AA/05/23/5609	Report No. AA/05/23/5609	Report Date	23/05/2023
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ambient Air
Sampling Location	Near Admin Office	Date - Sampling	13/05/2023 to 14/05/2023
Sample Quantity / Packing	PM <sub>10</sub> : Bag, Metals: 1 x 3 no. filter paper PM <sub>2.5</sub> : 1 x 1 no. filter paper SO <sub>2</sub> , NO <sub>2</sub> : 30 ml x 6 no. plastic bottle each NH <sub>3</sub> : 10 ml x 24 no. plastic bottle Ozone: 10 ml x 1 no. plastic bottle C <sub>6</sub> H <sub>6</sub> : 6 no. charcoal tubes CO: 1 no. bladder	Date - Receipt of Sample	16/05/2023
Sampling Procedure	As per Method Reference	Date - Start of Analysis	16/05/2023
Order Reference	As per Quotation No. AEC/JL/Q-05 DT. 11.05.2023	Date - Completion of Analysis	22/05/2023

**Meteorological Data / Environmental Conditions**

Average Wind Velocity 6.2 km/h	Wind Direction N-E	Relative Humidity (Max./Min.): 52/28%	Temperature (Max./Min.): 42/26°C	Duration of Survey 24 h
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Parameter	Result	NAAQS# 2009	Unit	Method
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Sulphur Dioxide (SO <sub>2</sub> )	<b>12.5</b>	80	µg/m <sup>3</sup>	IS 5182 (Part 2): 2001
Nitrogen Dioxide (NO <sub>2</sub> )	<b>17.5</b>	80	µg/m <sup>3</sup>	IS 5182 (Part 3): 2000
Particulate Matter (size less than 10 µm) or PM <sub>10</sub>	<b>64</b>	100	µg/m <sup>3</sup>	IS 5182 (Part 23): 2008
Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub>	<b>32</b>	60	µg/m <sup>3</sup>	CPCB Guidelines, Volume I,36/2012-13, Page No.15:2013
Ozone (O <sub>3</sub> )	<b>BLQ</b> (LOQ:19.6)	180	µg/m <sup>3</sup>	Methods of Air Sampling and Analysis (AWMA), 3rd Ed. Method 41, Page no. 403 /988
Lead (as Pb)	<b>BLQ</b> (LOQ:0.02)	1	µg/m <sup>3</sup>	EPA/825/R-95/010 a Compendium Method 10-3.1 8.3.2
Carbon Monoxide (CO)	<b>1.96</b>	4	mg/m <sup>3</sup>	CPCB Guidelines, Volume II, 37/2012-13, Page no.16: 2013
Ammonia (NH <sub>3</sub> )	<b>BLQ</b> (LOQ:20)	400	µg/m <sup>3</sup>	CPCB Guidelines, Volume I,36/2012-13, Page No.35: 2013
Benzene (C <sub>6</sub> H <sub>6</sub> )	<b>1.71</b>	5	µg/m <sup>3</sup>	IS 5182 (Part 10): 2008
Benzo (a) pyrene (BaP) Particulate Phase only	<b>BLQ</b> (LOQ:0.2)	1	ng/m <sup>3</sup>	IS 5182 (Part 12): 2004
Arsenic (as As)	<b>BLQ</b> (LOQ:0.3)	6	ng/m <sup>3</sup>	EPA/825/R-95/010 a Compendium Method 10-3.1 8.3.4
Nickel (as Ni)	<b>BLQ</b> (LOQ:3)	20	ng/m <sup>3</sup>	EPA/825/R-95/010 a Compendium Method 10-3.1 8.3.2

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification

TWA Time Weighted Average

 # NAAQS (National Ambient Air Quality Standards (Industrial, Residential, Rural and other Area) specified as:  
 24 hours TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM<sub>10</sub>, PM<sub>2.5</sub>, Lead and Ammonia, 1 hour TWA in  
 case of Carbon Monoxide and Ozone, Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.



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 Technical Manager (Chemical)  
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Sample ID : AA/05/23/5609	Report No. AA/05/23/5609	Report Date:	23/05/2023
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Technical Manager (Chemical)  
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### STACK EMISSION MONITORING REPORT

Sample ID : SA/11/22/3460	Report No. SA/11/22/3460N	Report Date	03/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Process Stack Emission
Sample Quantity / Packing	Acid Mist (as HCl): 30 ml x 1 no. plastic bottle	Date - Sampling	26/11/2022
		Date - Receipt of Sample	29/11/2022
Sampling Procedure	IS 11255 (Part 3):2008	Date - Start of Analysis	29/11/2022
Order Reference	Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	Date - Completion of Analysis	02/12/2022

Stack Details	
~ Stack Identity	Stack No. 2
~ Stack attached to	HCL Scrubber
~ Material of construction	MS
~ Stack height above ground level	15 m
~ Stack diameter	0.53 m
~ Stack shape at top	Round
~ Type of Fuel	-
~ Fuel Consumption	-

Parameter	Result	Unit	Method
<b>Chemical Testing; Group: Atmospheric Pollution</b>			
Flue Gas Temperature	35	°C	IS 11255 (Part 3):2008
Flue Gas Velocity	7.5	m/s	IS 11255 (Part 3):2008
Flue Gas Flow Rate	5546	Nm <sup>3</sup> /h	IS 11255 (Part 3):2008
Acid Mist (as HCl)	74.8	mg/Nm <sup>3</sup>	Titrimetric Method

*B. Shewale*

Kavita Shewale  
Section In-charge (Chemical)  
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**Disclaimer**

Information is supplied by the customer (~) and can affect the validity of results.



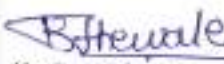




### STACK EMISSION MONITORING REPORT

Sample ID : SA/11/22/3461	Report No. SA/11/22/3461N	Report Date	03/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Process Stack Emission
Sample Quantity / Packing	Ammonia (NH <sub>3</sub> ): 30 ml x 1 no. plastic bottle	Date - Sampling	26/11/2022
Sampling Procedure	IS 11255 (Part 3):2008	Date - Receipt of Sample	29/11/2022
Order Reference	Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	Date - Start of Analysis	29/11/2022
		Date - Completion of Analysis	02/12/2022
<b>Stack Details</b>			
~ Stack Identity	Stack No. 3		
~ Stack attached to	NH <sub>3</sub> Scrubber		
~ Material of construction	MS		
~ Stack height above ground level	13 m		
~ Stack diameter	0.53 m		
~ Stack shape at top	Round		
~ Type of Fuel	-		
~ Fuel Consumption	-		
<b>Parameter</b>	<b>Result</b>	<b>Unit</b>	<b>Method</b>
<b>Chemical Testing; Group: Atmospheric Pollution</b>			
Flue Gas Temperature	34	°C	IS 11255 (Part 3):2008
Flue Gas Velocity	7.9	m/s	IS 11255 (Part 3):2008
Flue Gas Flow Rate	5842	Nm <sup>3</sup> /h	IS 11255 (Part 3):2008
Ammonia (NH <sub>3</sub> )	BLQ (LOQ:5)	mg/Nm <sup>3</sup>	IS 11255 (Part 3):2008

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification

  
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**WORK ROOM ENVIRONMENT MONITORING REPORT**

Sample ID : WR/11/22/0609	Report No. WR/11/22/0609	Report Date	10/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra	Order Reference : Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	
Sampling done by	Laboratory	Sample Description / Type	Work Place Environment
Sampling Location	Production Department (1st Floor)	Date - Sampling	26/11/2022
Sample Quantity / Packing	RSPM, SPM: 1 no. filter paper & 1 no. zip bag Chlorine (Cl <sub>2</sub> ), Acid Mist (as HCl), Ammonia (NH <sub>3</sub> ): 30 ml x 2 no. plastic bottle each	Date - Receipt of Sample	29/11/2022
Sampling Procedure	As per method reference	Date - Start of Analysis	29/11/2022
Duration of Sampling	8 h	Date - Completion of Analysis	09/12/2022

Parameter	Result	Limit as per Second schedule of factories Act/OSHA#	Unit	Method
		TWA (8 h)		
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Respirable Suspended Particulate Matter (RSPM)	<b>BLQ (LOQ:0.1)</b>	5#	mg/m <sup>3</sup>	MOSH 0500
BLQ: Below Limit of Quantification, LOQ: Limit of Quantification TWA : Time Weighted Average Note: Sample ID WR/11/22/0609 bears two Test Reports-WR/11/22/0609 and WR/11/22/0609N				

  
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Section In-charge (Chemical)  
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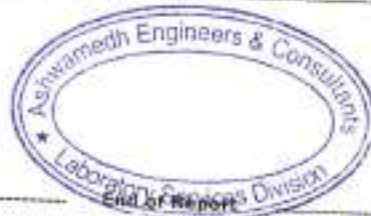
**WORK ROOM ENVIRONMENT MONITORING REPORT**

Sample ID : WR/11/22/0609	Report No. WR/11/22/0609N	Report Date	10/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra	Order Reference : Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	
Sampling done by	Laboratory	Sample Description / Type	Work Place Environment
Sampling Location	Production Department (1st Floor)	Date - Sampling	26/11/2022
Sample Quantity / Packing	RSPM, SPM: 1 no. filter paper & 1 no. zip bag Chlorine (Cl <sub>2</sub> ), Acid Mist (as HCl), Ammonia (NH <sub>3</sub> ): 30 ml x 2 no. plastic bottle each	Date - Receipt of Sample	29/11/2022
Sampling Procedure	As per method reference	Date - Start of Analysis	29/11/2022
Duration of Sampling	8 h	Date - Completion of Analysis	09/12/2022

Parameter	Result	Limit as per Second schedule of factories Act/OSHA#	Unit	Method
		TWA (8 h)		
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Suspended Particulate Matter (SPM)	BLQ (LOQ:0.1)	15#	mg/m <sup>3</sup>	NIOSH 0500
Ammonia (NH <sub>3</sub> )	BLQ (LOQ:0.02)	18	mg/m <sup>3</sup>	NIOSH 6315
Acid Mist (as HCl)	BLQ (LOQ:1)	7	mg/m <sup>3</sup>	Titrimetric Method
Chlorine (Cl <sub>2</sub> )	BLQ (LOQ:0.001)	3	ppm	IS 5182 (Part XIX): ISB2

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification  
TWA : Time Weighted Average  
Note: Sample ID WR/11/22/0609 bears two Test Reports-WR/11/22/0609 and WR/11/22/0609N

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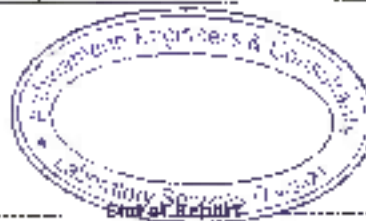


**WORK ROOM ENVIRONMENT MONITORING REPORT**

Sample ID: WR/11/22/0609	Report No.: WR/11/22/0609	Report Date:	11/11/2022
Name and address of Customer:	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/75, Pasarkher MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra	Order Reference / Quot. Ref. No:	ABC/B5-Q-05 dated 02.05.2022
Sampling date by:	Laboratory	Sample Description / Type:	Work Place Environment
Sampling Location:	Production Department (1st Floor)	Date - Sampling:	26/11/2022
Sample Quantity / Packing:	RSPM, SPM, 1 no. filter paper & 1 m, 2 p bag 1 Flame (Cl <sub>2</sub> ), Acid Mist (as HCl), Ammonia (NH <sub>3</sub> ), 30 ml x 2 no. plastic bottle each	Date - Receipt of Sample:	29/11/2022
Sampling Procedure:	As per method reference	Date - Start of Analysis:	29/11/2022
Duration of Sampling:	8 h	Date - Completion of Analysis:	09/12/2022

Parameter	Result	Limit as per Second schedule of factories Act/OSHA#	Unit	Method
		TWA (8 h)		
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Respirable Suspended Particulate Matter (RSPM)	BLQ (LOQ:0.1)	54	mg/m <sup>3</sup>	IMP Indt.
BLQ: Below Limit of Quantification, LOQ: Limit of Quantification TWA: Time Weighted Average Note: Sample ID WR/11/22/0609 bears two Test Reports-WR/11/22/0609 and WR/11/22/0609H				

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**WORK ROOM ENVIRONMENT MONITORING REPORT**

Sample ID: WR/11/22/0609	Report No: WR/11/22/0609M	Report Date:	10/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 11/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 413101 Maharashtra	Order Reference / Qty. Ref. No.	ACC/B5/Q-05 dated 02.05.2022
Sampling done by	Laboratory	Sample Description / Type	Work Place Environment
Sampling Location	Production Department (1st Floor)	Date - Sampling	26/11/2022
Sample Quantity / Packing	RSPM, SPH - 1 no. filter paper & 1 no. zip bag Chlorine (Cl <sub>2</sub> ), Acid Mist (as HCl), Ammonia (NH <sub>3</sub> ) - 30 ml x 2 no. plastic bottle each	Date - Receipt of Sample	20/11/2022
Sampling Procedure	As per method reference	Date - Start of Analysis	29/11/2022
Duration of Sampling	6 h	Date - Completion of Analysis	09/12/2022

Parameter	Result	Limit as per Second schedule of factories Act / OSHA#	Unit	Method
		TWA (8 h)		
<b>Chemical Testing; Group: Atmospheric Pollution</b>				
Suspended Particulate Matter (SPM)	BLQ (LOQ:0.1)	15#	mg/m <sup>3</sup>	NIOSH9503
Ammonia (NH <sub>3</sub> )	BLQ (LOQ:0.02)	18	mg/m <sup>3</sup>	NIOSH 9005
Acid Mist (as HCl)	BLQ (LOQ:1)	7	mg/m <sup>3</sup>	NIOSH Method
Chlorine (Cl <sub>2</sub> )	BLQ (LOQ:0.001)	1	ppm	NIOSH Method; IS302

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification  
TWA: Time Weighted Average

Note: Sample ID WR/11/22/0609 bears two Test Reports-WR/11/22/0609 and WR/11/22/0609N

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**TEST REPORT**

Sample ID : E/11/22/0357	Report No. E/11/22/0357	Report Date	06/12/2022
Name and address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24/25, Dasarkhed MIDC Area, Malkapur, Dist. Buldhana (M.S.) - 443101 Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Treated Trade Effluent
Sampling Location	ETP Outlet	Date - Sampling	27/11/2022
Sample Quantity / Packing	2 L x 1 no. plastic can 1 L x 1 no. glass bottle	Date - Receipt of sample	29/11/2022
Sampling Procedure	IS 3025 (Part 1):1987 Amds.1& APHA,23rd Ed.2017,1060 B,1-40	Date - Start of Analysis	29/11/2022
Order Reference	Quo. Ref. AEC/BS/Q-05 dated 27.11.2022	Date - Completion of Analysis	05/12/2022

Sr.No.	Parameter	Result	Unit	Method
<b>Chemical Testing; Group: Pollution &amp; Environment</b>				
1	pH	<b>8.10</b>	-	IS 3025 (Part II):883
2	Total Suspended Solids	<b>8</b>	mg/L	IS 3025 (Part I):884
3	Biochemical Oxygen Demand (3 days, 27°C)	<b>2</b>	mg/L	IS 3025 (Part 4):893
4	Chemical Oxygen Demand	<b>10</b>	mg/L	APHA, 23rd Ed., 5220-B, 5-10
5	Total Dissolved Solids	<b>530</b>	mg/L	IS 3025 (Part 15):884
6	Oil & Grease	<b>BLQ (LOQ:1)</b>	mg/L	APHA, 23rd Ed., 5520-B, 5-42
7	Chloride (as Cl)	<b>92</b>	mg/L	IS 3025 (Part 32):888
8	Sulphate (as SO <sub>4</sub> )	<b>50</b>	mg/L	IS 3025 (Part 24):886
9	Cyanide (as CN)	<b>BLQ (LOQ:0.001)</b>	mg/L	APHA, 23rd Ed., 4500-CN, C & D, 4-44 & 4-47
10	Free Ammonia	<b>BLQ (LOQ:0.1)</b>	mg/L	APHA, 23rd Ed., 4500-NH <sub>3</sub> , B & C, 4-10, 4-12

BLQ: Below Limit of Quantification, LOQ: Limit of Quantification

  
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### NOISE LEVEL MEASUREMENT REPORT

Sample ID: N/11/22/0639	Report No.: N/11/22/0639	Report Date	28/11/2022
Name and Address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24 /25, M.I.D.C. Area, Dasarkhed, Malkapur - 443101 Dist. Buldhana		
Monitoring Done By	Laboratory	Sample Description/Type	Ambient Noise
Order Reference	Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	Date of Monitoring	26/11/2022

Chemical Testing; Group: Atmospheric Pollution				
Sr. No.	Location	Time (h)	Result Noise Level dB (A)	Method
1.	Near Admin. Office	10:00	64.2	CPCB Protocol for Ambient Level Noise Monitoring, July AEC/C/SAP/SAN/156 SE, Issue no.4, Issue date 01.04.2018
		22:00	57.5	
2.	Near Godown	10:20	71.7	
		22:20	68.0	
3.	Near E.T.P.	10:30	72.9	
		22:30	70.3	
4.	Near Boiler	10:40	74.1	
		22:40	71.4	
Limits				
As per The Noise Pollution (Regulation & Control) Rules, 2000 (Rules 3(1) and 4(1))				
Area Code	Area Type	Limits in dB (A) weighted scale		
		Day (6 a.m. to 10 p.m.)		Night (10 p.m. to 6 a.m.)
A	Industrial	75		70

  
Nind Soundankar  
Technical Manager (Chemical)  
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-----End of Report-----

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### NOISE LEVEL MEASUREMENT REPORT

Sample ID: N/11/22/0640	Report No.: N/11/22/0640	Report Date	28/11/2022
Name and Address of Customer	<b>Benzo Chem Industries Pvt. Ltd.</b> B - 24 /25, M.I.D.C. Area, Dasarkhed, Malkapur - 443101 Dist. Buldhana		
Monitoring Done By	Laboratory	Sample Description/Type	Ambient Noise
Order Reference	Quo. Ref. No. AEC/BS/Q-05 dated 02.05.2022	Date of Monitoring	26/11/2022

Chemical Testing; Group: Atmospheric Pollution				
Sr. No.	Location	Time (h)	Result Noise Level dB (A)	Method
1.	Production Department (1 <sup>st</sup> Floor)	11:00	72.9	DPCB Protocol for Ambient Level Noise Monitoring, July AEC/C/SMP/34N/356 2E, Issue no. A, Issue date 03.04.2008
		23:00	70.5	
2.	Quality Control Lab	11:10	64.2	
		23:10	58.7	
Limits				
As per The Noise Pollution (Regulation & Control) Rules, 2000 (Rules 3(1) and 4(1))				
Area Code	Area Type	Limits in dB (A) weighted scale		
		Day (6 a.m. to 10 p.m.)		Night (10 p.m. to 6 a.m.)
A	Industrial	75		70

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Technical Manager (Chemical)  
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End of Report

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## **Annexure – 10**

**CSR reports of Benzochem  
Group for the FY 2019-2020,  
2020-2021 and 2021 -2022**

# BENZO CHEM INDUSTRIES PRIVATE LIMITED

Registered Office: 26/28-A, Cawasji Patel Street, Fort, Mumbai - 400 001  
©: +91- 22 - 43555888 • Fax No. 022-40057327 • Email: info@benzochem.co.in • Website: www.bcipl.com  
CIN - U24100MH1986PTC041751

## ANNUAL REPORT ON CSR ACTIVITIES FOR FY 2019-20

### 1. BENZO CHEM'S CSR Policy:-

#### a) Brief Outline –

BENZO CHEM has implemented its CSR activities in accordance with Section 135 of the Companies Act 2013 read with Companies (Corporate Social Responsibility Policy) Rules, 2014 as amended. These CSR programs were sanctioned to be implemented through Non-Governmental Organizations (NGO's), Government Bodies, Institutions, Municipalities, Schools and Agencies as approved by the CSR Committee.

#### b) Details of Implementation Agencies –

The Implementation Agencies details are given here below has been appointed to conduct CSR Activities on behalf of company:-

Sr. No.	Name of Implementation Agency along with its address	Whether it is Trust / NGO / Registered Society	Name of Contact Person	Brief Profile of Implementation Agency
1	Smt. Vimladevi Mohatta Charitable Trust, Lotus Court, Lady Jamsheji Tata Road, Bombay – 400 001	Registered Public Charitable Trust	Mrs. Shreya Shinde	Formed on 17.04.1975 to pursue charitable objects like promoting education, giving medical relief, distribution of free food and clothing, setting up or provide help through endowments to poor persons and widows and any other charitable purpose. The said trust being related party of company, proper disclosures have been made by the company in this regard in the Directors Report of the Company.
2	Shri. Ravikumar Mohatta Charitable Trust M G	Registered Public Charitable Trust	Mrs. Madhu Mohatta	Formed on 18.09.2013 to pursue charitable objects like promoting education, giving medical relief, distribution of free food and clothing, setting up or provide help through endowments to poor persons and widows and any other charitable purpose. The said trust being related party of company, proper disclosures have been made by the company in this regard in the Directors Report of the Company.



3	Shri Chaitanya Seva Trust	Registered Public Charitable Trust	Mr. Satyendra Mishra	<p>Non Profit Organization formed in 1998 founding stone of 'Share Your Care'. doctors started a small nursing home, at Mira Road, which late blossomed in the 'Bhaktivedanta Hospital'</p> <p>Share Your Care for the past two decades has been involved in: –</p> <ol style="list-style-type: none"> <li>1. Identifying the healthcare needs of the community</li> <li>2. Providing healthcare services to the needy</li> <li>3. Determining project feasibility &amp; work towards self-sustainability</li> <li>4. Involving partners for the project development activities of the hospital</li> <li>5. Supporting patients through sponsorships.</li> <li>6. Monitoring &amp; evaluation of projects</li> <li>7. Statutory compliance as per Government norms</li> <li>8. Creating sustainable healthcare models for different communities</li> </ol>
4	Bombay Hospital & Medical Research Center	Registered Medical center and Hospital	Smt. Vimladevi Mohatta	<p>Shri Rameshwardasji Birla has set up the Bombay Hospital in 1950 with 440 – bed capacity. Later, in 1972 a 15-storey Medical Research Centre (Now known as the R. D. Birla Tower) was added catering to all specialities in the medical field, and equipped with the most sophisticated equipment, and with a strength of over 200 beds, making a total of 640 beds. With the completion of the 15-storey New Wing of the Medical Research Centre (Now known as the M. P. Birla Tower) The bed strength of the Hospital has now gone up to 750 beds, of which 254 beds are in General Ward Category.</p> <p>Charity and the pursuit of excellence are the two fundamental ideals that provide the impetus to focus on the well being of the patient who is hospital's primary responsibility.</p>



5	Sri Chaitanya Seva Trust (SCST)	Registered Medical center and Hospital	---	<p>BhaktiVedanta Hospital &amp; Research Institute, located at Mira Road, Thane Dist. is a fully equipped multi-speciality hospital, providing comprehensive, state-of-the-art medical &amp; healthcare facilities for all types of diagnostic, surgical and critical cases. This hospital is owned by Sri Chaitanya Sava Trust and it has been offering various Community Healthcare Programs to the poor and the needy spectrum of the society staying in the rural and tribal areas of Maharashtra and Uttar Pradesh.</p> <ul style="list-style-type: none"> <li>• Since 1992, Bhaktivedanta Eye Hospital at Barsana has been providing free eye care services including free Cataract surgeries to the villagers of Barsana and surrounding 120 villagers. Since inception of the project, we have performed over 50000+ free Cataract surgeries. Annually we screen over 25000 villagers and perform approximately 4000 free Cataract surgeries.</li> <li>• Bhaktivedanta Hospital &amp; Research Institute distributes free food and snacks to over 1 Lac patients and pilgrims during the Ashadhi Ekadashi camp, Pandharpur. Every year Bhakti Vedanta Hospital &amp; Research Institute has been rendering free medical services for the pilgrims at Pandharpur during Ashadi Ekadashi.</li> </ul>
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**c) Overview of Projects / Programs Undertaken –**

Following are the few Programs were undertaken during FY 2019-20:

Sr. No.	Name of Implementation Agency	Project Brief	Amount Sanctioned	Amount Spent
1	Vimladevi Mohatta Charitable Trust (VDMCT)	Medical Aid and Educational Aid for poor section of the society	11,50,000/-	11,50,000/-



Sr. No.	Name of Implementation Agency	Project Brief	Amount Sanctioned	Amount Spent
2	Shri Ravikumar Mohatta Charitable Trust (SRKMCT)	Medical Aid and Educational Aid for poor section of the society	16,50,000/-	16,50,000/-
3	Sri Chaitanya Seva Trust (SCST)	Medical Aid and Educational Aid for poor section of the society.	7,50,000/-	7,50,000/-
4	Bombay Hospital & Medical Research Center	Medical Aid for Patients who are admitted in hospital and financially very poor in background	50,000/-	50,000/-
5.	Jankalyan Sewa Sanstha, Amaravati	Medical Aid to people who visited Pandharpur during Aashadhi Ekadashi	2,50,000/-	2,50,000/-
6.	MILAP ORGANISATION	Sanitisation and distribution of re-usable Sanitary pads to woman's who do not have access to menstrual sanitization.	21,000/-	21,000/-
7.	National Health & Education Society	Medical Aid to 8 months old baby for treatment of Sepsis virus	8,764/-	8,764/-
8.	Abhilasha Foudation	Medical Aid for treatment of baby	50,000/-	50,000/-
9.	IMFPA Training Foundation Trust	Financial Assistance to help differently able person self reliant.	3,000/-	3,000/-
10.	Shrimad Rajchandra Sarvamangal Trust – Tata Mumbai Marathon	Financial Assistance towards promotion of sports	25,000/-	25,000/-
11.	Apollo Hospital, Chennai	Financial Assistance for medical aid to poor people.	5,96,055/-	5,96,055/-
12.	Rajasthani Mahila Mandal	Assistance for special education and employment enhancing vocation skills among women.	3,00,000/-	3,00,000/-



Sr. No.	Name of Implementation Agency	Project Brief	Amount Sanctioned	Amount Spent
13.	Think Foundation – Tata Mumbai Marathon	Financial Assistance towards promotion of sports	25,000/-	25,000/-
14.	World Vision India	Financial assistance towards eradication of hunger and malnutrition among Underprivileged Children	20,000/-	20,000/-
<b>Total (Amount in Rs.)</b>			<b>48,98,819/-</b>	<b>48,98,819/-</b>

**d) Weblink to CSR policy / Projects Undertaken –**

BENZO CHEM'S CSR Policy is hosted on company's webpage at –  
<http://www.bcipl.com/pdf/Benzo%20CSR%20Policy%20-%20Second%20Edition.pdf>

**2. Composition of CSR Committee:-**

Mr. Surendrakumar Mohatta – Member & Chairman of Committee  
 Mr. Gaurav Mohatta – Member of Committee  
 Mrs. Vimladevi Mohatta – Manager CSR Activities

**3. Average Net Profit of Company for Last Three Financial Years:-**

Calculation of Amount of Spending in CSR Activities for FY 2019-20					
Particulars	(Rs. In Lakhs)				
	2016-17	2017-18	2018-19	Total	
NPBT	3760.33	3044.70	3117.24	9922.27	
Add: Income Tax and Super Tax Paid under IT Act 1961	0.00	0.00	0.00	0.00	
Add: Compensation / Damages / Payments Voluntarily Made for Any other Taxes	0.00	0.00	0.00	0.00	
Add: Loss of Capital Nature (include loss on sale of undertaking, not to include any excess of WDV over Sale Price / Scrap Value)	0.00	0.00	0.00	0.00	
Add: Any Change in Carrying Amount of an Asset / Liability recognized in equity reserves	0.00	0.00	0.00	0.00	
Total Net Profits for Calculation of CSR Exp Limit	3760.33	3044.70	3117.24	9922.27	
<b>Average of above</b>				<b>3307.42</b>	

**4. Prescribed CSR Expenditure for FY 2019-20:-**

2% of Rs. 3307.83 Lakhs = Rs.66.15 Lakhs



**5. Details of CSR Spent during the FY 2019-20:-**

**a) Total Amount to be Spent for FY 2019-20 –**

Rs.66,15,000/- (Rupees Sixty Six Lakhs Fifteen Thousand Only)

**b) Amount unspent, if any –**

Rs.17,16,181/- (Rupees Seventeen Lakh Sixteen Thousand One Hundred Eighty One)

**c) Manner in which the amount is spent during the FY 2019-20 is detailed as below –**

S. N.	CSR Project / activity indentified	Sector in which the project is covered	Projects or programs 1) Local Area or other 2) Specify the state and district where projects / program was undertaken	Amount outlay (budget) project or programs wise	Amount spent on the projects / programs <b>sub heads:</b> 1) Direct Expenditure on projects / programs 2) Overheads	Cumulative expenditure up to the reporting period	Amount spent: Direct or through implementing agency
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Medical and Educational Aid to Poor and Needy of the Society by VDMCT	VII (i) (ii) & (iii)	Maharashtra, Rajasthan, Bihar	Rs.11,50,000/-	Rs.11,50,000/-	Rs.11,50,000/-	Implementing Agency
2	Medical and Educational Aid to Poor and Needy of the Society by SRKMCT	VII (i) (ii) & (iii)	Maharashtra, Rajasthan, Bihar	Rs.16,50,000/-	Rs.16,50,000/-	Rs.16,50,000/-	Implementing Agency
3	Medical and Educational Aid for poor section of the society through SCST	VII (i) (ii) & (iii)	Maharashtra	Rs.7,50,000/-	Rs.7,50,000/-	Rs.7,50,000/-	Implementing Agency
4	Medical Aid to Bombay Hospital & Medical Research Center	VII (i)	Local Area	Rs.50,000/-	Rs.50,000/-	Rs.50,000/-	Implementing Agency
5	Medical Aid to people who visited Pandharpur during Aashadhi Ekadashi	VII (i)	Maharashtra	Rs.2,50,000/-	Rs.2,50,000/-	Rs.2,50,000/-	Implementing Agency



	through Jankalyan Sewa Sanstha, Amaravati						
6	Sanitisation and distribution of re-usable Sanitary pads to woman's who do not have access to menstrual sanitization through Milap Organisation NGO	VII (i)	Maharashtra	Rs.21,000/-	Rs.21,000/-	Rs.21,000/-	Direct
	Medical Aid to 8 months old baby for treatment of Sepsis virus through NHES	VII (i)	Local Area	Rs.8,764/-	Rs.8,764/-	Rs.8,764/-	Direct
8	Medical Aid to a baby for treatment through Abhilasha Foundationa	VII (i)	Local Area	Rs. 50,000/-	Rs. 50,000/-	Rs. 50,000/-	Direct
9	Financial Assistance to help differently able person self reliant through IMFPA	VII (ii)	Maharashtra	Rs.3,000	Rs.3,000	Rs.3,000	Implementing Agency
10	Financial Assistance towards promotion of sports through SRST	VII (vii)	Local Area	Rs.25,000/-	Rs.25,000/-	Rs.25,000/-	Direct
11	Financial Assistance for medical aid to poor people through Apollo Hospital	VII (i)	Local Area	Rs.5,96,055/-	Rs.5,96,055/-	Rs.5,96,055/-	Direct
12	Assistance for special education and employment	VII (ii) & (iii)	Local Area	Rs.3,00,000/-	Rs.3,00,000/-	Rs.3,00,000/-	Implementing Agency





	enhancing vocation skills among women through Rajasthani Mahila Mandal						
13	Financial Assistance towards promotion of sports through Think Foundation, Mumbai Marathon	VII (vii)	Local Area	Rs.25,000/-	Rs.25,000/-	Rs.25,000/-	Direct
14	Financial assistance towards eradication of hunger and malnutrition among Underprivileged Children through World Vision India	VII (i) & (ii)	Local Area	Rs.20,000/-	Rs.20,000/-	Rs.20,000/-	Direct

**6. Reasons for not spending the prescribed expenditure amount:-**

Due to Covid-19 pandemic world over and the lock-down declared by the Central as well as State Government, the Company was unable spend the full amount eligible for CSR.

**7. Disclosure of utilization of Unspent CSR Fund as on date:**

The unutilized amount under CSR was spent out on Covid-19 and other related activities immediately after the lock-down was lifted by the government.

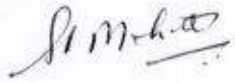

**8. Responsibility Statement of the CSR Committee:-**

Pursuant to the requirement under Section 135 of the Companies Act, 2013; CSR Committee states that:-

- In preparation of the aforesaid annual report on CSR Activities, has taken due care in disclosure of the CSR Sanctioned Amount and CSR Spending Amount;
- The Committee Members have selected the Implementing Agencies to complete the CSR Formalities on Behalf of our Company in very diligent manner;



- c) The CSR Committee has devised proper systems to ensure compliance with the provisions of the applicable law and that such systems were adequate and operating effectively.

<b>FOR BENZO CHEM INDUSTRIES PRIVATE LIMITED</b>  <b>(SURENDRAKUMAR MOHATTA)</b> <b>(DIRECTOR - CHAIRMAN OF CSR COMMITTEE)</b> <b>(DIN - 00388893)</b>	<b>FOR BENZO CHEM INDUSTRIES PRIVATE LIMITED</b>  <b>(PRAVIN PATIL)</b> <b>(COMPANY SECRETARY)</b> <b>(M.NO.: A24037)</b>
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**Place: Mumbai**

**Date: 02/09/2020**



# BENZO CHEM INDUSTRIES PRIVATE LIMITED

Registered Office: 26/28-A, Cawasji Patel Street, Fort, Mumbai - 400 001  
 (+91)- 22 - 43555888 • Fax No. 022-40057327 • Email: info@benzochem.co.in • Website: www.bcipl.com

## ANNUAL REPORT ON CSR ACTIVITIES FOR FY 2020-21

### 1. Brief Outline on CSR Policy of the Company –

BENZO CHEM has implemented its CSR activities in accordance with Section 135 of the Companies Act 2013 read with Companies (Corporate Social Responsibility Policy) Rules, 2014 as amended. These CSR programs were sanctioned to be implemented through Non-Governmental Organizations (NGO's), Government Bodies, Institutions, Municipalities, Schools and Agencies as approved by the CSR Committee.

### 2. Composition of CSR Committee:

Sl. No.	Name of Director	Designation / Nature of Directorship	Number of meetings of CSR Committee held during the year	Number of meetings of CSR Committee attended during the year
1	Surendrakumar Mohatta	Chairman of Committee / Managing Director	4	4
2	Gaurav Mohatta	Member of Committee / Whole time Director	4	4
3	Vimladevi Mohatta	Manager CSR Activities	4	4

### 3. The web-link where Composition of CSR committee, CSR Policy and CSR projects approved by the board are disclosed on the website of the company:

<http://www.bcipl.com/pdf/Benzo%20CSR%20Policy%20-%20Second%20Edition.pdf>

### 4. Details of Impact Assessment of CSR projects carried out in pursuance of sub-rule (3) of rule 8 of the Companies (Corporate Social responsibility Policy) Rules, 2014, if applicable (attach the report) - Not Applicable

### 5. Details of the amount available for set off in pursuance of sub-rule (3) of rule 7 of the Companies (Corporate Social responsibility Policy) Rules, 2014 and amount required for set off for the financial year, if any

Sl. No.	Financial Year	Amount available for set-off from preceding financial years (in Rs)	Amount required to be setoff for the financial year, if any (in Rs)
----- NIL -----			

### 6. Average net profit of the company as per section 135(5):

Calculation of Amount of Spending in CSR Activities for FY 2020-21					
Particulars	(Rs. In Lakhs)				
	2017-18	2018-19	2019-20	Total	
NPBT	3044.70	3117.24	5430.37	11592.81	
Add: Income Tax and Super Tax Paid under IT Act 1961	0.00	0.00	0.00	0.00	



Add:	Compensation / Damages / Payments Voluntarily Made for Any other Taxes	0.00	0.00	0.00	0.00
Add:	Loss of Capital Nature (include loss on sale of undertaking, not to include any excess of WDV over Sale Price / Scrap Value)	0.00	0.00	0.00	0.00
Add:	Any Change in Carrying Amount of an Asset / Liability recognized in equity reserves	0.00	0.00	0.00	0.00
	Total Net Profits for Calculation of CSR Exp Limit	3044.70	3117.24	5430.37	11592.81
<b>Average of above</b>					<b>3864.27</b>

7. (a) Two percent of average net profit of the company as per section 135(5): Rs.77.29 Lakh

(b) Surplus arising out of the CSR projects or programmes or activities of the previous financial years: NIL

(c) Amount required to be set off for the financial year, if any – Rs.17.16 Lakh

(d) Total CSR obligation for the financial year (7a+7b+7c) = Rs.94.45 Lakh

8. (a) CSR amount spent or unspent for the financial year:

Total Amount Spent for the Financial Year. (in Rs.)	Amount Unspent (in Rs.)				
	Total Amount transferred to Unspent CSR Account as per section 135(6)		Amount transferred to any fund specified under Schedule VII as per second proviso to section 135(5)		
	Amount	Date of transfer	Name of the Fund	Amount	Date of transfer
Rs. 94.45 Lakh	----- NIL -----				

(b) Details of CSR amount spent against ongoing projects for the financial year:

(1) Sl. No.	(2) Name of the Project	(3) Item from the list of activities in Schedule VII to the Act	(4) Local area (Yes/No)	(5) Location of the project		(6) Project duration	(7) Amount allocated for the project (in Rs.)	(8) Amount spent in the current financial Year (in Rs.)	(9) Amount transferred to Unspent CSR Account for the financial year (in Rs.)	(10) Mode of Implementation - Direct (Yes/No)	(11) Mode of Implementation - Through Implementing Agency	
				State	District						Name	CSR Registration number
1.	Medical, Educational, Food and Financial Aid to Poor and Needy people of the Society	VII (i) (ii) (iii) & (iv)	Yes	Mumbai and Sub-Urban Areas,	Maharashtra	F.Y. 2020 - 2021	5579500	5579500	Nil	Direct as well as through Implementing Agency	(1) SRKMCT (2) VDMCT	(1) CSR00002870 (2) CSR00002875
2.	Medical, Educational Food, and Financial Aid to Poor and Needy people of the Society	VII (i) (ii) (iii) & (iv)	Yes	Jalgaon,	Maharashtra	F.Y. 2020 - 2021	146218	146218	Nil	Direct	N. A.	N. A.



3.	Food Aid to Poor and Needy people of the Society	VII (i) (ii) (iii) & (iv)	No	Dahej, Gujrat	F.Y. 2020 - 2021	111000	111000	Nil	Direct	N. A.	N. A.
4.	Medical, Educational Food, and Financial Aid to Poor and Needy people of the Society	VII (i) (ii) (iii) & (iv)	Yes	Buldhana, Maharashtra	F.Y. 2020 - 2021	3609011	3609011	Nil	Direct	N. A.	N. A.

(c) Details of CSR amount spent against other than ongoing projects for the financial year:

Sl. No.	Name of the Project	Item from the list of activities in schedule VII to the Act	Local area (Yes/ No)	Location of the project		Amount spent for the project (in Rs.)	Mode of implementation on - Direct (Yes/No).	Mode of implementation - Through implementing agency.	
				State	District			Name.	CSR registration number
----- NIL -----									
Total									

(d) Amount spent in Administrative Overheads – Nil

(e) Amount spent on Impact Assessment, if applicable – Nil

(f) Total amount spent for the Financial Year (8b+8c+8d+8e): Rs.94.45 Lakh

(g) Excess amount for set off, if any:

Sl. No.	Particular	Amount (in Rs.)
(i)	Two percent of average net profit of the company as per section 135(5)	Rs.77.29 Lakh
(ii)	Total amount spent for the Financial Year	Rs.77.29 Lakh
(iii)	Excess amount spent for the financial year [(ii)-(i)]	Nil
(iv)	Surplus arising out of the CSR projects or programmes or activities of the previous financial years, if any	Nil
(v)	Amount available for set off in succeeding financial years [(iii)-(iv)]	Nil

9. (a) Details of Unspent CSR amount for the preceding three financial years:

Sl. No	Preceding Financial Year	Amount transferred to Unspent CSR Account under section 135 (6) (in Rs.)	Amount spent in the reporting Financial Year (in Rs.)	Amount transferred to any fund specified under Schedule VII as per section 135(6), if any			Amount remaining to be spent in succeeding financial years. (in Rs.)
				Name of the Fund	Amount (in Rs)	Date of transfer	
1.	2019-2020	Rs.17.16 Lakh	Rs.94.45 Lakh	--- N. A. ---			Nil



(b) Details of CSR amount spent in the financial year for ongoing projects of the preceding financial year(s):

Sl. No.	Project ID.	Name of the Project.	Financial Year in which the project was commenced.	Project duration.	Total amount allocated for the project (in Rs.).	Amount spent on the project in the reporting Financial Year (in Rs.).	Cumulative amount spent at the end of reporting Financial Year. (in Rs.)	Status of the project - Completed /Ongoing.
--- N. A. ---								

10. In case of creation or acquisition of capital asset, furnish the details relating to the asset so created or acquired through CSR spending during the financial year:

Date of creation or acquisition of the capital asset(s)	Amount of CSR spent for creation or acquisition of CSR assets (Amount in Rs.)	Details of the entity or public authority or beneficiary under whose name such capital assets is registered, their address etc.	Details of the capital assets created or acquired (including complete address and location of the capital asset)

11. Specify the reason (s), if the Company has failed to spend two per cent of the average Net Profit as per section 135(5): Not Applicable

FOR BENZOCEM INDUSTRIES PRIVATE LIMITED



**SURENDRAKUMAR MOHATTA**  
(MANAGING DIRECTOR & CHAIRMAN OF CSR COMMITTEE)  
(DIN - 00388893)



Place: Mumbai  
Date: 01/11/2021

# BENZO CHEM INDUSTRIES PRIVATE LIMITED

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CIN - U24100MH1986PTC041751

## ANNUAL REPORT ON CSR ACTIVITIES FOR FY 2021-22

### 1. Brief Outline on CSR Policy of the Company –

BENZO CHEM has implemented its CSR activities in accordance with Section 135 of the Companies Act 2013 read with Companies (Corporate Social Responsibility Policy) Rules, 2014 as amended. These CSR programs were sanctioned to be implemented through Non-Governmental Organizations (NGO's), Government Bodies, Institutions, Municipalities, Schools and Agencies as approved by the CSR Committee.

### 2. Composition of CSR Committee:

Sl. No.	Name of Director	Designation / Nature of Directorship	Number of meetings of CSR Committee held during the year	Number of meetings of CSR Committee attended during the year
1	Surendrakumar Mohatta	Chairman of Committee / Managing Director	2	2
2	Gaurav Mohatta	Member of Committee / Whole time Director	2	2
3	Vimladevi Mohatta	Manager CSR Activities	2	2

### 3. The web-link where Composition of CSR committee, CSR Policy and CSR projects approved by the board are disclosed on the website of the company:

<http://www.bcipl.com/pdf/Benzo%20CSR%20Policy%20-%20Second%20Edition.pdf>

### 4. Details of Impact Assessment of CSR projects carried out in pursuance of sub-rule (3) of rule 8 of the Companies (Corporate Social Responsibility Policy) Rules, 2014, if applicable (attach the report) - Not Applicable

### 5. Details of the amount available for set off in pursuance of sub-rule (3) of rule 7 of the Companies (Corporate Social Responsibility Policy) Rules, 2014 and amount required for set off for the financial year, if any

Sl. No.	Financial Year	Amount available for set-off from preceding financial years (in Rs)	Amount required to be setoff for the financial year, if any (in Rs)
----- NIL -----			

### 6. Average net profit of the company as per section 135(5):

Calculation of Amount of Spending in CSR Activities for FY 2021-22				
Particulars	(Rs. In Lakhs)			
	2018-19	2019-20	2020-21	Total
NPBT	3117.24	5430.37	6289.17	14836.78



# BENZO CHEM INDUSTRIES PRIVATE LIMITED

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Add:	Income Tax and Super Tax Paid under IT Act 1961	0.00	0.00	0.00	0.00
Add:	Compensation / Damages / Payments Voluntarily Made for Any other Taxes	0.00	0.00	0.00	0.00
Add:	Loss of Capital Nature (include loss on sale of undertaking, not to include any excess of WDV over Sale Price / Scrap Value)	0.00	0.00	0.00	0.00
Add:	Any Change in Carrying Amount of an Asset / Liability recognized in equity reserves	0.00	0.00	0.00	0.00
	Total Net Profits for Calculation of CSR Exp Limit	3117.24	5430.37	6289.17	14836.78
<b>Average of above</b>					<b>4945.59</b>

7. (a) Two percent of average net profit of the company as per section 135(5); Rs.98.91 Lakh

(b) Surplus arising out of the CSR projects or programmes or activities of the previous financial years: NIL

(c) Amount required to be set off for the financial year, if any – NIL

(d) Total CSR obligation for the financial year (7a+7b+7c) = Rs.98.91 Lakh

8. (a) CSR amount spent or unspent for the financial year:

Total Amount Spent for the Financial Year. (in Rs.)	Amount Unspent (in Rs.)				
	Total Amount transferred to Unspent CSR Account as per section 135(6)		Amount transferred to any fund specified under Schedule VII as per second proviso to section 135(5)		
	Amount	Date of transfer	Name of the Fund	Amount	Date of transfer
Rs.92.39 Lakh	Rs.6.52 Lakh	--	-- N. A. --		

(b) Details of CSR amount spent against ongoing projects for the financial year:

(1) Sl. No.	(2) Name of the Project	(3) Item from the list of activities in Schedule VII to the Act	(4) Local area (Yes / No)	(5) Location of the project		(6) Project duration	(7) Amount allocated for the project (in Rs.)	(8) Amount spent in the current financial Year (in Rs.)	(9) Amount transferred to Unspent CSR Account for the project as per Section 135(6) (in Rs.)	(10) Mode of Implementation - Direct (Yes/No)	(11) Mode of Implementation - Through Implementing Agency	
				State	District						Name	CSR Registration number





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CIN - U24100MH1986PTC041751

1.	Medical, Educational, Food and Financial Aid to Poor and Needy people of the Society	VII (i) (ii) (iii) & (iv)	Yes	Mumbai and Sub-Urban Areas, Maharashtra	F.Y. 2021 - 2022	5139000	5139000	Nil	Direct as well as through Implementing Agency	(1) SRKMCT (2) VDMCT	(1) CSR00002870 (2) CSR00002875
2.	Medical, Educational, Food, and Financial Aid to Poor and Needy people of the Society	VII (i) (ii) (iii) & (iv)	Yes	Buldhana, Maharashtra	F.Y. 2021 - 2022	2200000	2200000	Nil	Direct	N. A.	N. A.
3.	<i>Pursuant to a Public Interest Litigation filed with the Bombay High Court (Nagpur Bench) an amount of Rs.19 lakh has been set aside. Further order from High Court awaiting.</i>										

### (c) Details of CSR amount spent against other than ongoing projects for the financial year:

Sl. No.	Name of the Project	Item from the list of activities in schedule VII to the Act	Local area (Yes/ No)	Location of the project		Amount spent for the project (in Rs.)	Mode of implementation on - Direct (Yes/No).	Mode of implementation - Through implementing agency.	
				State	District			Name	CSR registration number
----- NIL -----									
Total									

(d) Amount spent in Administrative Overheads – Nil

(e) Amount spent on Impact Assessment, if applicable – Nil

(f) Total amount spent for the Financial Year (8b+8c+8d+8e): Rs.92.39 Lakh

(g) Excess amount for set off, if any:

Sl. No.	Particular	Amount (in Rs.)
(i)	Two percent of average net profit of the company as per section 135(5)	Rs.98.91 Lakh
(ii)	Total amount spent for the Financial Year	*Rs.92.39 Lakh
(iii)	Excess amount spent for the financial year [(ii)-(i)]	Nil
(iv)	Surplus arising out of the CSR projects or programmes or activities of the previous financial years, if any	Nil
(v)	Amount available for set off in succeeding financial years [(iii)-(iv)]	Nil

\* Pursuant to a Public Interest Litigation filed with the Bombay High Court (Nagpur Bench) an amount of Rs.19 lakh has been set aside. Further order from High Court awaiting.

9. (a) Details of Unspent CSR amount for the preceding three financial years:



# BENZO CHEM INDUSTRIES PRIVATE LIMITED

Registered Office: 26/28-A, Cawasji Patel Street, Fort, Mumbai - 400 001

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CIN - U24100MH1986PTC041751

Sl. No	Preceding Financial Year	Amount transferred to Unspent CSR Account under section 135 (6) (in Rs.)	Amount spent in the reporting Financial Year (in Rs.).	Amount transferred to any fund specified under Schedule VII as per section 135(6), if any			Amount remaining to be spent in succeeding financial years. (in Rs.)
				Name of the Fund	Amount (in Rs)	Date of transfer	
1.	2020-2021	--- N. A.---	--- N. A.---	--- N. A.---			Nil

**(b) Details of CSR amount spent in the financial year for ongoing projects of the preceding financial year(s):**

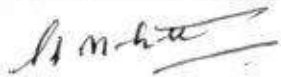
Sl. No.	Project ID.	Name of the Project.	Financial Year in which the project was commenced.	Project duration.	Total amount allocated for the project (in Rs.).	Amount spent on the project in the reporting Financial Year (in Rs).	Cumulative amount spent at the end of reporting Financial Year. (in Rs.)	Status of the project - Completed /Ongoing.
--- N. A.---								

**10. In case of creation or acquisition of capital asset, furnish the details relating to the asset so created or acquired through CSR spending during the financial year:**

Date of creation or acquisition of the capital asset(s)	Amount of CSR spent for creation or acquisition of CSR assets (Amount in Rs.)	Details of the entity or public authority or beneficiary under whose name such capital assets is registered, their address etc.	Details of the capital assets created or acquired (including complete address and location of the capital asset)
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**11. Specify the reason (s), if the Company has failed to spend two per cent of the average Net Profit as per section 135(5):** Not Applicable

FOR BENZO CHEM INDUSTRIES PRIVATE LIMITED



**SURENDRAKUMAR MOHATTA**  
(MANAGING DIRECTOR & CHAIRMAN OF CSR COMMITTEE)  
(DIN - 00388893)



Place: Mumbai  
Date: 02/09/2022