Parivesh

A News Letter from ENVIS Centre - Central Pollution Control Board

Editorial

Contents

Home Archives

Parivesh
A News Letter from ENVIS Centre - Central Pollution Control Board

Contents

Archives

Home

Editorial

The hazardous wastes belong to a category of special wastes containing certain chemicals, metals and pathogenic organisms which can cause damage to the environment even at low concentration. If not properly managed for safe disposal, it can have frightening environmental repercussions. Indiscriminate disposal of these wastes into the environment without proper treatment could lead to pollution of river water, land and groundwater resources.

Precautionary measure are required for handling of hazardous wastes generated within the country from different sources as well as though import other countries for recovery of useful materials. recognising the need for proper management and handling of hazardous wastes, the regulations in this regard under the Environment (Protection) Act 1986 have been notified by the Ministry of environment & Forest, Govt, of India (1989). At the international level, the concern for restricting transboundary movement of hazardous wastes is reflected in the Basel Convention (1989) and subsequent follow-up activities.

In recent years, some important steps have been initiated for hazardous wastes management. These relate to

1. Harmonisation of domestic legislation with the decision of the Basel Convention;
2. Programme for setting up of hazardous waste treatment and disposal facilities in industrial estates;
3. Setting up of a National Centre for cleaner Technology/Production with its sub-centres in different States;
4. Co-ordination with Customs & Port authorities to ensure strict control over the movements of hazardous wastes across the international borders and the prevention of illegal trafficking;
5. Strengthening the capability of Central and State Pollution Control Boards for regulation, management and handling of hazardous wastes; and
6. Setting up of a Sub-regional Training Centre at New Delhi.

In this issue of Parivesh, we have made an attempt to highlight the various technical and administrative issues concerning hazardous waste management. We hope, the information contained in this newsletter will be useful to the readers.

(Dilip Biswas)
Chairman, CPCB

HAZARDOUS WASTE MANAGEMENT

Message :

For the future generations, it is essential that we preserve natural resources and prevent environmental degradation. To attain this goal, development has to be sustainable. The Government and various other organizations are doing their bit for pollution prevention. However, the battle cannot be fought without effective public awareness and participation.

With the object to creating awareness among the people, the Central Pollution Board (CPCB) brings out publication on various aspects of pollution-its sources, effects, and consequences, prevention and control. Among this publication, the CPCB newsletter, 'PARIVESH' requires special mention. Every issue of 'PARIVESH' centers around a theme, like vehicular pollution, hospital wastes, municipal solid wastes, and noise pollution, coastal pollution, proper sitting of industries through Zoning Atlas etc

This issue highlights the problem of hazardous wastes- on undesired by-product of various industrial operations and processes. Its trans boundary movement for disposal/dumping in underdeveloped countries in the guise of recycling and reuse have attracted the attention of the media and public all over the world. We are far behind in the abatement of such kind of pollution. Our judiciary has also taken the matter seriously. Guidelines and specifications have been evolved by the Ministry of Environment & Forests for prevention and control of pollution for such waste through better management practices. CPCB has prepared State wise inventory of hazardous waste generation and also published a document on setting up of control facilities for management of such wastes. The society needs proper implementation of such practices so as to make its disposal safe to environment.

(BABU LAL MARANDI)

HOME NEXT

Back to Content

Parivesh
A News Letter from ENVIS Centre - Central Pollution Control Board

HAZARDOUS WASTE MANAGEMENT

LEGISLATION FOR MANAGEMENT OF HAZARDOUS WASTE AND CATEGORISATION OF HAZARDOUS WASTE :

In exercise of the power conferred under the Environment (Protection) Act, 1986 (29 of 1986), the Central Government has made the Hazardous Waste (Management & Handling) Rules, 1989 and published in the official Gazette No.S.O.594 (E), dated 28.7.1989/ these Rules define the Hazardous Wastes and provide specific schedule in which wastes are listed for application of the rules. The occupier generating hazardous waste has obligation to take all practical steps to ensure that such wastes are properly handled and disposed off without any adverse effect, which may result from such wastes. The occupier shall also be responsible for proper collection, transportation, treatment, and storage and disposal of these wastes either by himself or through the operator of a facility. The occupier shall submit application to the State Pollution Control Board (SPCB) for grant of authorization for handling of hazardous wastes. The SPCB shall not issue an authorization unless it is satisfied that the operator of a facility or an occupier as the case may be, possesses appropriate facilities, technical capabilities and equipment t handle hazardous wastes safely.

The State Govt./UT. Administration, or a person authorized by it is required to undertake a continuing programme to identify the sits and compile and publish periodically an inventory of disposal sites within the STATE/UT for the disposal of hazardous wastes. An environmental impact study shall be undertaken before final identification of a site as waste disposal site. Import of hazardous waste from any country to India Shall not be permitted for dumping and disposal of such wastes. However, import of such wastes may be allowed for processing of or re-use as rew-material, after examining each case on merit by the SPCB or by an officer authorized in this behalf.

The Hazardous Wastes (Management & Handling) Rules apply to the categories of Hazardous Wastes as specified in the Schedule provided in Table 1 below.

SCHEDULE

[See rules 3(1), 3(n) and 4]

CATEGORIES OF HAZARDOUS WASTES

Waste Categories	Type of wastes	Regulatory Quantities
Waste Category No.1	Cyanide Wastes	1 kilogramme per year calculated as cynide.
Waste Category No.2	Metal Finishing Wastes	10 kilogrammes per year (the sum of the specified substance calculated as pure metal)
Waste Category No.3	Waste containing water soluble chemical compounds of lead, copper, zinc chromium, nickel, selenium, barium and antimony.	10 kilogrammes per year (the sum of the specified substance calculated as pure metal)
Waste Category No.4	Mercury, Arsenic, Thallium and Cadmium-bearing wastes	5 kilogrammes per year (the sum of the specified substance calculated as pure metal)
Waste Category No.5	Non-halogenated hydrocarbons including solvents.	200 kilogrammes per year calculated as non-halogenated hydrocarbons.
Waste Category No.6	Halogenated hydrocarbon including	50 kilograms per year calculated as halogenated hydrocarbons.

	solvents.	
Waste Category No.7	Wastes from paints, pigments, glue, varnish and printing ink	250 kilogrammes per year calculated as oil or oil emulsions.
Waste Category No.8	Wastes from dyes and dye intermediate containing inorganic chemical compounds.	200 kilogrammes per year calculated as inorganic chemicals.
Waste Category No.9	Wastes from dyes and dye intermediate containing organic chemical compounds.	50 kilogrammes per year calculated as organic chemicals.
Waste Category No.10	Waste oil and oil emulsions.	1000 kilogrammes per year calculated as oil and oil emulsions.
Waste Category No.11	Tarry wastes from refining and tar residues from distillation or pyrolytic treatment.	200 Kilogrammes per year calculated as tar.
Waste Category No.12	Sludges arising from treatment of wastewaters containing heavy metals, toxic organics, oils emulsions and spent chemicals and incineration ash.	Irrespective of any quantity
Waste Category No.13	Phenols	5 kilogrammes per year calculated as phenols
Waste Category No.14	Asbestos	200 kilogrammes per year calculated asbestos.
Waste Category No.15	Wastes from manufacturing of pesticides and herbicides and residues from pesticides and herbicides formulation units.	5 kilogrammes per year calculated as pesticides and their intermediate products.
Waste Category No.16	Acids/alkalies/slurry	200 kilogrammes per year calculated as acids/alkalies.
Waste Category No.17	Off specification and discarded products.	Irrespective of any quantity.
Waste Category No.18	Discarded containers and containers, liners hazardous and toxic wastes.	Irrespective of any quantity.

BACK HOME NEXT

Back to Content

Parivesh
A News Letter from ENVIS Centre - Central Pollution Control Board

HAZARDOUS WASTE MANAGEMENT

TRANS-BOUNDARY TRANSFER OF HAZARDOUS WASTES: ISSUES AMD OPTIONS :

In response to PIL in the Supreme Court of India on the subject of Hazardous Waste Management, the State Pollution Control Boards/Committees have submitted details of hazardous waste generation. The compiled information is presented in the Table below.

Hazardous wastes are so defined because of their special characteristics, such toxicity, corrosively, flammability and reactivity. Hence, it is necessary to take precautionary measures so that the hazardous component in the wastes are rendered harmless through proper treatment and safe disposal methods.

Recovery of useful materials from hazardous wastes is undoubtedly desirable for environmental and economic reasons. There is a need for adequate precautions to be taken during recycling and disposal of discarded material. Often, the wastes contain admixtures of impurities, and during recovery of useful materials, it is required to take connivance of hazard that could be caused by indiscriminate, disposal of discarded constituents. Proper safeguards to the workers and the surrendering environments during recycling.

Over years, recycling/recovery from wastes has indeed become a thriving business all over the world, particularly in the developing countries. But there is a basic difference in the methods adopted in various countries. While the industries in developed countries have adopted state of the art technologies with environmental safeguards, the entrepreneurs in developing countries, particularly those in the small-scale sector, continue to operate with the crude technologies with scant regard for environmental safety. In some developed countries, with the increasing environmental consciousness and stringent regulations, recycling and disposal of wastes demand a sizeable expenditure. Under such a situation, the industries prefer to export their wastes to other countries. This has led to increased trade in trans-boundary transfer of wasters, particularly to the developing countries. The Basel Convention is in response to the growing concern for regulating trans-boundary transfer of hazardous wastes and for promoting environmentally- sound management practices. However, the coverage of the Basel Convention is limited to transfer of hazardous wastes from OECD to Non- OECD countries.

Top provide a legal framework for ensuring proper management and handling of hazardous wastes, the Ministry of Environmental & Forests, Government of India, notified the Hazardous Waste (Management and Handling) Rules, 1989 under the Environment (Protection) Act 1986. the rules entail definition of hazardous wastes, and responsibility of generators and of regulatory agencies (including State Pollution Control Boards, State Government and Central Government) with regard to collection, transport, handling, treatment and disposal of hazardous wastes. The rules also elaborate the regulatory regime for import of hazardous wastes for reuse/recycling. According to these rules, import of hazardous wastes for dumping and disposal shall not be permitted ; and permission for import will be given for reprocessing or reuse as raw material subject to case by case examination of the facilities provided for treatment and safe disposal of residue wastes and also emissions.

As experienced over the years and particularly in the write Petitions filed before the Hon'ble Supreme Court (Write Petitions No. 657 of 1995) and the High Court of Delhi (Writ Petition No 819 of 1997), the realities are far sort of the expectations in the rules. This is primarily due to lack of preparedness on the part of concerned organizations. The lesson we learn is that the rules cannot stand-alone without necessary back up of enforcement mechanism. While framing the rules, it is necessary to assess the capabilities as well as shortcomings, and to evolve the action plane for strengthening wherever needed. For instance, the State Pollution Control Board have been already saddled with the tasks of enforcing the provisions of the Water and Air Pollution Control Acts besides enforcement of several other regulations including the conducting of public hearing in respect of projects before granting environmental clearance. In addition the Boards are also expected to enforce the rules for management and handling of hazardous wastes. In order to do justice to such multifarious responsibilities the Boards need commensurate support in terms of funds, professional manpower and infrastructure. such an important requirement has not yet been properly addressed.

In views of the fact that the reprocessing units in the country leave much to be desired, environmentalist demand a blanket ban on import of wastes. On the other hand, the recycling industry and its beneficiaries are opposed to such proposition on the ground that it will adversely affect the economy, and it will be unfair to those entrepreneurs who have adopted environmentally acceptable methods. It is also pointed out that not all the wastes are toxic and hazardous. The debate centering around zinc ash a case in point.

The Hazardous Wastes (Management and Handling) Rules, the Basel Convention recommendations and Court orders do not impose blanket ban on import of wastes. The restriction is only in respect of select categories of hazardous wastes and the important precondition for permitting import of wastes is to ensure its safe h addling, treatment and disposal in an environmentally acceptable manner.

For decision on import of selected wastes for the purpose of recycling, the criteria should include the following:

- Assessment of need for import of wastes of different types;
- Identification of sources/processes and characteristics of wastes to be permitted for import;
- Recoverable material in the wastes vis-a vis economics or recycling
- Availability of environmentally sound methods for recycling and enlistment of entrepreneurs with such capabilities; and
- Availability of proper treatment/disposal facilities for hazardous resides after recycling.

BASEL CONVENTION

The Basel Convention is the broadest and most significant international treaty on trans-boundary movement of hazardous wastes presently in effect. The impact of hazardous wastes on the environment has large repercussions, particularly on the quality of waters and land effective regulation of the management and disposal of hazardous wastes requires cooperation at the global level. The Basel Convention is the first and foremost global legal instrument regulating the trans-boundary movement of hazardous wastes and their disposal

The Basel Convention, adopted by the diplomatic conference in Basel in 1989, was develop under the auspices of the United Nations Environment Programme (UNEP) and entered into force in May 1997, the Basel Convention has 111 States and the European Community is Parties. The rapidly increasing number of Parties reflects the growing awareness and interest of States in this impornt sector of environment and health protection.

The following are the a key objectives of the Basel Convention:

- To reduce trans-boundary movement of hazardous wastes and other wastes subject to the Basel Convention to the minimum, consistent with their environmentally-sound management;
- To dispose of the hazardous wastes and other wastes generated as close as possible to their source of generation;
- To minimize the generation of hazardous wastes in terms of quality and hazard potential;
- To ensure strict control over movement of hazardous wastes across borders and prevention of illegal traffic;
- To prohibit shipments of hazardous wastes to countries lacking the legal administrative and technical capacity to manage and dispose of them in an environmentally sound- manner, and
- To assist developing countries and countries with economics in transition in environmentally- sound management of the hazardous wastes they generate.

BACK HOME NEXT

Back to Content

Parivesh
A News Letter from ENVIS Centre - Central Pollution Control Board

HAZARDOUS WASTE MANAGEMENT

HAZARDOUS WASTE GENERATION IN INDIA :

In response to PIL in the Supreme Court of India on the subject of Hazardous Waste Management, the State Pollution Control Boards/Committees have submitted details of hazardous waste generation. The compiled information is presented in the Table below.

STATES/UTs	UNITS	AUTHORISA-TION GRANTED	CLOSED	DIRECTIONS ISSUED	UNDER PROCESS
Andhra Pradesh	233	230	3	-	-
Assam	18	18	-	-	-
Bihar	36	33	3	-	-
Chandigarh	22	17	5	-	-
Goa	26	6	-	-	20
Gujarat	1421	1421	-	-	-
Haryana	232	199	33	-	-
Himachal Pradesh	67	47	17	-	3
J&K	60	-	-	-	-
Karnataka	288	248	40	-	-
Kerala	68	58	7	-	3
Madhya Pradesh	160	160	-	-	-
Maharashtra	3427	3013	414	-	-
Orissa	120	46	11	44	19
Pondicherry	10	10573	-	-	-
Punjab	600	193	20	7	-
Rajasthan	306	890	63	50	-
Tamil Nadu	962	588	-	-	72
Uttar Pradesh	825	35	46	191	-
West Bengal	114		16	-	63

BACK HOME NEXT

Back to Content

Parivesh
A News Letter from ENVIS Centre - Central Pollution Control Board

HAZARDOUS WASTE MANAGEMENT

ACTION POINT FOR STRENGTHENING HAZARDOUS WASTE MANAGEMENT FUNCTIONS IN POLLUTION CONTROL BOARDS/COMMITEES :

The pollution Control Boards/Committees set up under the Water (Prevention & Control of Pollution) Act. 1974 are entrusted with the implementation of Hazardous Waste (Management & Handling) Rules, 1989 under the Environment (Protection) Act, 1986. The existing infrastructure requires strengthening for effective enforcement. The laboratory facilities are insufficient for analysis of hazardous wastes (HW). Analytical methods are required to be standardized for characterization of wastes specialized training for the concerned personnel is also required. Following action points are suggested:

(a) Inventorisation, authorization for storage & disposal of hazardous waste

1. Inventorisation, authorization for storage & disposal of HW;
2. Issuing authorization to the HW generators;
3. Identification of HW disposal sites;
4. Feasibility reports based on EIA of HW disposal sites; and
5. Gazette notification of hazardous waste disposal facility (HWDF)

(b) HWD Facility

Considering the large number of small and medium-sized hazardous waste generators in the States, it is necessary to set up the common hazardous waste disposal facility involving professionally competent, private sector organization and State Industries Development Authorities through contractual arrangement for;

a. Design;
b. Construction; and
c. Operation of sites, including risk & liability management

The key goal of the project (Build, Operate, and Transfer: BOT) will be to promote development of sustainable and cost-effective hazardous waste management systems, which will include

a. Treatment
b. Containment; and
c. Disposal

(c) Infrastructure Laboratories

a. Procurement of specialized equipment/instrument for sampling and analysis before handling, storage, transportation and disposal of hazardous waste;
b. Standardization of methods for analysis of parameters required in hazardous waste management. (For example: Corrosivity, Ignitability, TCLP etc.,)

(d) Training

Training of scientists and engineers in India and abroad for enforcement of HWM is required in the field of:

a. Hazardous waste disposal and legal administration;
b. Mass awareness;
c. Laboratory development; and
d. Hazardous waste related pollution survey, assessment and monitoring.

(e) Implementation of Hazardous Waste management Rules.

In order to successfully implement HW (M&H) Rules 1989, in letter and spirit, the SPCBs have to;

1. Specify by way of a format what information SPCBS would like to have that the occupier must provide to operate [Rule 4
2. Specify as to what minimum levels of merit ifs expected from the operator before grant of authorisation can be considered with respect to:
   appropriate facilities;
   technical capabilities; and
   equipment to handle. [Rule 5 (4)]
3. SPCBs to prepare a checklist to decide on possible refusal of consent/authorisation [Rule 5 (7);
4. Prepare specification to be issued as Order where an operator's authorisation is suspended/cancelled and appeal is hazardous waste [Rules 6 (2)];
5. Implement guidelines framed by MoEf regarding packing, labeling and transport and incorporate as condition [Rule 7(2)];
6. SPCBs to ensure and assist State Govt. for exploration of the following;
   Whether there exists a continuing programme to identify sites and to compile, publish inventory of sites;
   Whether impact assessment study is done; and
   Whether a continuing programme to advertise/publish the present status of each sits exists [Rules 8(1) (2) (3)]
7. SPCBs to prepare mechanism for scrutinizing From 4 returns and its interpretation [Rule 10(2)]
8. SPCBs to prepare mechanism for scrutinizing Form 5 return and its interpretation [Rule 10(2)]
9. SPCBs to prepare a checklist to decide on possible grant/refusal of import of hazardous waste [Rule 11(4)]
10. SPCBs to prepare formats seeking further information and frame what further instructions be given to importer as preconditions [Rule 11(5)]
11. SPCBs to prepare mechanism of scrutinizing Form 7 [Rule (7)]

(f) Specific Suggestions

1. Import of hazardous waste for recycling/reprocessing can be allowed only to the traders who may not possess facilities for proper storage, handling, treatment, disposal etc.
2. Ports need to designate an environment Cell for handling of hazardous wastes. The SPCBs should closely interact with the port authorities. For this purpose local coordination committee may be set up.
3. Emergency response system in the SPCBs is required to be set up for tackling accidents involving hazardous chemicals/ wastes. This system should have:
   Data base for hazardous chemicals/ wastes with necessary Computer hardware;
   Hook up through the INTERNET to the other data basses in the country and abroad;
   Rapid communication system. (Cellular phone, pagers, etc.) Linking with other concerned departments such as Deptt. Of industries, Transport, Health, ENVIRONMENT, Law & Order and District Magistrate);
   Provision of special vehicles installed with instruments required for monitoring at the emergency sites;
   Special training for scientist and engineers dealing with emergency response.
4. Formulation of Hazardous Waste Management Programs under Bilateral Assistance.

BACK HOME NEXT

Back to Content

Parivesh
A News Letter from ENVIS Centre - Central Pollution Control Board

HAZARDOUS WASTE MANAGEMENT

GUIDELINES FOR SETTING UP OF OPERATING FACILITY: HAZARDOUS WASTE MANAGEMENT :

Availability of reliable "operating facility" is an impornt requirement for effective management of hazardous wastes. The operator can be a government agency, an industry Association or a joint venture/private sector company. The possibility of common effluent treatment plants, where government, nodal agency and industry associations/companies have participated, has been a practical experience.

Treatment of Hazardous waste is a costly proposition. It also needs continuity to run the treatment unit. The facility demands specialized supervision and instrumentation. Hazardous wastes can hardly be reliably disposed a loose confederation. A dedicated operating agency can only offer a solution. Industry and regulatory authorities should, therefore, groom such operating agencies.

Rule 5 (4) of the Hazardous Waste (Management & Handling) Rules, 1989 expects that the proposed operator should possess appropriate facilities, technical capacities and equipment to handle hazardous wastes safely Further, the very fact that the rules provide for transfer of responsibility by permission to the operator, means that the rule pre-supposes that the operating agency will do such work more efficiently than the generator. To this end, CPCB has brought out guidelines for setting up of operating facility for hazardous waste management. This document provides practical tips given in a capsule form along with a few check points to the aid of State Pollution Control Boards, future operating agencies and member industries. The guidelines deal with the following aspects:

- Site selection
- On-sit storage at generator's premises
- Pre-treatment on sit
- Pre-transport precautions
- Loading and transportation
- Spillage handling
- Unloading and receiving
- Characterization
- Segregation
- Physical treatment
- Chemical treatment
- Biological treatment
- Thermal treatment
- Public acceptability
- Solvent recovery
- Composting
- Secure landfill
- Incinerator
- Post-treatment
- Monitoring
- Closure and post closure
- Record-keeping
- Research and training
- Safety and security
- Overall management

BACK HOME NEXT

Back to Content

Parivesh
A News Letter from ENVIS Centre - Central Pollution Control Board

HAZARDOUS WASTE MANAGEMENT

ENVIRONMENTAL GUIDELINES FOR SHIP-BREAKING INDUSTRY :

Ship-breaking industries generate primarily re-rollable steel scraps. Presently, the country is reported to have a capability to break vessels @2 million LDT per year. Govt. of India recognized it as a manufacturing process in 1979. The activity of ship breaking in the country is undertaken in the coastal States. During the profess, some pollutants like oil paint, rubber and plastics, insulating material (thermocol, glass wool) etc, are generated sometimes, vessels procured for breaking contain hazardous wastes and toxic chemicals in paints/components consisting of lead and other heavy metals, PCBs, asbestos etc. a comprehensive environmental management plan needs to be prepared (by the existing ship-breaking industries) comprising pollution control measures as suggested on the following page:

Solid Waste
The combustible materials (viz. residual oil, oil sludge, paints, glass wool, woolen items) should not be burnt in the open. Rather, they should be incinerated in a properly designed incinerator having pollution control system. It is recommended to set up common incinerators, area wise. Ship-breaking Industry Association cockle lay a lead role for this purpose. Plastics and rubber items should not be incinerated and be sold off to recycling units.

Other solid wastes, like broken tiles, cement debris and incineration ash, should be properly disposed off in a designated secure landfill site.

Iron sales/rust generated at the yard during cutting and cleaning of scraps should not find their way into seawater. The scales should be collected efficiently and may be sold to outside units for reprocessing.

Air Pollution
Dust/fume may be generated during cutting operations at the yard. Emissions from cutting operations should, therefore, be channelised through a suction device to a air pollution control system.

The dust generated during material handling should be minimizing by sprinkling of seawater.

Water Pollution
Seawater may get polluted by wastewater generated by the ship breaking industry in terms of suspended solids, nitrates, nitrite, phosphate, heavy metals oil & grease.

Effluent treatment plants are suggested for ballast and bilge water, which is discharged from specific locations, as these pollutants enter the sea through diffused locations on a ship-breaking yard.

The other measures to be taken to prevent seawater from getting polluted include;

- Proper and efficient recovery of oil and lubricants from cargo holds, fuel tanks and engine rooms. Ballast and bilge water contain oil and other toxic chemicals. These should be chemically treated to precipitate oil before being discharged into the sea or a combined ETP should be installed for entire yard to treat bilge and ballast water.
- The recovered oil and oil sludge should be burnt in the incinerator.
- Proper sanitary facilities should be provided to workers. Open land disposal of domestic sewage on the beach and in the field should be prevented. Effluents from toilets, canteens etc. Should be led to an effluent treatment plant (ETP), which may be set up on combined basis for a cluster of units.

To treat domestic wastewater generated from workers 'colony, Sewage Treatment Plant should be set up and discharge of untreated effluent into the sea should be stopped.

Noise

The main source of noise from the activity are cutting operation, winches and crane operations brushing of iron scrap to remove rust, during material handling etc. Noise power level of these equipment shall be restricted to 90Db (A) by technological measures. Workers should also be provided with earplugs.

Occupational Safety and Health Plan

Maintenance of occupational safety and health is very closely related to productivity and good employer-employee relationship. Proper supervision of breaking operation should be done to avoid accident. If possible, the local ship-breakers association should enter a Memorandum of Understanding (MoU) with the concerned State Maritime Boards to lay down general guidelines of safety and precautions during the cutting operations in the ship-breaking yard. A set of codified safety regulations should also be finalized mutually to implement the MoU. It may be in lines of MoU made between Gujarat Maritime, Boards (GMB), and Gujarat Ship Breakers' Association (GSB) and Sosiya ship Breakers Association (SSBA).

Disaster Management Plan

As per the "Hazardous Chemicals (Manufacture, Storage & Import), Rules, 1989" a detailed safety report for chemicals exceeding the limit prescribed in the; Schedule' needs to be prepared, Considering that LPG gas is used in cutting operations, the total amount of gas stood for a cluster of units in an area may exceed the quantity specified in the above mentioned 'Rules'. It is therefore, desired that an "Off-sit. Disaster Management Plan' be prepared by District Authorities for the area in question.

BACK HOME NEXT

Back to Content

Parivesh
A News Letter from ENVIS Centre - Central Pollution Control Board

HAZARDOUS WASTE MANAGEMENT

WORLD BANK ASSISTD PROJECT ON HAZARDOUGS WASTE MANAGEMENT :

The objective of the project is to assist in the implementation of a modern and sustainable hazardous waste management (HWM) system in the country. The specific goals are to: (i) promote the development of a comprehensive monitoring and enforcement system for timely implementation of the hazardous waste management rules and other concerned legislations; (ii) assist in the implementation of training and awareness programmes in HWM and support for development of background data for policy-making. The project will comprise three components; (i) Institutional (ii) Technical assistance, and (iii) Investment.

Institution Components:
This component is designed to support a programme of activities aimed at strengthening the monitoring and enforcement capacity of the State Pollution Control Boards in those States where the most serious hazardous waste concerns have arisen. These are the States of Andra Pradesh, Gujarat, Maharashtra and Tamil Nadu. The key themes of the programme include:

- Strengthening of analytical capability
- Institutionalization of the planning process;
- Improving the informationmanagemetn process;
- Preparation of inventories of hazardous waste;
- Identification and notification of sites for destruction and disposal of residues;
- Organization of a community out-reach effort; and
- Training

Investment Component: This is designed to support priority investment in hazardous waste management. Primarily, this project will assist in the minimization of hazardous wastes generation. The emphasis is on preventing future discharges of hazardous wastes by the promoting actions that will result in the avoidance, recycle or recovery of otherwise hazardous effluents. However, in some cases generation of hazardous waste cannot be avoided and may require destruction and/or ultimately, disposal. For those cases, where destruction and disposal is required by medium and small-scale generators, the project will assist in the introduction of institutional models and technologies to be used for the proper ultimate destruction and safe disposal of hazardous residues from these operations.

The centralized treatment and disposal facilities (CTDF) of hazardous wastes will also be funded as follows: 9i) projects sponsors are expected to provide for atlas 25% of the total project cost (ii) Central Govt. will allocate a direct grant to eligible CTDFs equivalent to up 15% of the total cost; (iii) the balance will be financed through the proceeds of lines of credit with ICICI and Bank of Boards and/or other domestic loans.

Technical Assistance Component: This component will support activities designed to complement the Boards and improve the participation and access of the general public information regarding management of hazardous waste in the country and other activities of technical nature. This includes: (i) support for the expansion of waste minimization circles: (ii) development of strategy for containment and disposal of PCBs (iii) development of an approach to clean the contaminated sites; (iv) other technical studies; and finally,(v) the project will also support for a limited effort to promote development of technology for waste minimization and prevention of hazardous waste residues. This will be done through the use direct grants cover up to 40% of the cost of innovative, first-of-a-kind implementations of technology at a commercial scale dealing with the avoidance, minimization or recycle of hazardous residues of substances.

BACK HOME NEXT

Back to Content

HAZARDOUS WASTE MANAGEMENT

INDO-GERMAN BILATERAL PROJECT ON STRENGTHENING OF CENTRAL & STATE POLLUTION CONTROL BOARDS :

Under the bilateral co-operation programme between India and Germany, project on 'Strengthening of Central and State Pollution Control Boards has been taken up. The project is implemented by CPCB (India part) and GTZ (German counterpart). Among other things, this project has a component on hazardous waste management. The activities under this project are:

- Prepare a concept according to standard international practical for compiling a catalogue for identifying categorizing and quantifying hazardous waste;
- Compile all hazardous waste categories generated in India in co-operation with SPCBs including recommendations for treatment, recycling option and import permissions;
- Elaborate a national framework plan for hazardous waste treatment facilities based on district level inventories;
- Compile methods for identification test of hazardous waste for SPCBs and customs authorities;
- Review standards and guidelines for environmentally suitable hazardous waste handling and management;
- Develop guidelines for the licensing procedure of hazardous waste management facilities and introduce it in one State for demonstration
- Implement the manifest system in one SPCB (pilot phase in Karnataka); and
- Establish close co-operation between CBCB and NPC-ED (TC project in industrial Pollution Control) in environmentally suitable hazardous waste management.

BACK HOME NEXT

Back to Content

Parivesh
A News Letter from ENVIS Centre - Central Pollution Control Board

HAZARDOUS WASTE MANAGEMENT

READY RECKONER FOR PROCESSING APPLICATION FOR AUTHORISATION :

The Hazardous Wastes (M&H) Rules 1989 provide that the industries producing certain wastes covered in its schedule, shall apply to State Pollution Control for authorization. While processing such application some question come to the mind of the field staff, such as:

1. What is its Basel Convention equivalent?
2. In which type of industries, this category of waste can be expected
3. In each of such type of industry, in which sub-activity this category of waste can be expected.
4. For each such sub-activity, what is the best way to dispose of the corresponding waste in order of preference?
5. With which other waste, this category of waste is incompatible.
6. When this waste is to be transported, what label should it carry as per Central Motor Vehicle Act, 199?
7. Whether this type of waste can be recycled.
8. What normally is the waste character?
9. In which industry this waste can be found, additionally

To provide answers for these questions a Ready Reckoner is being prepared in CPCB. This includes existing 18 categories of wastes in schedule under HW (M&H) Rules, 1989 and also for 5 additionally suggestion categories (through not yet included in the schedule) so as to complete harmonization with the wastes listed in the Basel Convention.

While preparing the Ready Reckoner, the document (1) European Waste Catalogue (31.8.93) and 92) German Catalogue of Waste requiring particular supervision, were of great help. This Reckoner is an initial help to facilitate the issuance of authorization. As the work progress, more information be gathered by the field staff due to their exposure. Such information may be filed up in the vacant slots by them locally, and assembled centrally (may be after say every couple of years.

It is hoped that the Ready Reckoner will serve for the intended use. Suggestions and useful criticism would be welcome for further refinement. Draft of Ready Reckoner for the hazardous wastes category no. 1 as suggested by CPCB is as follow:

READY RECKONER FOR HAZARDPUS WASTE MANAGEMENT

Q.1: Which category of hazardous waste, you wish to manage? Category No.1

Q.2: What is its Basel Convention equivalent? Category No. Y-7, Y-17

Q.3: In which type of industries, this category of Waste can be expected? See Box 3 Col. 1

Q.4: In each of such type of industry, in which Sub Activity, this category of waste can be expected? See Box Col 2

Q. 5: For each such sub-activity, what is the best way to See Box 3 Col. 3 I= first priority II= second priority

Q.6: With which other wastes this category of waste is incompatible See below Box 1?

Q.7: When this waste is to be transported, what label it should Carry as per Motor Vehicles Act, 1988 POISON

Q.8: Whether this type of waste can be recycled See Box 3 Col. 4

Q.9: What normally is the waste character? See Box 3 Col. 5

Q.10: In which industries this waste can be found? See Box 2

BACK HOME NEXT

Back to Content

Parivesh
A News Letter from ENVIS Centre - Central Pollution Control Board

HAZARDOUS WASTE MANAGEMENT

ENVIRONMENTALLY- SOUND MANAGEMENT FOR RE-ROCESSING OF ZINC ASH/SKIMMING, LEAD WASTE & WASTE OIL :

The Rule 11 of Hazardous Waste (Management & Handling) Rules, 1989 prohibits import of hazardous waster for dumping. However, the import of hazardous waste is allowed for the purpose of recycling/recovering and use as raw material. The import of hazardous waste is also covered under the Basel Convention on Control of Tran boundary Movement of Hazardous Waste and their Disposal. The wastes permitted for import are required to be reprocessed in an environmentally sound manner. Procedures and environmentally safeguarded of proposals seeking import of hazardous wastes. For providing technical assistance to the Central Government and to the Court in taking decision on import of waste recycling/reuse, CPCB has formulated codes of practice for handling the following categories of wastes:

(A) Code of Practice for Environmentally- sound Management for Recycling and Recovery Operation of Zinc Ash/Skimming

Zinc ash/skimming, which contain not less than 65% recoverable zinc, may be permitted for import to meet the demand of secondary zinc industries subject to compliance of following:

1. Import of zinc ash/skimming shall be allowed for import to only those industries, which have requisite pollution control equipment to meet the emission and effluent standards and hazardous waste management guidelines. The units should have "consent" and" authorization" for disposal of hazardous wastes from respective State Pollution Control Board (SPCB).
2. During transpiration, processing for recovery of zinc and production of zinc oxide/zinc sulphate, the following measures will be taken for environmental safeguards:
    - To avoid dust emission during handling and transport, property covered containers should be used
    - In the rotary furnaces, the industry should install properly designed bag fitter followed by scrubber. The particulate matter emission should not be more than 10 mg/Nm3 for lead. The effluent from scrubber should be properly treated and it should meet the standards stipulated by the concerned State Boards.
    - In the refining section, the solid waste generated from drum filter cake, which contains lead and also nickel and copper, should be properly disposed in the secure landfill as per the guidelines issued by MoEF for implementation of Hazardous. Waste (Management & Handling) Rules, 1989. The design of secure landfill should be approved by SPCB and the leach ate should pass the US-EPA limit.
    - In the Electrolysis section, the fugitive emission generated by electrolysis process, i.e. acid fumes, should be properly controlled. The industry should install canopy hood for proper canalization of emission and it should be connected to a properly designed scrubber before discharging through a stack.
    - The industry should utilize the solid waste as far as possible.
    - The container of zinc ash/skimming (after taking the material) should be properly cleaned and the washing would be treated in the ETP.
    - The industry should regularly (once in a month) do the emission/effluent monitoring and leach ate sampling and analysis result should be submitted to SPCB.
    - Treated wastewater from the industry should be fully recycled.
3. The importer industry shall maintain records of collection, treatment, transport, storage and disposal of hazardous waste in Form 3 of HW (M&H) Rules, 1989.

BACK HOME NEXT

Back to Content

HAZARDOUS WASTE MANAGEMENT

CPCB PUBLICATION ON HAZARDOUS WASTE MANAGEMET :

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2. Status of Hazardous Waste Generation Treatment and Disposal in Himachal Pradesh:
3. Identification of Hazardous Waste Generating Industry in the Status of Madhya Pradesh, Utter Pradesh, Rajasthan, Punjab, Haryana, & Himachal Pradesh: hazwams/3/1994-1995
4. Identification of Hazardous Waste Generating Industry in Southern Status (Andhra Pradesh, Kerala, Karnataka & Tamil Nadu) HAZWAMS/4/1995-95
5. Inventorisation and Management of Hazardous Waste in Milk District, Andhra Pradesh: HASWAMS/5/1994-95
6. Inventorisation of Hazardous Waste Generation in Five District (Ahmedabad, Vadodara, Bharuh, Surat and Valsad) of Gujarat: HAZWAMS/6/1995-96
7. Report on inventoriazation of Hazardous Waste Generations in Jammu & Kashmir State (Jammu Province): HAZWAMS/7/1996-97
8. Inventorisation of Hazardous Waste generation in Kerala State: HAZWAMS/9/1997-97
9. Inventorisation of Hazardous Waste Generation Industries in Orissa: HAZWAMS/10/1996-97
10. Inventorisation of Hazardous Wastes Generation in Punjabi: HAZWAMS/10/1996-97
11. Guidelines for Setting up of Operating Facility: Hazardous Waste Management: HAZWAMS/11/1997-98

BACK HOME

Back to Content

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- About Envis
- Air Pollution
- Water Pollution
- Noise Pollution
- Publications
- News Letters
- Annual Report
- Highlights
- News
- Team
- Home

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