ANNEXURE-I

SCHEDULE – 1

LIST OF HAZARDOUS WASTES

S. No.	Processes	Hazardous Wastes
1	**2**	**3**
1.	Petrochemical processes and pyrolytic operations	1.1 Furnace/reactor residue and debris* 1.2 Tarry residues 1.3 Oily sludge emulsion 1.4 Organic residues 1.5 Residues from alkali wash of fuels 1.6 Still bottoms from distillation process 1.7 Spent catalyst and molecular sieves 1.8 Slop oil from wastewater 1.9 ETP sludge containing hazardous constituents
2.	Drilling operation for oil and gas production	Drill cuttings containing oil Sludge containing oil Drilling mud and other drilling wastes*
3.	Cleaning, emptying and maintenance of petroleum oil storage tanks including ships	3.1 Oil-containing cargo residue, washing water and sludge 3.2 Chemical-containing cargo residue and sludge 3.3 Sludge and filters contaminated with oil 3.4 Ballast water containing oil from ships.
4.	Petroleum refining/re-refining of used oil/recycling of waste oil	4.1 Oily sludge/emulsion 4.2 Spent catalyst 4.3 Slop oil 4.4 Organic residues from process 4.5 Chemical sludge from waste water treatment 4.6 Spent clay containing oil
5.	Industrial operations using mineral/synthetic oil as lubricant in hydraulic systems or other applications	5.1 Used/spent oil 5.2 Wastes/residues containing oil
6.	Secondary production and/or use of zinc	6.1 Sludge and filter press cake arising out of zinc sulphate production 6.2 Zinc fines/dust/ash/skimmings (dispersible form) 6.3 Other residues from processing of zinc ash/skimmings 6.4 Flue gas dust and other particulates*

S. No.	Processes	Hazardous Wastes
1	**2**	**3**
7.	Primary production of zinc/lead/copper and other non-ferrous metals except aluminium	7.1 Flue gas dust from roasting* 7.2 Process residues 7.2 Arsenic-bearing sludge 7.3 Metal bearing sludge and residue including jarosite 7.4 Sludge from ETP and scrubbers
8.	Secondary production of copper	8.1 Spent electrolytic solutions 8.2 Sludges and filter cakes 8.3 Flue gas dust and other particulates*
9.	Secondary production of lead	9.1 Lead slag/Lead bearing residues 9.2 Lead ash/particulate from flue gas
10.	Production and/or use of cadmium and arsenic and their compounds	10.1 Residues containing cadmium and arsenic
11.	Production of primary and secondary aluminium	11.1 Sludges from gas treatment 11.2 Cathode residues including pot lining wastes 11.3 Tar containing wastes 11.4 Flue gas dust and other particulates* 11.5 Wastes from treatment of salt slags and black drosses*
12.	Metal surface treatment, such as etching, staining, polishing, galvanising, cleaning, degreasing, plating, etc.!	12.1 Acid residues 12.2 Alkali residues 12.3 Spent bath/sludge containing sulphide, cyanide and toxic metals 12.4 Sludge from bath containing organic solvents 12.5 Phosphate sludge 12.6 Sludge from staining bath 12.7 Copper etching residues 12.8 Plating metal sludge 12.9 Chemical sludge from waste water treatment
13.	Production of iron and steel including other ferrous alloys (electric furnaces; steel rolling and finishing mills; Coke oven and by product plant)	13.1 Process dust * 13.2 Sludge from acid recovery unit 13.3 Benzol acid sludge 13.4 Decanter tank tar sludge 13.5 Tar storage tank residue
14.	Hardening of steel	14.1 Cyanide-, nitrate-, or nitrite-containing sludge 14.2 Spent hardening salt.
15.	Production of asbestos or asbestos-containing materials	15.1 Asbestos-containing residues 15.2 Discarded asbestos 15.3 Dust/particulates from exhaust gas treatment.
16.	Production of caustic soda and chlorine	16.1 Mercury bearing sludge 16.2 Residue/sludges and filter cakes* 16.3 Brine sludge containing mercury
17.	Production of acids	17.1 Residues, dusts or filter cakes* 17.2 Spent catalyst*

S. No.	Processes	Hazardous Wastes
1	2	3
18.	Production of nitrogenous and complex fertilizers	18.1 Spent catalyst* 18.2 Spent carbon* 18.3 Sludge/residue containing arsenic 18.4 Chromium sludge from water cooling tower 18.5 Chemical sludge from waste waster treatment
19.	Production of phenol	19.1 Residue/sludge containing phenol
20.	Production and/or industrial use of solvents	20.1 Contaminated aromatic, aliphatic or napthenic solvents not fit for originally intended use 20.2 Spent solvents 20.3 Distillation residues
21.	Production and/or industrial use of paints, pigments, lacquers, varnishes, plastics and inks	21.1 Wastes and residues 21.2 Fillers residues
22.	Production of plastic raw materials	22.1 Residues of additives used in plastics manufacture like dyestuffs, stabilizers, flame retardants, etc. 22.2 Residues of platicisers 22.3 Residues from vinylchloride monomer production 22.4 Residues from acrylonitrile production 22.5 Non-polymerised residues
23.	Production and/or industrial use of glues, cements, adhesive and resins	23.1 Wastes/residues (not made with vegetable or animal materials)*
24.	Production of canvas and textiles	24.1 Textile chemical residues* 24.2 Chemical sludge from waste water treatment
25.	Industrial production and formulation of wood preservatives	25.1 Chemical residues 25.2 Residues from wood alkali bath
26.	Production or industrial use of synthetic dyes, dye-intermediates and pigments	26.1 Process waste sludge/residues containing acid or other toxic metals or organic complexes 26.2 Chemical sludge from waste water treatment 26.3 Dust from air filtration system
27.	Production or industrial use of materials made with organo-silicone compounds	27.1 Silicone-containing residues 27.2 Silicone oil residues
28.	Production/formulation of drugs/ pharmaceuticals	28.1 Residues and wastes* 28.2 Spent catalyst / spent carbon 28.2 Off specification products 28.3 Date-expired, discarded and off-specification drugs/ medicines 28.4 Spent mother liquor 28.5 Spent organic solvents

S. No.	Processes	Hazardous Wastes
1	2	3
29.	Production, use and formulation of pesticides including stock-piles	29.1 Wastes/residues containing pesticides 29.2 Chemical sludge from waste water treatment 29.3 Date-expired and off-specification pesticides
30.	Leather tanneries	30.1 Chromium bearing residue and sludge 30.2 Chemical sludge from waste water treatment
31.	Electronic Industry	31.1 Residues and wastes* 31.2 Spent etching chemicals and solvents
32.	Pulp & Paper Industry	32.1 Spent chemicals 32.2 Corrosive wastes arising from use of strong acid and bases 32.3 Sludge containing adsorbable organic halides
33.	Disposal of barrels / containers used for handling of hazardous wastes / chemicals	33.1 Chemical-containing residue from decontamination and disposal 33.2 Sludge from treatment of waste water arising out of cleaning / disposal of barrels / containers 33.3 Discarded containers / barrels / liners used for hazardous wastes/chemicals
34.	Purification processes for air and water	34.1 Flue gas cleaning residue* 34.2 Toxic metal-containing residue from used-ion exchange material in water purification 34.3 Chemical sludge from waste water treatment 34.4 Chemical sludge, oil and grease skimming residues from common industrial effluent treatment plants (CETPs) and industry-specific effluent treatment plants (ETPs) 34.5 Chromium sludge from cooling water treatment
35.	Purification process for organic compounds/solvents	35.1 Filters and filter material which have organic liquids in them, e.g. mineral oil, synthetic oil and organic chlorine compounds 35.2 Spent catalyst* 35.3 Spent carbon*
36.	Waste treatment processes, e.g. incineration, distillation, separation and concentration techniques	36.1 Sludge from wet scrubbers 36.2 Ash from incineration of hazardous waste, flue gas cleaning residues 36.3 Spent acid from batteries 36.4 Distillation residues from contaminated organic solvents

*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.

SCHEDULE – 2

[*See* rule 3(14)(b)]

LIST OF WASTES CONSTITUENTS WITH CONCENTRATION LIMITS*

Class A

Concentration limit: ≥ 50 mg/kg

A1	Antimony and antimony compounds
A2	Arsenic and arsenic compounds
A3	Beryllium and beryllium compounds
A4	Cadmium and cadmium compounds
A5	Chromium (VI) compounds
A6	Mercury and mercury compounds
A7	Selenium and selenium compounds
A8	Tellurium and tellurium compounds
A9	Thallium and thallium compounds
A10	Inorganic cyanide compounds
A11	Metal carbonyls
A12	Napthalene
A13	Anthracene
A14	Phenanthrene
A15	Chrysene, benzo (a) anthracene, fluoranthene, benzo (a) pyrene, benzo (K) fluoranthene, indeno (1, 2, 3-cd) pyrene and benzo (ghi) perylene
A16	halogenated compounds of aromatic rings, e.g. polychlorinated biphenyls, polychloroterphenyls and their derivatives
A17	Halogenated aromatic compounds
A18	Benzene
A19	Organo-chlorine pesticides
A20	Organo-tin Compounds

1. Waste constituents and their concentration limits given in this list are based on BAGA (the Netherlands Environment Protection Agency) List of Hazardous Substances. In order to decide whether a specific material listed above is hazardous or not, following points be taken into consideration:

(i) If a component of the waste appears in one of the five risk classes listed above (A,B,C,D or E) and the concentration of the component is equal to or more than the limit for the relevant risks class, the material is then classified as hazardous waste.

(ii) If a chemical compound containing a hazardous constituent is present in the waste, the concentration limit does not apply to the compound, but only to the hazardous constituent itself.

(iii) If multiple hazardous constituents from the same class are present in the waste, the concentrations are added together.

(iv) If multiple hazardous constituents from different classes are present in the waste, the lowest concentration limit corresponding to the constituent(s) applies.

(v) For substances in water solution, the concentration limit for dry matter must be used. If the dry matter content is less than 0.1% by weight, the concentration limit, reduced by a factor of one thousand, applies to the solution.

Class B

Concentration limit: ≥ 5, 000 mg/kg

B1 Chromium (III) compounds
B2 Cobalt compounds
B3 Copper compounds
B4 Lead and lead compounds
B5 Molybdenum compounds
B6 Nickel compounds
B7 Inorganic Tin compounds
B8 Vanadium compounds
B9 Tungsten compounds
B10 Silver compounds
B11 Halogenated aliphatic compounds
B12 Organo phosphorus compounds
B13 Organic peroxides
B14 Organic nitro-and nitroso-compounds
B15 Organic azo-and azooxy compounds
B16 Nitriles
B17 Amines
B18 (Iso-and thio-) cyanates
B19 Phenol and phenolic compounds
B20 Mercaptans
B21 Asbestos
B22 Halogen-silanes
B23 Hydrazine (s)
B24 Flourine
B25 Chlorine
B26 Bromine
B27 White and red phosphorus

B28 Ferro-silicate and alloys
B29 Manganese-silicate
B30 Halogen-containing compounds which produce acidic vapours on contact with humid air or water, e.g. silicon tetrachloride, aluminium chloride, titanium tetrachloride

Class C

Concentration limit; ≥ 20, 000 mg/kg

C1 Ammonia and ammonium compounds
C2 Inorganic peroxides
C3 Barium compounds except barium sulphate
C4 Fluorine compounds
C5 Phosphate compounds except phosphates of aluminium, calcium and iron
C6 Bromates, (hypo-bromites)
C7 Chlorates, (hypo-chlorites)
C8 Aromatic compounds other than those listed under A12 to A18
C9 Organic silicone compounds
C10 Organic sulphur compounds
C11 Iodates
C12 Nitrates, nitrites
C13 Sulphides
C14 Zinc compounds
C15 Salts of per-acids
C16 Acid amides
C17 Acid anhydrides

Class D

Concentration limit: ≥ 50, 000 mg/kg

D1 Total Sulphur
D2 Inorganic acids
D3 Metal hydrogen sulphates
D4 Oxides and hydroxides except those of hydrogen, carbon, silicon, iron, aluminum, titanium, manganese, magnesium, calcium
D5 Total hydrocarbons other than those listed under A12 to A18
D6 Organic oxygen compounds
D7 Organic nitrogen compounds expressed as nitrogen
D8 Nitrides
D9 Hydrides

Class E

Regardless of concentration limit; Classified as hazardous wastes at all concentrations

E1 Flammable substances

E2 Substances which generate hazardous quantities of flammable gases on contact with water or damp air