

**REGULATION REGARDING
HAZARDOUS AND TOXIC WASTE MANAGEMENT
Government Regulation Number 19 of 1994**

THE PRESIDENT OF THE REPUBLIC OF INDONESIA

Considering:

- a. that the living environment must be managed in order that it may be in harmony with the concept of sustainable development;
- b. that considerable increases of development in all fields, especially in the field of industry, also increase the amount of waste produced, including those that are hazardous and toxic, that may endanger the environment and the health of human beings;
- c. that to prevent environment pollution and danger to the health of human beings and other living organisms, hazardous and toxic waste material must be managed in a specific manner to eliminate or reduce its hazardous properties;
- d. that in relation to the above mentioned matters it is deemed necessary to stipulate a regulation on the treatment of hazardous and toxic waste by a Government Regulation;

In view of:

1. Article 5 point 2 of the 1945 Constitution;
2. Act No. 4 of 1982 regarding Basic Provisions for the Management of the Living Environment (State Gazette of 1982 No.12, Supplement to the State Gazette of No. 3215);
3. Act No. 5 of 1984 regarding Industrial Affairs (State Gazette of 1984 Number 22, Supplement to the State Gazette of No. 3274);

DECIDES TO STIPULATE:

**Government Regulation Regarding
the Management of Hazardous and Toxic Waste**

**CHAPTER I
GENERAL PROVISIONS**

Article 1

As defined under this Government Regulation:

1. **Waste** shall mean the residue of an activity and/or a production process.
2. **Hazardous and toxic waste**, abbreviated B3 waste, shall mean any waste containing dangerous and/or toxic material, which due to its characteristics and/or concentration and/or amount, either directly or indirectly, may damage and/or pollute the living environment and/or endanger human health;
3. The **management of B3 waste** shall mean a series of operations, including the storing, collecting, transporting, processing of B3 waste and the disposal of the products of such processing;
4. **B3 waste producer** shall mean any person or corporation which produces B3 waste and temporarily stores such waste within the location of its operation before the waste is delivered to a collector or processor of B3 waste;
5. **B3 waste collector** shall mean any corporation engaged in collecting B3 waste from B3 waste producers, with the purpose to store before delivery to the B3 waste processor;
6. **B3 waste processor** shall mean any corporation operating B3 waste processing facilities, including the final disposal of its products;

7. **B3 waste processing** shall mean a process to change the characteristics and composition of B3 waste to render it harmless and/or non-toxic, or to enable B3 waste to be purified and/or recycled;
8. **B3 waste transporter** shall mean any corporation engaged in the transportation of B3 waste;
9. **Transportation of B3 waste** is the process of moving B3 waste from the producer to the collector and/or the processor, including to the place of final disposal using transportation facilities.

Article 2

The treatment of B3 waste is aimed at eliminating or reducing the hazardous and toxic properties of B3 waste, so that it will not endanger human health and will prevent pollution and damage to the environment.

Article 3

Waste classified as B3 waste shall be waste that has any one or more of the following characteristics:

- a. explosive;
- b. inflammable;
- c. reactive;
- d. toxic;
- e. infectious;
- f. corrosive; and
- g. other wastes, that after toxicity testing, are determined to be a B3 type of waste.

Article 4

1. The types of B3 waste include:
 - a. B3 waste from a non-specific source;
 - b. B3 waste from specific sources; and
 - c. B3 waste from expired chemical material, spill, discarded packaging, and disposal of products that do not meet their specifications.
2. Details of each of the types identified in paragraph 1 are attached to this Government Regulation.

Article 5

Every person and corporation is prohibited to dispose of B3 waste directly into water, soil or air.

Article 6

1. B3 waste producers are required to process B3 waste.
2. B3 waste producers who are unable to process the B3 waste that they produce are required to deliver the B3 waste to B3 waste processors.
3. If B3 waste processors as stated in point 2 are not yet available or unable to process B3 waste, the obligation and responsibility to process B3 waste remains with the producer concerned.

4. The delivery of B3 waste by the producer as states in point 2 may be done directly to a B3 waste processor or through a B3 waste collector.
5. The B3 waste collector is required to deliver B3 waste received from the producer to the B3 waste processor.
6. The waste collector is prohibited to carry out collection activities if the B3 waste processor is not available.

Article 7

Radio active waste management shall be performed by the authority responsible for the treatment of radio-active material in accordance with regulations currently in effect.

CHAPTER II STORAGE, COLLECTION AND TRANSPORTATION

Article 8

1. The B3 waste producer may store B3 waste produced for no more than ninety days before delivery to the processor or collector.
2. Storage of B3 waste as mentioned in point 1, shall be in a warehouse specifically built for this purpose.
3. Storage of B3 waste as specified in point 2 shall be built with capacity in accordance with the amount of B3 waste that will be temporarily stored and shall meet the following requirements:
 - a. flood-free warehouse, and is declared as geologically stable;
 - b. construction plans shall accommodate the characteristics of the waste and the procedure to mitigate pollution.
4. Further provision concerning the procedure and technical requirements for storage of B3 waste shall be stipulated by the Environment Impact Management Agency.

Article 9

1. The B3 waste producer shall maintain and keep records on:
 - a. type, characteristics, quantity, and time of production the B3 waste;
 - b. type, characteristics, quantity and time of delivery of the B3 waste;
 - c. name of the B3 waste transporter which delivers the B3 waste to a collector or processor.
2. The B3 waste producer shall submit records as described in point 1 to the Head of the Environmental Impact Management Agency at least once every 6 (six) months.
3. The records as mentioned in point 1 shall be used for:
 - a. inventory of amount of B3 waste produced;
 - b. the basis for evaluating B3 waste treatment policy.

Article 10

1. Collection of B3 waste may be carried out by an enterprise engaged in B3 waste collection operations.

2. Any producer of B3 waste may act as a B3 waste collector.
3. If the waste producer acts as a B3 waste collector, it shall comply with all provisions applicable to B3 waste collectors.

Article 11

1. The B3 waste collector shall comply with the following requirements:
 - a. observe the characteristics of the B3 waste;
 - b. have a laboratory for detecting the B3 waste characteristics;
 - c. have an area of one hectare at minimum;
 - d. have facilities to respond in the event of accidents;
 - e. the construction and material of building used shall be suitable to the characteristics of the B3 waste;
 - f. the location shall be flood-free, declared as geologically stable, far from water resources, not in a catchment area and far from any settlement or other public facilities.
2. Further provisions concerning requirements as specified in point 1 shall be stipulated by the Environmental Impact Management Agency.

Article 12

1. The B3 waste collector shall make a record of:
 - a. type, characteristics, amount of B3 waste and the time received from the producer;
 - b. type, characteristics, amount of B3 waste and the time delivered to the waste processor;
 - c. name of the B3 waste transporter who delivered the B3 waste to the collector or to the B3 processor.
2. The B3 waste collector shall submit records as specified in point 1 at least once every six months to the Head of the Environmental Impact Management Agency.

Article 13

1. The B3 waste collector may store the B3 waste that it has collected for ninety days delivery to the B3 waste processor.
2. The B3 waste collector shall be responsible for the B3 waste it has collected and stored.

Article 14

1. The transportation of B3 waste may be performed by an enterprise which carries out B3 waste transportation operations.
2. The B3 waste producer may act transporter.
3. If the B3 waste producer acts as transporter, it shall abide by the provisions here in applicable to B3 waste transporter.

Article 15

1. Delivery of B3 waste by the producer or collector to the transporter shall be accompanied by the B3 waste manifest.

2. The B3 waste transporter shall have in its possession a B3 waste manifest whenever B3 waste is transported.

3. The format of the B3 waste manifest specified in point 1 shall be stipulated by the Environmental Impact Management Agency with due observance of the Minister of Communication's considerations.

Article 16

The B3 waste transporter shall deliver the B3 waste and the load manifest as mentioned in Article 15 point 1 to the collector or processor of B3 waste appointed by the B3 waste producer.

Article 17

Transportation of B3 waste shall be carried out by special transportation facilities which meet the transportation requirements and procedures as stipulated in the regulations currently in effect.

CHAPTER III PROCESSING

Article 18

1. The B3 waste processor is obliged to prepare an environmental impact analysis, an environmental management plan and an environmental monitoring plan to carry out its activities, either separately from or integrated with its main business.

2. The B3 waste processor that operates an incinerator must possess:

- a. an incinerator with specifications suitable for the characteristics and the amount of waste in processes;
- b. facilities to prevent air pollution to comply with the funnel emission standard, the incineration efficiency of 99.99% and destruction and removal efficiency (DRE) as follows:

1. DRE for Polyorganic hydrocarbon (POHCs) shall be 99.99%;
2. DRE for Polychlorinated biphenyl (PCBs) shall be 99.9999%;
3. DRE for Polychlorinated dibenzofurans shall be 99.9999%;
4. DRE efficiency for Polychlorinated dibenzo-p-dioxin shall be 99.9999%;

- c. The residue from incineration in incinerator ash must be disposed of in accordance with the following provisions for stabilization and solidification (landfill).

3. The B3 waste processor who conducts stabilization and solidification processing must fulfill the following provisions:

- a. the mixing material must be able to bind the hazardous and toxic material, so as to reduce the toxicity and hazardous characteristics up to the stipulated critical ambient standard;
- b. the result of stabilization and solidification must be analyzed with TCLP (Toxicity Criteria Leaching Procedure) to determine the mobility of the organic and inorganic compounds.

4. The B3 waste processor who conducts physical and chemical processing that produces:

- a. liquid waste, must comply with the provisions of the Government Regulation No. 20 of 1990 concerning Water Pollution Control;
 - b. gas waste and dust, must comply with provisions of the regulation currently in effect concerning air pollution control and work safety;
 - c. solid waste, must comply with the provisions on stabilization and solidification, and/or landfill, and/or incineration.
5. The B3 waste processor who conducts processing by landfill, must meet the following provisions:
- a. the selection of the location of the landfill shall meet the following requirements:
 1. flood-free are;
 2. soil permeability 10^{-7} cm/second;
 3. designated as waste disposal or industrial estate according to the spatial planning layout;
 4. geologically stable;
 5. not a catchment area, particularly used for drinking water;
 - b. the landfill must be constructed using a double liner system with run off control, leachate collection and treatment, well monitor and final liner approved by the Environmental Impact Management Agency.
 - c. the landfills already full shall be covered by soil, and the subsequent use shall not be for settlement or other general facilities.
6. Further provisions on technical requirements for processing B3 waste shall be determined by the Environmental Impact Management Agency.

Article 19

1. The location for dumping the products of B3 waste processing shall meet the following requirements:
 - a. flood-free area;
 - b. soil permeability 10^{-7} cm/second;
 - c. designated as waste disposal or industrial estate in the spatial planning layout;
 - d. geologically stable;
 - e. not a catchment area, particularly used for drinking water;
2. Futhrer provisions concerning the procedures and the requirements for dumping the products of B3 waste processing shall be determined by the Environmental Impact Management Agency.

Article 20

1. The B3 waste processor, including its final disposal, shall ensure the following requirements for locations used for processing and dumping:
 - a. top layer must be covered with soil with minimum thickness of 0.60 meter of soil;
 - b. the location shall be fenced and marked as B3 waste dumping location;
 - c. undertake monitoring of the ground water and of other impacts which may arise from B3 waste leaking into the environment for at least 30 (thirty) years after the closing the site.

2. Further provisions on the performance of the obligations mentioned in point 1 shall be determined by the Environmental Impact Management Agency.

CHAPTER IV PERMITS

Article 21

1. Any enterprise carrying out collecting, transporting or processing, including the final dumping of B3 waste, shall acquire the following permits:
 - a. From the Environmental Impact Management Agency, for collecting or processing activities, including final dumping;
 - b. From the Minister of Communication, for transporting activities, after consultation with the Environmental Impact Management Agency.

2. For processing activities that are part of the main activity, an operation permit for processing and storing facilities should be obtained from the Environmental Impact Management Agency and such activities shall be performed in accordance with the provisions of this Government Regulation.

3. The requirements for obtaining an operating permit as mentioned in point 1 letter a and point 2 are as follows:
 - a. possessing the legal basis for the business, validated by the relevant authority;
 - b. name and address of application;
 - c. activities performed;
 - d. location of activities;
 - e. name and address of the person responsible for the activities;
 - f. raw material and processing operations used;
 - g. B3 waste facility specification;
 - h. amount and characteristics of B3 waste collected, transported or processed;
 - i. lay-out of the waste pipe, waste processor, and the temporary location of B3 waste storage before it is processed and the location of dumping after the B3 waste is processed;
 - j. pollution prevention device for liquid waste, emission and B3 waste processing.

4. Further provisions for the procedure for obtaining permit as mentioned in point 1 letter a and point 2 shall be the Environmental Impact Management Agency, and for point 1 letter a shall be determined by the Minister of Communication.

Article 22

1. A location permit for B3 waste processing shall be issued by the Head of the Land Office of the Regency/Municipality in accordance with the spatial planning layout and the recommendation from the Environmental Impact Management Agency.

2. The recommendation as described in point 1 shall be based on the result of a survey of environmental impact analysis and technical feasibility, including the geohydrology of the proposed location.

Article 23

1. For B3 waste processing activities, an environmental impact analysis, environmental management plan and environmental monitoring plan shall be completed.

2. The environmental impact analysis, environmental management plan, and environmental monitoring plan shall be submitted together with the operating license application, to be Environmental Impact Management Agency as mentioned in Article 21.

3. The approval of environmental impact analysis, environmental management plan, and environmental monitoring plan shall be issued by the Environmental Impact Management Agency.

Article 24

1. The decision to issue the operating permit under Article 21, point 2 shall be given at least 30 (thirty) work days from the day of approval of the environmental management plan, and environmental monitoring plan by the responsible agency.

2. The conditions and responsibilities mentioned in the environmental management plan and environmental monitoring plan which have been approved by the responsible agency shall be an integral part of the operating permit as mentioned in Article 21.

Article 25

1. If the B3 waste producer also acts as a processor and the processing location is within the area of the main activities, environmental impact analysis, for the processing activity can be done as an integral part of the environmental impact analysis for the main activity.

2. If the B3 waste processing is carried out by the producer at the location of the main activity, only the environmental management plan, and environmental monitoring plan which have been approved by the responsible agency shall be submitted to the Environmental Impact Management Agency together with the operation permit application as mentioned in Article 21 point 2.

3. The decision concerning a permit application as mentioned in point 2 shall be issued by the Environmental Impact Management Agency at least 30 (thirty) work days from the acceptance of the environmental management plan, and environmental monitoring plan which have been approved by the responsible agency.

4. The conditions and responsibilities mentioned in the environmental management plan and the environmental monitoring plan as described in point 2 of this article shall be an integral part of the permit as mentioned in Article 21 point 2.

Article 26

If the B3 waste producer also act as a processor, but the processing location is different from the main activity, then the provisions concerning the processing of B3 waste in this Government Regulation shall be applied.

CHAPTER V SUPERVISION

Article 27

1. Any person or enterprise shall be prohibited from importing B3 waste into the jurisdiction of the Republic of Indonesia.

2. The transportation of B3 waste from abroad through the jurisdiction of the Republic of Indonesia must first report in writing to the government of the Republic of Indonesia.

3. Export of B3 waste may be carried out after obtaining written approval from the Government of the receiving country and the Government of the Republic of Indonesia.

4. Further provisions concerning procedures for exporting B3 waste shall be stipulated by the Minister of Trade after consultation with the Environmental Impact Management Agency.

Article 28

Any enterprise undertaking storing, collection, transporting and processing including the disposal of B3 waste, shall be prohibited from diluting the waste for the purpose of reducing toxicity.

Article 29

1. Any B3 waste packaging shall display symbols and labels showing the characteristics and type of B3 waste.
2. The Environmental Impact Management Agency shall determine the symbols and labels as mentioned in point 1 for each type of B3 waste.

Article 30

1. Supervision of B3 waste Management shall be carried out by the Environmental Impact Management Agency with due observance of the provision of Article 7.
2. Supervision as mentioned in point 1 includes monitoring of compliance with the requirements and of technical and administrative conditions carried out by the producer, collector, transporter and processor, including the disposal of B3 waste.

Article 31

1. In undertaking the supervisory duty, the supervisor for the B3 waste management shall be equipped with an identification card and an assignment letter issued by the Environmental Impact Management Agency.
2. The supervisor described in point 1 shall be authorized to:
 - a. enter the premises of the producer, collector and processor, including the final location of dumping of B3 waste;
 - b. take samples of B3 waste for laboratory analysis;
 - c. ask for information relevant to the implementation of B3 waste management;
 - d. take photographs to supplement his supervisory report.

Article 32

The producer, collector, transporter and processor, including those carrying out the disposal of B3 waste, must assist the supervisor in carrying out his/her tasks as stated in Article 31.

Article 33

1. The Environmental Impact Management Agency shall submit a report on the implementation of B3 management periodically, but at least once annually, to the President, with a copy to the Minister responsible for environmental management.
2. The Minister responsible for environmental management evaluates the reports in order to prepare a policy on the management of B3 waste.

Article 34

1. To protect the health of workers and supervisors working for B3 waste management, a periodic medical check up shall be conducted.
2. The workers' medical check up as mentioned in point 1 shall be arranged by the B3 waste manager.
3. The medical check up for supervisor of B3 waste management as mentioned in point 1 shall be carried out by the agency responsible for manpower health.

Article 35

1. Producer, collector, transporter and processor of B3 waste shall be responsible for emergency response and pollution of the environment as a result of emission or spilling of B3 waste under their responsibility.
2. Further provision on emergency response and pollution as described in point 1 shall be determined by the Environmental Impact Management Agency.

Article 36

1. Producer, collector, transporter and processor of B3 waste shall take immediate action to tackle pollution or environmental damage caused by their activities.
2. If B3 waste producer, collector, transporter, and processor does not undertake any emergency response as described in point 1, or the emergency response is inadequate, the Environmental Impact Management Agency, or a third party requested by the Environmental Impact Management Agency, may carry out such actions at the expense of the producer, collector, transporter or processor of the B3 waste concerned.

CHAPTER VI SANCTIONS

Article 37

1. The Environmental Impact Management Agency shall issue a written warning to a producer, collector, transporter or processor that violates the provisions of Articles 5, 6, 8, 9, Article 11, point 1, Article 12, 13, 16, 18, 19, Article 20, point 1, Article 21, 28, point 1 and Article 29, point 1.
2. If within 15 (fifteen) days from the issuance of the written warning described in point 1, the party so warned does not heed the warning or continues to point to observe the provision of the Article being violated, the Environmental Impact Management Agency may temporarily stop the operation of the storing, collecting and processing facilities involved, including the dumping of B3 waste, until the party so warned observes the provision being violated.
3. If the party warned complies with the provision it previously violated, the Environmental Impact Management Agency shall immediately revoke the decision to stop the operation described in point 2.

Article 38

The B3 waste transporter who violates the provisions of Article 17 shall be liable to a sanction according to the regulation on communication.

Article 39

Any enterprise which violates the provisions of Articles 5, 6, 8, 10, 13, 14, 17, Articles 18 point 2, Articles 19, 10, 21, 28, and Articles 35 point 1 causing pollution and/or damage to the environment shall be liable to punishment as provided for in Article 22 of Act No. 4 of 1982 regarding the Basic Provisions for the Management of the Living Environment.

CAPTER VII TRANSITIONAL PROVISIONS

Article 40

1. If at the time of coming into effect of this Government Regulation, a waste operation does not meet the requirements of this Government Regulation, then the person or enterprise producing, collecting, transporting and/or processing the B3 waste, shall individually as well as jointly be proportionally liable for cleaning and/or restoring of the environment within at least 5 (five) years.

2. Should the person or enterprise who produces, collects, transports and processes B3 waste as mentioned in point 1, fail to carry out cleaning and/or restoration of the environment, the Environmental Impact Management Agency may carry out or authorize third parties to carry out the cleaning and restoration of the environment at the expense of the person or enterprise producing, collecting, transporting and/or processing the B3 waste, either individually or jointly be proportionally responsible.

Article 41

Any person or enterprise which is already out collection or processing operations, as this Government Regulation takes effect, shall apply for a license as mentioned in Article 21 in this Government Regulation within one year of the effective date of this regulation.

CHAPTER VIII CLOSING PROVISION

Article 42

This Government Regulation shall take effect on the date of promulgation. For the information of the public, this Government Regulation shall be published in the State Gazette of the Republic of Indonesia.

Stipulated in Jakarta on 30 April 1994
President of the Republic of Indonesia
(signed) Soeharto

Promulgated in Jakarta on 30 April 1994
Minister/State Secretary of the Republic Indonesia
(signed) Moerdiono

APPENDIX
Table 1
List of Hazardous Waste from Non-Specific Sources

Waste Code	Pollutant
	Halogenated Solvents
D1001a	Tetrachloroethylene
D1002a	Trichloroethylene
D1003a	Methylene Chloride
D1004a	1,1,2-trichloro-1,2,2-trifluoroethane
D1005a	Trichlorofluoromethane
D1006a	Ortho-dichlorobenzene
D1007a	Chlorobenzene
D1008a	Trichloroethane
D1009a	Chlorinated fluorocarbon
D1010a	Carbon tetrachloride
	Non-Halogenated Solvents
D1001b	Dimethylbenzene
D1002b	Acetone
D1003b	Ethyl acetate
D1004b	Ethyl benzene
D1005b	Methyl isobutyl ketone
D1006b	n-Butyl alcohol
D1007b	Cyclohexanone
D1008b	Methanol
D1009b	Toluene
D1010b	Methyl ethyl ketone
D10011b	Carbon disulfide
D10012b	Isobutanol
D10013b	Pyridine
D10014b	Benzene
D10015b	2-Ethoxyethanol
D10016b	2-Nitropropane
D10017b	Cresylic acid
D10018b	Nitrobenzene
	Acid/Bases
D1001c	Amonium hydroxide
D1002c	Hydrobromic acid
D1003c	Hydrochloric acid
D1004c	Hydrofluoric acid
D1005c	Nitric acid
D1006c	Phosphoric acid
D1007c	Potassium hydroxide
D1008c	Sodium hydroxide

D1009c	Sulfuric acid p73
D10010c	Chloric acid
	Other Non-Specific Sources Wastes
D1001d	PCB's (Polychlorinated biphenyls) including transformers and capacitors
D1002d	Lead scrap
D1003d	Waste industrial diesel oil
D1004d	Asbestos

**Table 2
Hazardous Waste from Specific Sources**

Waste Code	Type of Industri/Actifity	Explanation of Waste
D201	Fertilizer	-Catalysts
D202	Pesticide	-Effluent treatment sludge
		-Container and equipment used in formulation
		-Off-specification products
D203	Choloro alkaline process	-Effluent treatment sludge(containing mercury)
		-Salt purification
D204	Adhesived resin (UF, PF, MF, others)	-Off specification product
		-Catalysts
D205	Polymer industry (PVC, PVA, others)	-Non reactive monomers
		-Catalyst
D206	Petrochemical	-Sludge
		-Catalyst
		-Tar
D207	Wood preservatives	-Sludge
D208	Smelting/processing iron and steel	-Furnace ash
D209	Stell refining opertion	-Acid waste
		-Basic waste
		-Cyanide waste
		-Containing heavy metal
D210	Scrap lead smeltingh	-Sluges
		-Dust
		-Slags
D211	Cooper industry smelting and refining, electric furnace	-Dust from furnace, sludge, used solvent
D212	Ink	-Sludge -Used solvent
D213	Textile -Finishing -Dyeing	-Effluent treatment sludge containing metal

D214	Vehicle assembly	-Sludge
		-Organic and inorganic solvent
		-Process residues
D215	Electrogalvanizing and electroplating	-Sludge
		-Residue of electrolytic solvents
D216	Paint Industril	-Sludges
		-Used solvent
D217	Dry cell batteries	-Sludges
		-Paste
		-Expired batteries
D218	Wet cell batteries	-Sludge
		-Dust
D219	Electronic components and assembly	-Sludge
		-Used solvents
D220	Oil and natural gas exploration -Exploration and production -Maintenance of production facilities	-Residues of oil emulsions
		-Drilling mud
		-Sludge
D221	Petroleum refining, dissolved air flotation, heat exchanger tankbottoms	-Sludge
		-Catalysts
		-Activated carbon
		-Catalysts
D222	Mining	-Heavy metal sludge
		-Solvents
D223	Steam electric power generation, Fly ash, bottom ash	
D224	Leather tanning and finishing	-Sludge
		-Used solvent
D225	Dyestuff industry	-Sludges
		-Used solvents
D226	Pharmaceutical	-Sludge
		-Used solvent
		-Off specification product
D227	Hospitals and laboratories	-Expired antibiotics
		-Contaminated packaging medical instruments
		-Medicine packaging
D228	Commercial and research laboratories	-Used solvents
		-Expired chemical
		-Sample residues

Table 3
List of Hazardous Waste from Everdue Chemicals that are Expired, Spilled,
Package Residue or Off-Specification Products

Waste Code	Pollutant
D3001	Acetaldehyde
D3002	Acetamide
D3003	Acetic acid, salts and esters
D3004	Acetone
D3005	Acetonitrile
D3006	Acetylchloride
D3007	Acrolein
D3008	Acrylamide
D3009	Acrylonitrile
D3010	Aldrin
D3011	Aluminium alkyl compounds
D3012	Aluminium phosphide
D3013	Amonium picrate
D3014	Amonium vanadate
D3015	Aniline
D3016	Arsenic
D3017	Arsenic oxide
D3018	Arsine, diethyl
D3019	Barium
D3020	Barium cyanide
D3021	Benzene
D3022	Chloro, benzene
D3023	Benzene, 1,3-Diisocyanatomethyl
D3024	Diethyl, benzene
D3025	Hexahydro, benzene
D3026	Benzenasulfonic acid chloride
D3027	Benzenesulfonyl chloride
D3028	Beryllium and its compounds
D3029	Bis(chloromethyl) ether
D3030	Bromoform
D3031	1,1, 2, 3, 4, 4-hexachloro-1, 3-Butadiene
D3032	n-Butyl alcohol
D3033	Butane
D3034	Butyl aldehyde
D3035	Cadmium
D3036	Calcium chromate
D3037	Amoniacal copper arsenate
D3038	Carbonic dichloride
D3039	Carbon disulfide

D3040	Carbon tetrachloride
D3041	Chloroacetaldehyde
D3042	Chlorodane, alfa & gamma isomers
D3043	Chlorethane (ethylchloride)
D3044	Chloroethane (vinyl chloride)
D3045	Chlorodibromomethane
D3046	Chloroform
D3047	p-Chloroaniline
D3048	2-Chloroethyl vinyl ether
D3049	Chloromethyl methyl ether
D3050	Chromic acid H ₂ CrO ₄ , calcium salts
D3051	Chromium
D3052	Cyanide
D3053	Creosote
D3054	Cumene
D3055	Cyclohexane
D3056	2, 4-D, salts and esters
D3057	DDD
D3058	DDT
D3059	1, 2-Dichlorobenzene
D3060	1, 3- Dichlorobenzene
D3061	1,2 Dichloroethene
D3062	1, 1-Dichloroethene
D3063	1, 2-Dichloropropane
D3064	1, 2-Dichloropropylene
D3065	Dieldrin
D3066	Dimethyl phthalate
D3067	Dimethyl sulfato
D3068	2, 4-Dinitrotoluene
D3069	2, 6-Dinitrotoluene
D3070	Endrin and its metabolites
D3071	Epichlorohydrin
D3072	Ethanol, 2-ethoxy
D3073	Ethanone, 1-phenyl
D3074	Ethyl acrylate
D3075	Ethyl acetate
D3076	Ethylbenzene
D3077	Ethyl carbamate (urethane)
D3078	Ethyl ether
D3079	Ethylene bisditiocarbamic acid, salts & ester
D3080	Ethylene dibromide
D3081	Ethylene dichloride

D3082	Ethylene glycol (monoethyl ether)
D3083	Ethylene oxide (Oxirane)
D3084	Fluorine
D3085	Fluoroacetamide
D3086	Fluoroacetic acid, sodium salt
D3087	Formaldehyde
D3088	Formic acid
D3089	Furan
D3090	Heptachlor
D3091	Hexachlorobenzene
D3092	Hexachlorobutadiene
D3093	Hexachloroethane
D3094a	Hydrogen cyanide
D3095a	Hydrazine
D3094	Hydrogen phosphide
D3095	Hydrogenfluoric acid
D3096	Hydrogen fluoride
D3097	Hydrogen sulfide

D3098	Hydroxybenzene (phenol)
D3099	Hydroxytoluene (cresol)
D3100	Isobutyl alcohol
D3101	Isobutanol
D3102	Lead acetate
D3103	Lead chromate
D3104	Lead nitrate
D3105	Lead oxide
D3106	Lead phosphate
D3107	Lindane
D3108	Maleic anhydride
D3109	Maleic hydrazide
D3110	Mercury
D3111	Methyl hydrazine
D3112	Methyl parathion
D3113	Methane, tetrachloro
D3114	Methane, tribromo
D3115	Methane, trichloro
D3116	Methane, trichlorofluoro
D3117	Methanol
D3118	Methoxychlor
D3129	Methyl bromide
D3121	Methyl chloride
D3122	Methyl chloroform

D3123	Methylene bromide
D3124	Methyl isobutil ketone
D3125	Methyl ethyl ketone (MEK)
D3126	Methyl ethyl ketone peroxide
D3127	Methyl benzene (toluene)
D3128	Methyl iodide
D3129	Naphthalene
D3130	Nitric oxide
D3131	Nitrobenzene
D3132	Nitroglycerine
D3133	Oxyrane
D3134	Parathion
D3135	Paraldehyde
D3136	Pentachlorobenzen
D3137	Pentachloroethane
D3138	Pentachloronitrobenzene
D3139	Pentachlorophenol
D3140	Perchloroethylene
D3141	Phenol
D3142	Phenyl thiourea
D3143	Phosgene
D3144	Phosfine
D3145	Phosphoric acid
D3146	Phosphorous sulfide
D3147	Phosphorous pentasulfide
D3148	Phtatic anhydride
D3149	1-Bromo, 2-propanone
D3150	Propane, 2-nitro
D3151	n-Propylamine
D3152	Propylene Dichloride
D3153	Pyrene
D3154	Pyridene
D3155	Selenium
D3156	Selenium dioxide
D3157	Selenium sulfide
D3158	Silver cyanide
D3159	Silver (2, 4, 5-TP)
D3160	Sodium azide
D3161	Strychnine, and salts
D3162	Sulfuric Acid, Dimethyl Ester
D3163	Sulfur Phosphide
D3164	2, 4, 5-T
D3165	1,2,4, 5-Tetrachlorobenzene

D3166	1, 1, 1, 2-Tetrachloroethane
D3167	1, 1, 2, 2-Tetrachloroethane
D3168	2, 3, 4, 6-tetrachlorophenol
D3169	Tetrachloromethane
D3170	Tetra ethyl lead
D3171	Toluene
D3172	2, 4, 5-Trichlorophenol
D3173	2, 4, 6-Trichlorophenol
D3174	1, 3, 5-Trinitrobenzene
D3175	Vanadium oxide
D3176	Vanadium pentaoxide
D3177	Vinyl chloride
D3178	Warpharin
D3179	Dimethylbenzene
D3180	Zinc Phosphide, when present at concentrations >10%

**ELUCIDATION
REGULATION REGARDING
HAZARDOUS AND TOXIC WASTE MANAGEMENT
Government Regulation Number 19 of 1994**

GENERAL

Development activities are aimed at improving the welfare and quality of life of the people. They are implemented through the long-term development plan, which is supported by industrial development. Industrial development on the one hand will produce goods which are beneficial to the welfare of the people, while on the other hand will produce waste. Among the waste produced by industrial activities are hazardous and toxic (B3) wastes. Disposal human health and other living organisms. Considering the above risks, efforts should be made to minimize the amount of B3 waste produced by every activity. Attempts should be made to keep B3 waste at zero, among other things by reduction at the source by processing of material, substitution of material, regulating the operations, and by clean technology. To eliminate or reduce its hazardous and toxic characteristics, the B3 waste produced must be managed in a specific manner.

The management of B3 waste comprises a series of operations such as storage, collection, transportation, processing, and dumping of B3 waste. Several parties are involved in these series of activities, each of them forming a link in B3 waste management, i.e.:

- a. the waste producer;
- b. the B3 waste collector;
- c. the B3 waste transporter;
- d. the B3 waste processor.

Through the management of the waste as mentioned above, the life cycle of the B3 waste, from its production by the B3 waste producer up to its final disposal by the B3 waste processor, can be controlled. Each cycle must be regulated, while the routing of the B3 waste is controlled by a system of documents in the form of the B3 waste manifest. With this system, it will be possible to check the amount of B3 waste produced, processed and finally disposed.

ARTICLE BY ARTICLE

Article 1

Point 1: The residue of an operation means, among other things, the wastes produced from household, industrial, mining activities and other operations, which constitute B3 waste.

Point 2: This hazardous and toxic waste includes materials that are hazardous and toxic in nature that are not used because they are damaged, the remnants of packaging, spills, processing remnants, remnants of used oil from vessels, that require special handling and processing.

Point 3: Sufficiently clear

Point 4: Sufficiently clear

Point 5: Sufficiently clear

Point 6: Sufficiently clear

Point 7: The process of changing the characteristics and composition of the B3 waste is performed so that the waste becomes non hazardous and/or non-toxic. The process can be performed by using appropriate technology, such as stabilization and solidification, incineration, landfill and neutralization. If such technology cannot be applied, the best available technology to process the waste, such as ion exchange and membrane cells, shall be applied. Recycling means the processing by recovery and reuse of waste.

Point 8: Sufficiently clear

Point 9: Sufficiently clear

Article 2

Protecting human health and the living environment means any effort to prevent illness, both disability and/or death and pollution and/or environmental damage caused by the B3 waste.

Article 3

The first measure taken in the management of B3 waste is waste classification by the producer as to whether or not it is B3 waste. This classification will make it easier for the producer, transporter, or processor to recognize B3 waste as early as possible.

In classifying the waste, the producer must identify the characteristics of the waste produced. Nevertheless, the characteristics and analytical procedure are important in identifying B3 waste in a certain type of industry or other operation that produced B3 waste.

The identification of B3 waste is undertaken through the following stages:

- a. identify the type of waste produced;
- b. verify the type of waste against the list of B3 waste types, and if it matches the type of B3 waste on the list, then the waste is categorized as B3 waste;
- c. if it does not match the type of waste on the B3 waste list, determine whether the waste has the following characteristics: explosive, flammable, toxic, reactive, infectious or corrosive.

If it does not have these characteristics, a toxicological test shall be carried out.

As defined this provision:

- a. **Explosive waste** shall mean waste that, through a chemical reaction, may produce gas with a high temperature and pressure that can quickly damage the surrounding environment.
- b. **Flammable waste** shall mean waste which if placed near fire, flames or other open flame source, will easily ignite or burn and if it is ignited will continue to burn for a long time.
- c. **Reactive waste** shall mean waste that causes fire because it releases or receives oxygen or peroxide organic waste which is not stable at high temperatures.
- d. **Toxic waste** shall mean waste that contains toxic material that is hazardous to humans and the environment. The B3 waste may cause death and serious illnesses if it enters the body through respiration, skin, or mouth. The extraction procedure to determine the organic and inorganic compounds (Toxicity Criteria Leaching Procedure) may be used to identify this waste. The critical ambient value shall be determined by the Environmental Impact Management Agency.
- e. **Infectious waste** means amputated human limbs and liquids from human bodies, infected by bacteria that are contagious. This waste is hazardous because it contains bacteria such as hepatitis and cholera that spreads to workers, road sweepers and the people in the surroundings of the waste disposal locations.
- f. **Corrosive waste** means waste that causes irritation (burns) on the skin or corrosion of steel. This waste has the same pH or less than 2.0 for acid waste and the same or more than 12.5 for alkaline waste.
- g. **LD-50 (Lethal Dose Fifty)** shall mean the calculation of a dose (gram pollutant per kilogram body weight) which may cause the death of 50% of the living organisms of the test. If the LD-50 is greater than 15 gram per kilogram, the said waste is not B3 waste.

Article 4

Point 1: The B3 waste from non-specific sources, are B3 waste originating not from its process, but from the maintenance of equipment, washing, corrosion inhibitors, dissolving of crusts, packing, and such other things. The B3 waste from specific sources are B3 waste residues of a process of a certain industry or operations.

Waste from expired (unusable) chemicals, spills, remnants of packing, or disposal of products that do not meet the specifications as determined or that cannot be reused, shall be regarded as B3 waste that requires treatment as B3 waste. The same also applies to remnants of B3 waste packaging and expired chemicals.

Point 2: Sufficiently clear

Article 5

The disposal of the B3 waste into soil, water or air means the disposal B3 waste without prior processing. The disposal of the processed B3 waste into soil, water or air shall meet the requirements for processing and final disposal of B3 waste.

Article 6

Point 1: The purpose of this provision is to manage B3 waste so that it is no longer hazardous and/or toxic for human health and/or the environment.

Point 2: Sufficiently clear

Point 3: Sufficiently clear

Point 4: The delivery of the B3 waste from the producer to the processor may be carried out directly without going through the B3 waste collector, if by this manner it is more profitable for him, both for technical and/or financial reasons.

Point 5: The B3 waste collector only accommodates B3 waste on a temporary basis and there after the B3 waste must be delivered to the collector.

Point 6: Sufficiently clear

Article 7

The management of radioactive waste is undertaken by the National Atomic Energy Body, the agency in charge of radioactive waste management. This Body shall be in compliance with Law No. 31 of 1964 on Basic Provisions concerning Atomic Energy.

Article 8

Point 1: Sufficiently clear

Point 2: Special warehouse means a separate place designed according to the characteristics of the B3 waste stored. For example, reactive (strong reductor) B3 waste may not be mixed with oxidizing mineral acid, as it may produce heat, toxic gas and fire.

Point 3: The temporary warehouse must be able to accommodate the B3 waste to be temporarily stored. For example, an industrial activity producing B3 waste, shall store the B3 waste in a temporary warehouse with a capacity suitable with the B3 waste amount to be stored and it shall meet the technical and health requirements, and environmental protection. The stipulation of the health requirements shall be made according to the consideration of the technical authority concerned.

Construction plans suitable with the B3 waste characteristics and the efforts to control pollution for B3 waste storage, mean:

- a. the construction materials must be suitable for the type and characteristics of the waste to be stored;
- b. the floor must be strong, water tight, uncracked, and must be made sloping down to the catchment basin;
- c. a dike must be built surround each part of the storage space;
- d. each storage section shall have a separate catchment basin;
- e. the system and the size of the drains shall be made in such a way so that the liquids resulting from the fire extinguisher (if there is a fire) may flow into the emergency pond;
- f. drains/gutters and the floor around the building shall be made in such a way so that rainwater flows away from the B3 waste storage building in the direction of the catchment basin;
- g. the building must be protected from the direct or indirect entry of rainwater;
- h. the building shall be equipped with a lightning conductor;
- i. the building ventilation shall be designed in such a way to prevent the accumulation of toxic/hazardous gases in the rooms;
- j. the wind holes shall be provided with nets or other material so that birds and other small animals cannot gain access;
- k. the building must be designed without ceiling to prevent the accumulation of gases in that area;
- l. a space measuring at least one meter in width between the walls of the building and the dikes surrounding the storage parts must be made available;
- m. lighting must be sufficient and enable the operation of the storerooms and routine inspection;

- n. fighting lamps shall be installed at cross-roads and at least one meter above the packaging;
- o. all switches for storerooms which store flammable B3 waste should be installed on the outside of the buildings.

Other considerations, particularly for storerooms located outside the location of the factory or intended to receive B3 waste from another party's industries/activities, are:

- a. The place for the loading/unloading of packages from and to the transporting vehicles. The place shall be lined with concrete or asphalt. It is recommended to use concrete because asphalt becomes soft in hot weather and/or if it comes into contact with certain solvents.

The place must have drains leading towards the catchment basins, so that in the case of spillage it will not enter the environment.

- a. Water vessels. Vessels to catch water (rainwater or water from fire extinguishing activities) shall be made. The intercepted water must be analyzed first before it is released into the environment. If the water contaminated with B3 waste, it must be treated as B3 waste. The water vessels must be watertight.
- a. Washing facilities. Washing of the tools and equipment used in the treatment of B3 waste must be done within the washing facilities. The washing facilities shall be equipped washbasins. The liquid in the basins shall be analyzed to determine whether or not it may be released into the environment.

Each vehicle leaving the temporary B3 waste storage locations must be cleaned, at least the wheels and the exterior parts contaminated by B3 waste.

- a. Additional facilities. Additional facilities for a B3 waste storage location:
 - o guard house and gates;
 - o fire extinguisher
 - o safety fence;
 - o reserve electric generator;
 - o first aid facilities;
 - o communication equipment;
 - o water/waste spills drainage pumps;
 - o a storeroom for tools and equipment.

In addition to fulfilling the general requirements above, the B3 waste storage facilities shall fulfill additional special requirements as follows:

1. The design of the building to store flammable B3 waste:
 - a. the construction of the walls must be easy to smash, except for the partitions, which shall be fireproof, so that in case of fire they can be broken through to facilitate the extinguishing of the fire;
 - b. if the building is adjacent to other buildings, a fireproof partition wall must be made. Examples of a fireproof walled building:
 - if the wall is of reinforced concrete, the minimum thickness must be 15 cm;
 - if the wall is of bricks, the minimum thickness must be 23 cm;
 - non-reinforced blocks, the minimum thickness must be at least 30 cm (hollow blocks are not recommended)

- a. for a good stable structure it is recommended than on the fire resistant wall reinforced poles be used that may not be pierced by electric cables;
- b. the roof support structure must be of material that does not easily catch fire, the construction of the roof shall be as light as possible, brittle and destructible in case of fire, so that the fumes and heat may easily escape;
- c. other factors to be considered:
 - fire extinguisher and detection system;
 - building ventilation;
 - the height measurement of the piles stored;
 - the distance from the other buildings;
 - the maximum amount of waste permitted to be stored;
 - supply of water for the fire extinguisher;
 - cross-roads;
 - fire extinguishing hydrant;
 - hydrant protection.

2. The design for storage of B3 explosive waste:

- a. the entire construction of the building, the floors, the walls as well as the roof must be of reinforced concrete which is resistant to explosions and watertight.
- b. the temperature in the room must be controllable and the light may not directly shine into the storerooms.

3. The design of the building for storage of reactive, corrosive and toxic waste:

- a. the construction of the walls must be easily detachable, to facilitate emergency response;
- b. the construction of the roofs, walls and floors must be corrosion and fire-proof.

Point 4: Sufficiently clear

Article 9

Point 1: As a consequence of the principle that the course of the B3 waste must be tracked from the moment it is produced until final landfill, the B3 waste producer shall maintain and keep a record on the amount and type of B3 waste produced and sent to the collector or processor, and the transporter. If the transportation is done by the producer itself, the provision on the transporter's record shall not be applied.

Point 2: The purpose of the submission of the records is in order that the amount of the B3 waste produced by the producer can be monitored by the Environmental Impact Management Agency.

Point 3: Knowing the amount of B3 waste produced, assists with the development of the B3 waste inventory and with the development of policy on the management of B3 waste.

Article 10

Point 1: Sufficiently clear

Point 2: The purpose of this is in order that the producer does not have to deliver the B3 waste it produces all the time to the processor of B3 waste.

Point 3: Under this provision, the producer in carrying out such collection, shall observe and comply with the requirements applicable to the collectors.

Article 11

Point 1: Sufficiently clear

Point 2: Sufficiently clear

Article 12

Point 1: Sufficiently clear

Point 2: Sufficient clear

Article 13

Point 1: The period of ninety days is considered sufficient for the collector to temporary store the B3 waste.

Point 2: By this provision, all consequences that occur from the collection and storage of B3 waste shall be the responsibility of the collector.

Article 14

Point 1: Sufficiently clear

Point 2: Sufficiently clear

Point 3: Sufficiently clear

Article 15

Point 1: Delivery of B3 waste shall mean delivery from the producer or collector to the transporter for transportation to the collector or processor, including final disposal. The B3 waste manifest also includes the loading manifest as mentioned in regulation on communication.

Point 2: The B3 waste manifest is a letter issued at the time of delivery of the B3 waste by producer or collector to the transporter. The B3 waste manifest shall clearly state among other things:

- a. name and address of the B3 waste producer delivering the B3 waste;
- b. date of delivery of the B3 waste;
- c. name and address of the B3 waste transporter;
- d. destination of the B3 waste transportation;
- e. type, amount, composition and characteristics of the B3 waste delivered.

There shall be 6 (six) copies of the B3 waste manifest:

- a. the original is to be kept by the B3 waste collector, transporter, and processor upon signing by the producer, collector, processor;
- b. the second copy signed by the B3 waste transporter and by the B3 waste producer or collector, shall be sent the Environmental Impact Management Agency;
- c. the third copy signed by the transporter is to be kept by the producer or collector who delivers the B3 waste for transportation by the transporter;

- d. the fourth copy is to be given to the B3 waste collector or the B3 waste processor receiving the B3 waste from the transporter;
- e. the fifth copy is to be sent to the Environmental Impact Management Agency after being signed by the B3 waste collector or processor;
- f. the sixth copy is to be sent the Governor Head of the First Level Region concerned, after being signed by the B3 waste collector or the B3 waste processor.

Point 3: Sufficiently clear

Article 16

Sufficiently clear

Article 17

The special transportation means transportation facilities used specifically to transport B3 waste. Communication regulations refer to Law No. 13 of 1992 concerning Railways, Law No. 14 of 1992 concerning Road Traffic and Transport, Law No. 15 of 1992 concerning Airways, and Law No. 21 of 1992 concerning Shipping and their implementing regulations.

Article 18

Point 1: Sufficiently clear

Point 2: Efficient destruction and removal of B3 waste shall mean the Destruction Removal Efficiency (DRE).

The determination of the air emission standard is based on the emission standard according to the statutory regulation applicable for conventional parameters (CO, NO, SO₂, Hydrocarbon, TSP, Ammonia), whereas the determination of other emission standards is based on the characteristics of the B3 waste, the type of the incinerator, the quality of the local air and such other things in accordance with the development of science and technology.

Point 3: Sufficiently clear

Point 4: Sufficiently clear

Point 5: Sufficiently clear

Point 6: Sufficiently clear

Article 19

Point 1: Landfill in this provision constitutes a series of processing activities. Dumping of the processed B3 waste is the operation of disposing by means of landfill, where the landfill is designed as the final disposal of the B3 waste processing in accordance with the characteristics of the B3 waste.

Point 2: Sufficiently clear

Article 20

Point 1: Sufficiently clear

Point 2: Sufficiently clear

Article 21

Point 1: The permit for collecting and/or processing, including final disposal of B3 waste, shall be issued by the Environmental Impact Management Agency, whereas the permit for transporting B3 waste shall be issued by the Minister in charge of communications after obtaining the considerations of the Environmental Impact management Agency.

Point 2: Integrated shall mean a B3 waste processing enterprise becoming one with or is carried out within the main bussines operations. B3 waste processing equipment operation license means a license on the worthiness of the B3 waste processing equipment, e.q. the worthiness of the incinerator, including the incinerating efficiency of 99.99%, using the air pollution controlling equipment. B3 waste storage place operatingh license shall mean a license on the operability of the storage place especially intended thereto.

Point 3: The requirements in this provision shall be adjusted to the business operations to be carried out, i.e. collecting or processing.

Point 4: Sufficiently clear

Article 22

Point 1: The determination of the location of B3 waste processing shall follow the spatial planning layout of the area and the technical requyirements.

Point 2: This recommendarion is required in the framework of the final checking to determine whether the location fulfills the requirement as a B3 waste processing location.

Article 23

Point 1: Sufficiently clear

Point 2: Sufficiently clear

Point 3: Sufficiently clear

Article 24

Point 1: Sufficiently clear

Point 3: Sufficiently clear

Article 25

Point 1: Sufficiently clear

Point 2: Sufficiently clear

Point 3: Sufficiently clear

Point 4: Sufficiently clear

Article 26

Sufficiently clear

Article 27

Point 1: This prohibition is required to prevent the regions under the jurisdiction of the Republic of Indonesia from becoming B3 waste disposal sites.

Point 2: The notification referred to in this paragraph is submission of the Environmental Impact Management Agency.

Point 3: The written approval from the government of the receiving country means written approval from the agency or official responsible for B3 waste in the receiving country.

Point 4: Sufficiently clear

Article 28

Diluting shall mean the adding of liquid to B3 waste so that the concentration of the toxic and/or the degree of hazard shall be reduced, but the pollution load remains the same. This is prohibited, because diluting will not remove the hazard and toxicity of B3 waste.

Article 29

Point 1: Packaging shall mean a container for storing, transporting and collecting the B3 waste. The symbol is a drawing representing the characteristics of the B3 waste. Labels are legends showing, among other things, the characteristics and type of the B3 waste.

Point 2: Sufficiently clear

Article 30

Point 1: This provision is established to supervise the implementation of the provision on B3 waste management as provided for in this Government Regulation and its implementing regulations. In addition, the purpose of supervision is in order that the management of B3 waste shall remain safe the environment and for all living organisms.

Point 2: Sufficiently clear

Article 31

Point 1: The identification and assignment letter are important to prevent officers acting as false supervisor and to prevent any employee of the Environment Impact Management Agency from exercising control which is not within their authority.

The identification shall contain the name, the employee's registration number and photograph. The assignment letter shall clearly state the name of the supervisor assigned to carry out control and shall be signed by the Head of the Environmental Impact Management Agency or an official or an official appointed by him who shall be at least a first echelon official.

Point 2: Sufficiently clear

Article 32

Sufficiently clear

Article 33

Point 1: Sufficiently clear

Point 2: Sufficiently clear

Article 34

Point 1: Such a health examination may be conducted at least once a year, with the purpose of detecting as early as possible whether a worker is contaminated by the chemical element/compound of the B3 waste.

Point 2: Sufficiently clear

Point 3: Sufficiently clear

Article 35

Point 1: Accident in this paragraph shall mean the emission/spilling of hazardous and toxic material or B3 waste into the environment which must be immediately and effectively tackled to prevent the spreading of the impact from the B3 waste spill, so that the spreading of environmental pollution and/or damage and/or and disturbance to human health can be avoided.

Point 2: To overcome accidents from B3 waste treatment, preventive and mitigation measures during and after accidents are required. These efforts shall be carried out correctly, quickly, coordinated and in an integrated manner by the related line sectoral agencies.

Article 36

Point 1: The pollution of and damage to the environment must be immediately and correctly mitigated.

Point 2: Sufficiently clear

Article 37

Point 1: Sufficiently clear

Point 2: Sufficiently clear

Point 3: Sufficiently clear

Article 38

The regulation referred to in this provision includes Article 33 of law No 13 of 1993 concerning Railways, Article 87 law No. 21 of 1992 concerning Shipping, Article No. 14 and Article No. 15 Government Regulations No. 41 of 1993 concerning road Transport and their implementing regulations.

Article 39

Sufficiently clear

Article 40

Point 1: Sufficiently clear

Point 2: Proportionally responsible shall mean that each shall assume that the responsibility according to their contributions in causing pollution or damage to the environment. Cleaning and restoration of the environment in his article shall include the study to find out the range of the impact, type, amount and concentration of the existing waste as a basis for carrying out the cleaning and restoration of the environment, and the processing of the B3 waste disposed into the environment.

Article 41

Sufficiently clear

Article 42

Sufficiently clear

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