

Treatment and Disposal Options for Schedule- I Wastes

S.No	Processes	Waste Streams	Treatment disposal/options			
			Ch/ph treatment	Incineration	Landfill	Recycle
1	Petrochemical process and pyrolytic operations	Furnace/reactor residue and debris*	*	*	1	*
		Tarry residue	*	1	*	*
		Oily sludge emulsion	*	1	*	1
		Organic residue	*	1	*	*
		Residue from alkali wash of fuels	1	*	1	*
		Still bottoms from distillation process	*	1	*	2
		Spent catalyst and molecular sieves	2	*	3	1
		Slop oil from waste water	*	1	*	1
		ETP sludge containing hazardous constituents	1	*	2	*
2	Drilling operation for oil and gas productions	Drill cuttings containing oil	1	*	2	1
		Sludge containing oil	1	1	2	*
		Drilling mud and other drilling waste*	1	*	2	*
3	Cleaning, emptying and maintenance of petroleum oil storage tanks including ships	Oil containing cargo residue and sludge	1	1	2	1
		Chemical containing cargo residue and sludge	*	1	*	1
		Sludge and filters contaminated with oil	*	1	*	1
		Ballast water containing oil from ships	1	1	*	1
4	Petroleum refining/refining of used oil/recycling of waste oil	Oily sludge/emulsion	*	1	*	1
		Spent catalyst	2	*	3	1
		Slop oil	*	1	*	1

		Organic residue from process	*	1	*	1
		Chemical sludge from waste water treatment	1	*	2	*
		Spent clay containing oil	1	2	2	*
5	Industrial operations using mineral / synthetic oil as lubricant in hydraulic system or other appliatons	Used / spent oil	*	*	*	1
		Waste / residue containing oil	1	2	*	3
6	Secondary production and / or use of zinc	Sludge and filter press cake arising out of zinc sulphate production	2	*	3	1
		Zinc fines / dust / ash / skimming (dispersible form)	2	*	3	1
		Other residue from processing of zinc ash / skimming	2	*	3	1
		Flue gas dust and other particulate*	*	*	2	1
7	Primary production of zinc/lead copper and other non ferrous metals except aluminum	Flue gas dust from roasting*	2	*	3	1
		Process residue	1	*	2	*
		Arsenic-bearing sludge	1	*	2	*
		Metal bearing sludge and residue including jarosite	1	*	2	*
		Sludge from ETP and scrubbers	1	*	2	*
8	Secondary production of copper	Spent electrolytic solution	1	*	2	*
		Sludge and filter cakes	1	*	2	*
		Flue gas dust and other particulate*	2	*	3	1
9	Secondary production of lead	Lead slag / lead bearing residue	1	*	2	*
		Lead ash / particulate from flue gas	2	*	3	1

10	Production and / or use of cadmium and arsenic and their compounds	Residue containing cadmium and arsenic	1	*	2	*
11	Production of primary and secondary aluminum	Sludge's from gas treatment	1	*	2	*
		Cathode residue including pot lining waste	1	*	2	*
		Tar containing wastes	*	1	2	*
		Flue gas dust and other particulars*	2	*	3	1
		Wastes from treatments of salts slag's and black drosses*	1	*	2	*
12	Metal surface treatment such as etching, staining, polishing, galvanizing, cleaning, degreasing, plating etc	Acid residue	1	*	2	*
		Alkali residue	1	*	2	*
		Spent bath / sludge containing sulphide, cyanide and toxic metals	1	*	2	*
		Sludge from bath containing organic solvents	*	1	2	*
		Phosphate sludge	1	*	2	*
13	Production of iron and steel including other ferrous alloys (electric rolling and finishing mills, coke oven and product plant)	Process dust*	1	*	2	*
		Sludge from acid recovery unit	1	*	2	*
		Benzol and sludge	*	1	*	*
		Decanter tank tar sludge	*	1	*	*
		Tar storage tank residue	*	1	*	*
14	Hardening of steel	Cyanide-nitrate or nitrate containing sludge	1	*	2	*
		Spent hardening salt	1	*	2	*
15	Production of asbestos containing materials	Asbestos containing residue	*	*	1	*
		Discarded asbestos	*	*	1	*
		Dust/particulates from exhaust gas treatment	*	*	2	1

16	Production of caustic soda and chlorine	Mercury bearing sludge/	1	*	2	*
		Residue/sludge's and filter cake's*	*	*	1	*
		Brine sludge containing mercury	1	*	2	*
17	Production of acids	Residue, dusts or filter cakes*	1	*	2	*
		Spent catalyst*	2	*	3	1
18	Production of nitrogenous and complex fertilizers	Spent catalyst*	*	*	2	1
		Spent carbon*	*	1	2	*
		Sludge/residue containing Arsenic	1	*	2	*
		Chromium sludge from water cooling tower	1	*	2	*
		Chemical sludge from waste water treatment	1	*	2	*
19	Production of phenols	Residue / sludge containing phenol	*	1	*	*
20	Production and / or industrial use of solvents	Contaminated aromatic, aliphatic or naphthanic solvents not fit for originally intended use	*	*	*	*
		Spent solvents	*	1	*	1
		Distillation solvents	*	1	*	*
21	Production and / or industrial use of paints, pigments, lacquers, varnishes, plastics and inks	Waste and residue	*	1	*	*
		Filter residue	*	1	*	*
22	Production of plastic raw material	Residues of additives used in plastic manufacture like dyestuffs, stabilizers, flame retardants etc	1	*	2	*
		Residue of plasticizers	*	1	*	*

		Residues from vinyl chloride monomer production	*	1	*	*
		Residue from acrylonitrile production	*	1	*	*
		Non-polymerized residue	*	1	*	*
23	Production and/or industrial use glues, cements, adhesives and resins	Waste/residue (not made with vegetable or animal materials)*	*	1	*	*
24	Production of canvas and textiles	Textile chemical residue*	1	*	1	*
		Chemical sludge from waste water treatment	1	*	2	*
25	Industrial production and formulation of wood preservatives	Chemical sludge from waste water treatment	1	*	1	*
		Residues from wood alkali bath	1	*	1	*
26	Production or industrial use of synthetic dyes, dye-intermediates and pigments	Process waste sludge/residue containing acid or other toxic metals or organic complexes	1	1	2	*
		Chemical Sludge from waste water treatment	1	*	2	*
		Dust from air filtration system	*	*	1	1
27	Production or industrial use of material made with organo-silicon compounds	Silicon containing residue	*	1	1	*
		Silicon oil residue	*	1	*	*
28	Production /formulation of drugs pharmaceuticals	Residue and wastes*	1	1	2	*
		Spent catalyst/spent carbon	2	*	3	1
		Off specification production	1	*	2	*
		Date expired, discarded and off-specification drugs/medicines	1	*	2	*

		Spent mother liquor	*	1	*	*
		Spent organic solvents	*	2	*	1
29	Production use and formulation of pesticides including stockpiles	Waste/residues containing pesticides	*	1	*	*
		Chemicals sludge from waste water treatment	*	1	2	*
		Date expired and off-specification pesticides	*	1	*	*
30	Leather tanneries	Chromium bearing residue and sludge	1	*	2	*
		Chemical sludge from waste water treatment	1	*	2	*
31	Electronic industry	Residue and waste*	1	1	2	*
		Spent etching chemicals and waste	*	1	2	*
32	Paper and pulp industry	Spent chemicals	1	*	2	*
		Corrosive waste arising from use of strong acid and bases	1	*	2	*
		Sludge containing adsorbable organic halides	*	2	*	1
33	Disposal of barrels / containers used for handling of hazardous waste / chemicals	Chemicals containing residue from decontamination and disposal	*	1	*	*
		Sludge from treatment of waste water arising out of cleaning/ disposal of barrels/ containers	1	1	2	*
		Discarded containers/ barrels/ liners/ used for hazardous waste / chemicals	1	1	2	
34	Purification process for air and water	Flue gas cleaning residue*	1	*	2	*
		Toxic metal containing residue from used ion exchange material in water purification	1	*	2	*

		Chemical sludge from waste water treatment	1	*	2	*
		Chemical sludge, oil and grease skimming residues from common industrial effluent treatment plants and other industry-specific effluent treatment plants	1	1	2	*
		Chromium sludge from cooling water treatment	1	*	2	*
35	Purification process for organic compounds / solvent	Filter and filter materials which have organic liquid in them, eg. mineral oil, synthetic oil and organic chlorine compounds	*	1	*	*
		Spent catalyst*	2	*	3	1
		Spent carbon*	*	1	2	*
36	Waste treatment processes eg. Incineration, distillation, separation and concentration techniques	Sludge from wet scrubbers	*	*	1	*
		Ash from incineration of hazardous waste , flue gas cleaning residue	*	*	1	*
		Spent acid from batteries	1	*	2	*
		Distillation residue from contaminated organic solvents	*	1	*	*

*Unless proved otherwise by the occupier based on sampling and analysis carried out by a laboratory recognized under the Act not to contain any of the constituents mentioned in Schedule 2 to the extent of concentration limits specified therein.

- 1,2 ,3 indicates Order of preferenc for the treatment/ Disposal option
- A number appearing twice indicates possible treatment by both option depending on merit
- Sign '*' indicates Not possible to treat by this option