

# **INVENTORY OF HAZARDOUS WASTE GENERATED IN MADHYA PRADESH**



**YEAR : 2013 – 2014**

**\*\*\* Submitted to CPCB \*\*\***

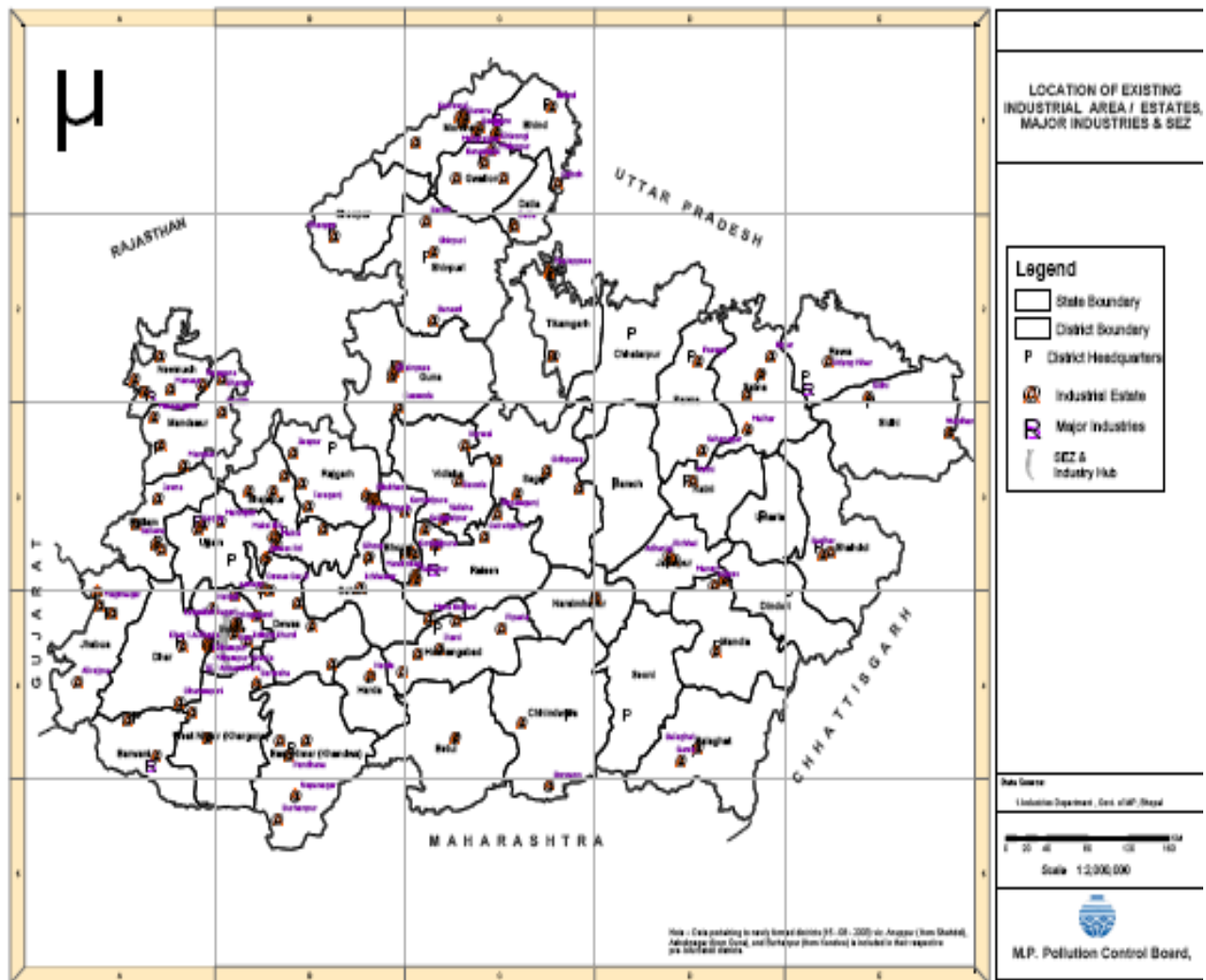
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M.P. Pollution Control Board  
Paryawaran Parisar, E-5 Sector  
Arera Colony, Bhopal – 462 016  
India

PBX : + 91 (0755) 2464428/2466191  
FAX : + 91 (0755) 2463742  
web : [www.mppcb.nic.in](http://www.mppcb.nic.in)  
E-mail : [hsmd117@gmail.com](mailto:hsmd117@gmail.com)

**General description of Madhya Pradesh**

Madhya Pradesh is the second largest Indian State, covering 9.5% of the area of the country. Industries in Madhya Pradesh, are largely natural resources driven. It has abundant natural wealth in the form of Lime Stone, Coal, Bauxite, Iron, Diamond ore, Silica and so on and crops like Soya, Cotton, Wheat Paddy etc. . The State has a strong industrial setup in the sectors such as Auto, Textile, Cement and Soya/Textile processing units. The Major Central Public Sectors Undertaking like :- BHEL Bhopal, National Fertilizer Ltd. Vijaypur Dist. Guna, Security Paper Mill Hoshangabad, Currency Printing Press, Bank Note Press, Dewas, Opium Alkaloid Factory Neemuch, Ordnance Factory Itarsi, Gun Carriage Factory Jabalpur and Nepa Mills, Nepa Nagar etc. are also located in the State .



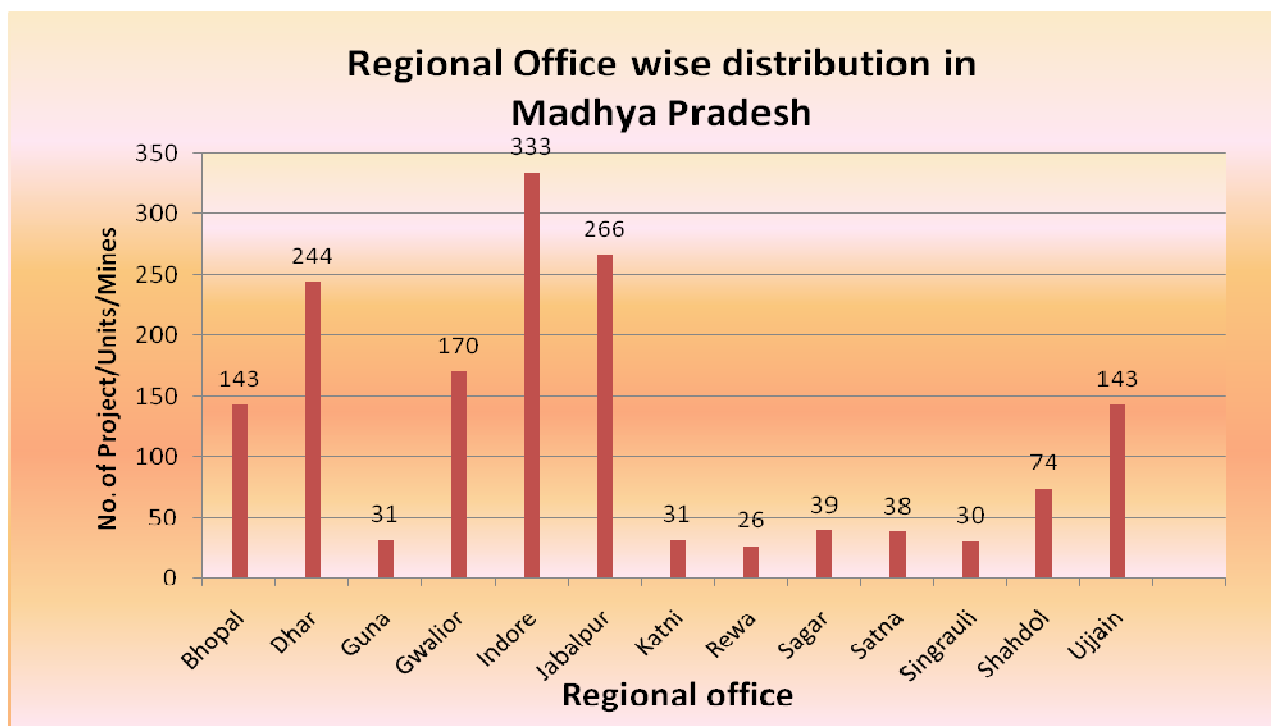
Board issued authorization to 1568 units under Hazardous Waste (Management, Handling & Trans-boundary Movement) Rules 2008. Out of these 598 are Large/Medium

scale industries, where as 970 are Small Scale units. The main source of generation of hazardous waste from most of the industries is waste/spent oil whereas the manufacturing process also contribute to the generation of hazardous waste to a considerable extent. The waste generated from different processed are classified & quantified under different categories of Schedule and based on which the authorization are being issued.

Out of the 1,568 hazardous wastes generating industries in M.P., the maximum number of 333 industries are located under the jurisdiction of Regional Office Indore, where as the second highest number of 266 industries are under Regional Office Jabalpur. The area with the least number of industries is newly formed Regional Office Singrauli followed with Regional Office Rewa. Region wise distribution of Hazardous Waste generating units of M.P. is presented in the table below :-

**Region wise distribution of industries in M.P. generating Hazardous Waste**

S.No.	Regional Office	Type of Industries		Total
		Large/Medium	Small	
1.	Bhopal	68	75	143
2.	Dhar	106	138	244
3.	Guna	21	10	31
4.	Gwalior	59	111	170
5.	Indore	57	276	333
6.	Jabalpur	69	197	266
7.	Katni	16	15	31
8.	Rewa	18	08	26
9.	Sagar	35	04	39
10.	Satna	20	18	38
11.	Singrauli	17	13	30
12.	Shahdol	41	33	74
13.	Ujjain	71	72	143
<b>Grand Total</b>		<b>598</b>	<b>970</b>	<b>1568</b>



The total generation of hazardous waste from 1568 units located in Madhya Pradesh comes to around **304587.07** MT for the year 2013-14 which can be classified in three categories as mentioned below:-

• Secured Land fillable waste	--	<b>77752.13</b>	<b>MT</b>
• Reusable waste (Reuse/Sale)	--	<b>211430.56</b>	<b>MT</b>
• Incinerable waste	--	<b>15404.38</b>	<b>MT</b>
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<b>Total</b>	--	<b>304587.07</b>	<b>MT</b>
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The hazardous waste generation based on authorization granted has been classified according to Regional Offices wise. The data are mentioned in following table :-

**Hazardous Waste Generation as per Authorization (Quantity in MT/year)**

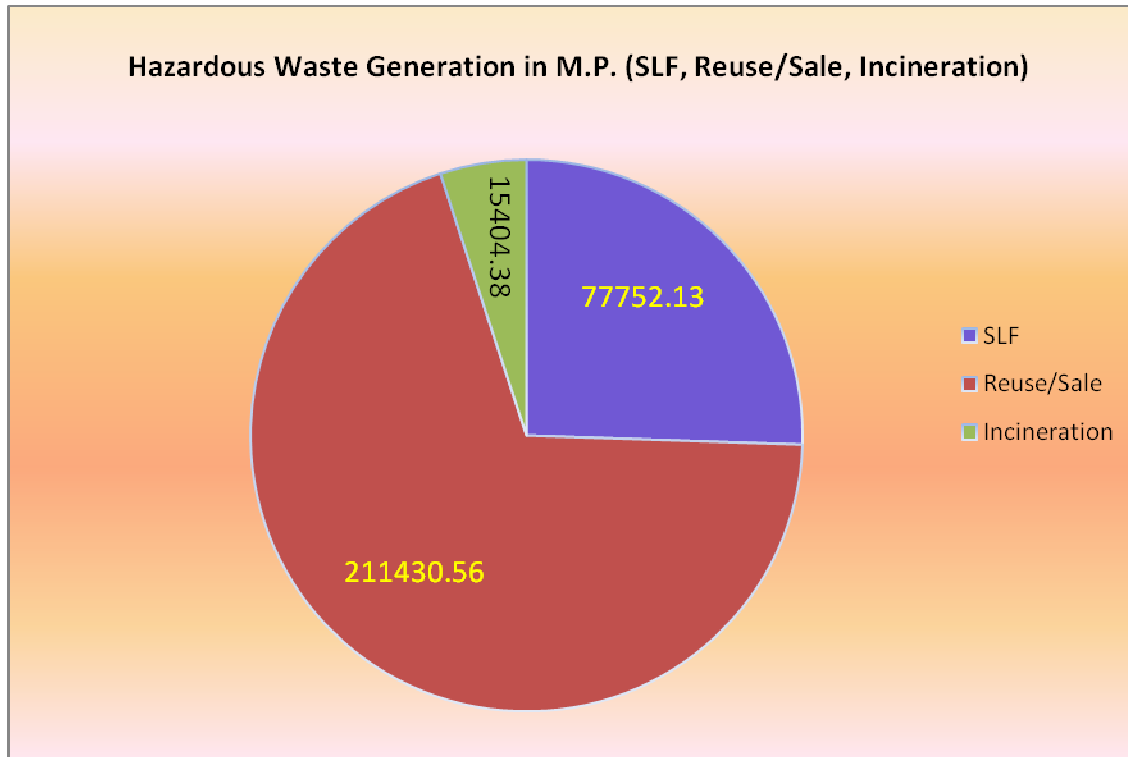
<b>Regional Offices</b>	<b>SLF</b>	<b>Reuse/ Sale</b>	<b>Incineration</b>	<b>Total</b>
Bhopal	8111.34	26063.30	346	34520.64
Dhar	53119.04	124160.40	19.10	177298.54
Guna	692.01	962.82	0.25	1655.08
Gwalior	1734.85	1141.92	555.50	3432.27
Indore	3304.30	5299.20	9.34	8612.84
Jabalpur	1564.45	4908.59	14224.10	20697.14
Katni	8.51	7922.15	0.43	7931.09
Rewa	72	470.37	1.56	543.93
Sagar	--	25220.51	6.55	25227.06
Satna	--	--	158.60	158.60
Singrauli	15.5	1407.36	7.95	1430.81
Shahdol	729.7	4271.95	--	5001.65 MT
Ujjain	8400.43	9601.99	75	18077.42
<b>Total</b>	<b>77752.13 MT</b>	<b>211430.56 MT</b>	<b>15404.38 MT</b>	<b>304587.07 MT</b>

**Total Generation 3,04,587.07 MT / Year,**

\* KL has been converted to MT by multiplying with factor 0.9

\*\* Nos. has been converted to MT by considering the average weight as 5 Kg/container.

The total Hazardous Waste generation in MP as per authorization granted by the Board is 3,04,587.07 MT. Out of which the maximum generation of hazardous waste is under jurisdiction of Regional Office, Dhar (177298.54 MTA), where as the minimum hazardous waste generation is under Regional Office, Satna (158.60 MTA). The classification wise hazardous waste generation in MP is presented in the following pie chart graph :-



The generation of hazardous waste in M.P. based on annual return (Form-4) is 88432.10 MTA. Out of which hazardous waste is disposed through Regional office Ujjain 29769.54 MTA was found to be maximum whereas minimum hazardous waste disposed through Regional office, Satna is 114.32 MTA. The Regional Office wise annual hazardous waste generation based on annual return in M.P. is presented in the table below :-

**As per Form-4 Quantity (MT/year)**

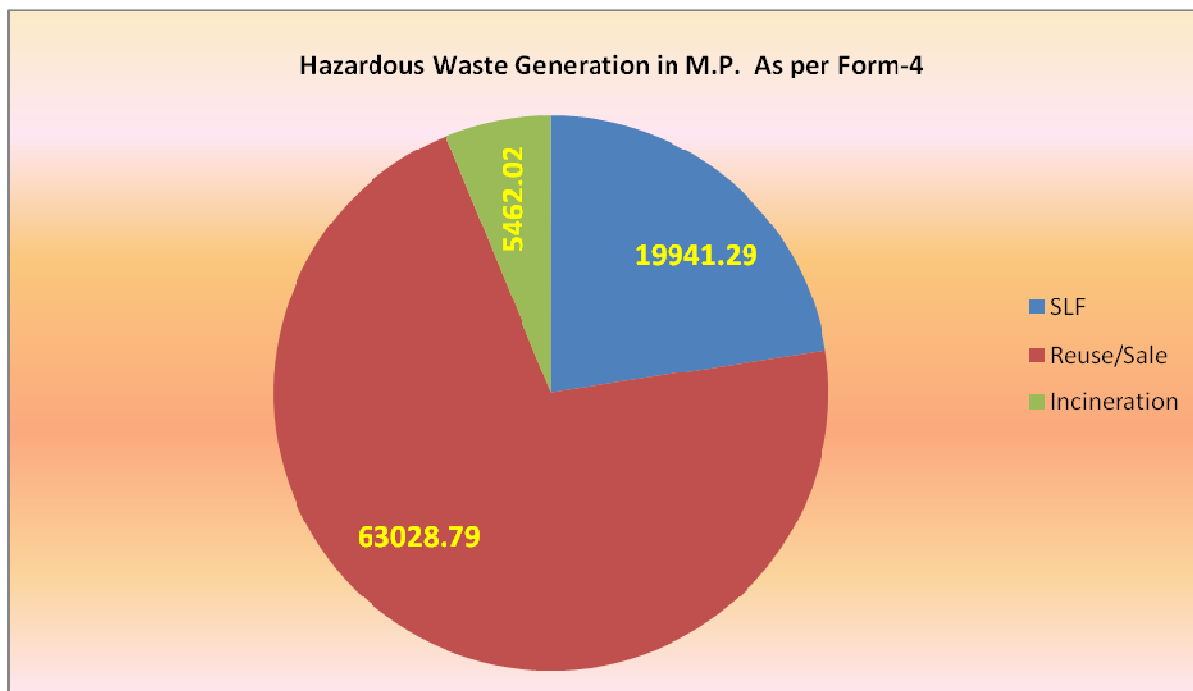
<b>Regional Offices</b>	<b>SLF</b>	<b>Reuse/ Sale</b>	<b>Incineration</b>	<b>Total</b>
Bhopal	4495.96	4618.90	--	9114.86
Dhar	5563.89	19771.46	701.96	26037.31
Guna	692.12	922.86	0.01	1614.99
Gwalior	930.22	3544.41	--	4474.63
Indore	1351.29	125.87	1009.93	2487.09
Jabalpur	415.53	1658.40	316.55	2390.48
Katni	0.41	3629.15	--	3629.56
Rewa	43.5	305.37	--	348.87
Sagar	--	6442.30	--	6442.30
Satna	--	114.32	--	114.32
Singrauli	15.5	1407.36	7.95	1430.81
Shahdol	273.42	303.92	--	577.34
Ujjain	6159.45	20184.47	3425.62	29769.54
<b>Total</b>	<b>19941.29 MT</b>	<b>63028.79 MT</b>	<b>5462.02 MT</b>	<b>88432.10 MT</b>

**Total Generation: 88,432.10 MT/Year**

\* KL has been converted to MT by multiplying with factor 0.9

\*\* Nos. has been converted to MT by considering the weight as 5 Kg/container.

In M.P. 19941.29 MT hazardous waste was disposed through SLF based on annual return (Form-4). Out of which, the maximum quantity 29769.54 MTA has been disposed through Regional Office, Ujjain. The total hazardous waste reused/sale as per Form-4 is 63028.79 MT. The maximum quantity of 20184.47 MT disposed through reuse/sale under Regional Office, Ujjain. The total hazardous waste incinerated during trials as per annual return is 88432.10 MT. Out of which the maximum hazardous waste to the tune of 29769.54 MT has been disposed under Regional Office, Ujjain. The classification wise annual hazardous waste disposal through SLF, Reuse/Sale and Incineration is presented in the graph below :-





### **Details about Captive Disposal Facilities :-**

In Madhya Pradesh other than the common TSDF site at Pithampur Dist. Dhar there are captive Secured Land Fill and Incineration Facilities the details of which is as follows :-

#### **Captive Secured Landfills**

10 units in M.P. have their own Secured land Fill sites, these area,

- ❖ M/s. Grasim Industries Ltd., Nagda. (SLF under capping)
- ❖ M/s. HJI-Division of Orient Paper Mills, Amlai, (Under closing process)
- ❖ M/s. Birla Ericsson Opticals Ltd., Rewa (Currently not in use)
- ❖ M/s. Century Denim, Khargone.
- ❖ M/s. RPG Transmission Ltd., Jabalpur.
- ❖ M/s. Telecom Ltd., Richhai, Jabalpur (under construction).
- ❖ M/s. Eternit Everest, Kymore.
- ❖ M/s. Bhansali Engineering Polymer Ltd., Chhindwara.
- ❖ M/s. Hotline (CPT), Malanpur, Bhind. (Industry closed)
- ❖ M/s. Vindhyachal Super Thermal Power Station, Singrauli.

Note : The SLFs of M/s. Bharat Zinc Ltd., Mandideep, Dist. Raisen & M/s. Lupin Lab. Ltd., Mandideep, Dist. Raisen and M/s. Ranbaxy Ltd., Dewas have been fully scrapped & the waste has been shifted to CTSDf, Pithampur, Dist. Dhar.

#### **Captive Incineration facilities :-**

15 units as enlisted below have their own incineration facility.

- ❖ M/s. Kinetic Motors, Pithampur, Dhar
- ❖ M/s. Eicher Motors, Pithampur, Dhar
- ❖ M/s. Birla Ericsson, Rewa. (Closed)
- ❖ M/s. Vindhya Telelinks, Rewa. (Closed)
- ❖ M/s. Universal Cables Ltd., Satna. (Closed)
- ❖ M/s. ICPA Lab., Ratlam
- ❖ M/s. Ranbaxy, Dewas
- ❖ M/s. Premier Industries, Chhindwara
- ❖ M/s. Naveen Chemicals, Dewas
- ❖ M/s. Lanxess India Ltd., (formerly M/s. Gwalior Chemicals,) Nagda
- ❖ M/s. Force Motors, Dhar
- ❖ M/s. AVTEC Ltd., Pithampur, Dhar
- ❖ M/s National Steel CRM Div. Ghatabillod, Dhar
- ❖ M/s Ruchi Strips, Ghatabillod, Dhar.
- ❖ M/s. Diesel Loco Shed, Ratlam.

**Details of Common Treatment, Storage & Disposal Facility (CTSDF) :-** A common treatment storage & disposal facilities for disposal of hazardous waste has been developed in the State under the provision of hazardous waste (Management, Handling & Transboundary Movement) Rules, 2008, the salient features of which are given below :-

- Construction of Secured Land-fill was taken up by the M.P. Waste Management Project (a division of M/s Ramky Enviro Engineers Ltd.) as per the Guidelines published by Central Pollution Control Board after conducting EIA as per the provisions of the then applicable Hazardous Waste (Management & Handling) Rules 1989 as amended.
- Under the provisions of Environmental Legislations, Consent to Establish was issued by the M.P. Pollution Control Board under Section 25/26 of Water (Prevention & Control of Pollution) Act 1974 vide letter no. 16410 dated 05/09/2005 for- Direct Secured Land fill – 50,000 MT/Year, Land fill after treatment – 20,000 MT/Year and Incineration – 20,000 MT/Year. Construction of the facility was initiated from December 2005.
- Disposal of hazardous waste was initiated in first cell from 24/11/2006. The area of this cell is 1.53 Acres and the capacity is 60,000 MT. Presently this cell is under capping which about 60,000 MT of hazardous waste has been disposed off.
- Presently the hazardous waste is being disposed off in the second cell of secured land fill. Disposal of hazardous waste was initiated in this cell from October 2011. The capacity of this cell is about 60,000 MT.
- Trial run of the incinerator at CTSDF Pithampur was completed for incineration of waste after obtaining permission and authorization from Central Pollution Control Board and M.P. Pollution Control Board. Monitoring of emission was conducted by Central Pollution Control Board during trials. The continuous operation of common incinerator is still under consideration which will be finalized after approval of CPCB.

### **Unauthorized Hazardous Waste dump sites in Madhya Pradesh**

Central Pollution Control Board had identified 04 hazardous waste dump sites in Maksi and Ratlam area which belongs to M/s. Beta-naphthol Ltd., Maksi, M/s. Jayant Vitamins, M/s. Bordia Chemicals & M/s. Sajjan Chemicals, Ratlam in consultation with the M.P. Pollution Control Board. All these industries have been closed due to some or other reasons between 1997 to 2003. M.P. Pollution Control Board has filed prosecution against these defaulting units and the cases are under consideration in the court of law.

The approx. quantity of waste stored at various locations (industrial premises and near by area) is 23,476.4 MT as per the preliminary assessments. Other two sites of M/s. Bordia Chemical, Ratlam & M/s. Beta naphthol Ltd., Maksi earlier were identified as illegal dump sites, but CPCB/SPCB after inspection did not find any waste on the sites. Though based on the analytical report of Board, remediation, if required will be considered.

In the country Central Pollution Control Board in consultation with the State Pollution Control Boards, has identified 12 priority areas, containing 23 contaminated sites based on the quantum of waste dumped, extent of ground/surface water and soil contamination, nature of pollutants, ecological and health impacts. Ratlam four sites of Madhya Pradesh had been considered for study of remediation. In the said project, the funding pattern suggested by Ministry of Environment of Forests for remediation will be 40% by MoEF from NCEF and 60% by State Government and through PPP or other means. Government of Madhya Pradesh has given its consent for extending 60% funding support for remediation project. Central Pollution Control Board has called EoIs & RFPs for the above proposal.