

**ENVIRONMENTAL PUBLIC HEALTH ACT
(CHAPTER 95, SECTION 113)**

**ENVIRONMENTAL PUBLIC HEALTH (TOXIC INDUSTRIAL
WASTE) REGULATIONS**

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[6th August 1988]

PART I
PRELIMINARY

Citation

1. These Regulations may be cited as the Environmental Public Health (Toxic Industrial Waste) Regulations.

Definitions

2.—(1) In these Regulations, unless the context otherwise requires —

“carrier” means any person undertaking the transport of toxic industrial waste and includes both carriers for hire or reward and carriers on own account;

“code of practice” means a standard which —

- (a) sets out the method of installation of equipment and the procedure to be followed for the efficient use and maintenance of such equipment;
- (b) recommends precautions to be taken in making, using and maintaining such equipment; or
- (c) specifies the measures or precautions to be taken in designing, planning and constructing such equipment in order to ensure that the requirements laid down in respect of the design, plan and construction of such equipment are complied with;

“consignment” means any load or multi-load of toxic industrial waste presented by a consignor for transport;

“consignor” means any person who presents a consignment of toxic industrial waste for transport or on whose behalf such consignment is presented;

“container” means —

(a) any vessel, can, drum, barrel or other receptacle; or

(b) where such vessel, can, drum, barrel or other receptacle is contained in another container or is wholly enveloped in a covering or coverings of whatever nature, the outermost container or covering, as the case may be,

but does not include the carrying tank of a road tanker, a tank container or a freight container;

“emergency action plan” means such plan of action to be taken in the event of any emergency situation involving any toxic industrial waste as approved by the Director-General;

[S 716/2006 wef 01/01/2007]

“freight container” means an article of transport equipment designed to facilitate the carriage of goods by one or more modes of transport without intermediate re-loading of the contents;

“generator” includes —

(a) any person, whose act or process produces toxic industrial waste or whose act first causes toxic industrial waste to become subject to regulation; or

(b) the owner or the person having the charge, management or control of a source of toxic industrial waste;

“import”, with its grammatical variations and cognate expressions, means to bring or cause to be brought into Singapore by land, sea or air;

“multi-load” means a load consisting of 2 or more types of toxic industrial waste in separate compartments or containers (whether or not a waste which is not a toxic industrial waste is being conveyed at the same time);

“road” has the same meaning as in the Road Traffic Act (Cap. 276);

“road tanker” means a goods vehicle as defined in the Road Traffic Act which has a tank that is structurally attached to, or is an integral part of, the frame of the vehicle;

“tank” means a container having a total internal capacity exceeding 250 litres for liquids and 500 litres for gases;

“tank container” means a tank with a total liquid capacity of 450 litres or more which is —

(a) used for the conveyance of a liquid, gaseous, powdery or granular substance; and

(b) constructed for repeated use and to facilitate the carriage of goods by one or more modes of transport without need of removal of its structural equipment or intermediate re-loading of its contents;

“toxic industrial waste collector” means any person who receives or accepts any toxic industrial waste for storage, reprocessing, usage, treatment or disposal but does not include the carrier engaged by the generator or the toxic industrial waste collector to transport toxic industrial waste;

“transport” means transport by road and includes any operation incidental to the whole course of carriage, such as loading, unloading and storage in transit;

“vehicle” means any mechanically propelled vehicle or otherwise intended or adapted for use on roads and includes a road tanker and a trailer which does not form part of the vehicle.

(2) For the purposes of these Regulations, a combination of a vehicle and one or more trailers shall be treated as one vehicle for so long as they remain attached.

(3) A vehicle shall be deemed for the purposes of these Regulations to be used for the transport of toxic industrial waste throughout the period —

- (a) in the case of a road tanker, from the commencement of loading for the purpose of conveying the waste on a road until the tank or compartment of the tank has been cleaned or purged so that any of the waste or its vapour which remains in it is not sufficient to create a risk to the health or safety of any person; or
- (b) in the case of a vehicle carrying a container, tank container or freight container from either —
 - (i) the time at which the container, tank container or freight container containing the toxic industrial waste is placed on the vehicle; or
 - (ii) if the container, tank container or freight container was placed on the vehicle before loading was commenced, from the commencement of loading,

for the purpose of conveying the waste on a road until either —

- (A) the container, tank container or freight container is removed from the vehicle; or
- (B) the tank container or compartment of the tank container has been cleaned or purged so that any of the waste or its vapour which remains in it is not sufficient to create a risk to the health or safety of any person,

and in either case, whether or not the vehicle is on a road at the material time.

Application

3. These Regulations shall only apply to the toxic industrial wastes which are specified in the Schedule.

PART II

GENERATOR

Director-General to be notified when toxic industrial waste exceeds permitted level

4. Every generator shall forthwith notify the Director-General of —
- (a) any change in the type or nature of toxic industrial waste that is being produced or generated in his premises; and
 - (b) the quantity, volume, concentration or level of any toxic industrial waste that is produced or generated in excess of that prescribed in the second column of the Schedule and the action he intends to take or has taken in respect thereto.

[S 716/2006 wef 01/01/2007]

Information to be given to toxic industrial waste collector to enable him to deal with toxic industrial waste properly

5.—(1) Any person who supplies or sells or permits to be supplied or sold toxic industrial waste to any toxic industrial waste collector shall give all such necessary information to the toxic industrial waste collector as will enable him to carry out the storage, treatment, reprocessing or disposal of the toxic industrial waste properly and safely.

(2) Any person who supplies any information relating to toxic industrial waste to a toxic industrial waste collector under paragraph (1) shall ensure that the toxic industrial waste collector is a licensed toxic industrial waste collector and that the information is accurate and sufficient for the purposes of that paragraph.

Generator to keep register

6.—(1) Every generator shall keep a register which shall contain the following particulars in respect of toxic industrial waste:

- (a) the type and quantity generated;
- (b) the manner of disposal;
- (c) the date and the quantity supplied or sold to a toxic industrial waste collector;

(d) the name and address of the toxic industrial waste collector;
and

(e) the quantity held in stock.

(2) The register shall be kept up to date on a weekly basis unless otherwise specified by the Director-General and shall be kept for such period of time as the Director-General may direct.

[S 716/2006 wef 01/01/2007]

Application

7. Regulations 4, 5 and 6 shall not apply to any generator with on-site disposal facilities established with the permission of the Director-General for the treatment or recycling of toxic industrial waste produced in the premises whereby no toxic industrial waste need to be transported out of the premises for disposal.

[S 716/2006 wef 01/01/2007]

No use or storage of toxic industrial waste except in certain circumstances

8. A generator shall not, on any premises which are used for the purposes of an undertaking carried on by him, keep or use, or cause or permit to be kept or used, toxic industrial waste unless there are on-site disposal facilities established with the permission of the Director-General or a toxic industrial waste collector has been engaged to dispose of the waste.

[S 716/2006 wef 01/01/2007]

PART III

TOXIC INDUSTRIAL WASTE COLLECTOR

No person to act as toxic industrial waste collector without licence

9. No person shall —

(a) carry on or advertise, notify or state that he carries on or is willing to carry on the business of a toxic industrial waste collector;

- (b) act as a toxic industrial waste collector; or
- (c) in any way hold himself out as ready to undertake for payment or other remuneration (whether monetary or otherwise) any of the functions of a toxic industrial waste collector,

unless he is the holder of a toxic industrial waste collector's licence.

Alteration of works or method of operation, etc.

10. The licensed toxic industrial waste collector shall not, without the written permission of the Director-General —

- (a) install, construct or alter any works for the reprocessing, treatment, storage or disposal of toxic industrial waste or carry out any works on the premises which is the commencement of or any subsequent steps in relation thereto;
- (b) alter the method of operation of any waste reprocessing, treatment, storage or disposal process involving toxic industrial waste carried on at his premises; or
- (c) alter the type of toxic industrial waste being reprocessed, treated, stored or disposed of on the premises,

unless the installation, construction or alteration is done only in the course of and for the purpose of general maintenance.

Toxic industrial waste collector to obtain information on toxic industrial waste

11. A toxic industrial waste collector shall not receive or accept any toxic industrial waste unless he has obtained and verified all relevant information of the waste as will enable him to carry out the storage, treatment, reprocessing or disposal of the toxic industrial waste properly and safely.

Register to be kept by toxic industrial waste collector

12.—(1) A toxic industrial waste collector shall prepare and maintain a register in such form as the Director-General may require.

[S 716/2006 wef 01/01/2007]

(2) The register shall be kept for such period of time as the Director-General may direct and shall be submitted for inspection by the Director-General at such times as the Director-General may require.

[S 716/2006 wef 01/01/2007]

PART IV LICENCES

Application for toxic industrial waste collector's licence

13.—(1) Every application for a toxic industrial waste collector's licence shall be made to the Director-General in such form as the Director-General may determine.

[S 716/2006 wef 01/01/2007]

(2) Every application shall state the name and address of the applicant.

(3) A toxic industrial waste collector shall receive, accept or deal only in the type of toxic industrial waste for which he is licensed.

(4) A licensed toxic industrial waste collector shall surrender his licence upon its revocation, cancellation or suspension to a public officer authorised in writing by the Director-General.

[S 716/2006 wef 01/01/2007]

[S 60/2009 wef 01/07/2009]

(5) Every licence shall, unless previously revoked, remain in force for such period of time as the Director-General may specify in the licence.

[S 716/2006 wef 01/01/2007]

(6) The fee for the grant or renewal of a licence shall be \$152 except that any person who is licensed as a general waste collector under the Environmental Public Health (General Waste Collection) Regulations (Rg 12) shall be exempted from payment of the licence fee.

[S 130/2000 wef 01/04/2000]

[S 716/2006 wef 01/01/2007]

[S 556/2010 wef 01/10/2010]

(7) The fee for the amendment of a licence shall be \$14.80 per application.

[S 130/2000 wef 01/04/2000]

[S 716/2006 wef 01/01/2007]

[S 556/2010 wef 01/10/2010]

PART V

IMPORT OF TOXIC INDUSTRIAL WASTE

Import of toxic industrial waste

14.—(1) No person shall, without the written permission of the Director-General, import or cause any toxic industrial waste to be brought into Singapore.

[S 716/2006 wef 01/01/2007]

(2) The Director-General may, in granting any permission, impose such conditions as he thinks fit.

[S 716/2006 wef 01/01/2007]

Collection of toxic industrial waste

15. No person shall take delivery of any toxic industrial waste imported into Singapore except —

- (a) at a customs station where the waste is imported by road;
- (b) at a railway station in Singapore where the waste is imported by rail;
- (c) at a wharf in Singapore where the waste is imported by sea;
or
- (d) at an air cargo terminal in Singapore where the waste is imported by air.

[S 60/2009 wef 01/07/2009]

PART VI

TRANSPORT OF TOXIC INDUSTRIAL WASTE

Consignor's responsibility for safe consignment

16. A person shall not consign for transport any toxic industrial waste unless —

- (a) he has obtained an approval in writing by the Director-General in regard to the proposed transport of such waste; and

[S 716/2006 wef 01/01/2007]

- (b) the container, tank container, freight container or road tanker to be used for the transportation of the toxic industrial waste is designed, constructed and maintained in accordance with a code of practice approved by the Director-General.

[S 716/2006 wef 01/01/2007]

Consignment note

17.—(1) The generator shall prepare the consignment note using the relevant form provided at <http://www.nea.gov.sg> and in such manner as specified by the Director-General.

(2) The generator shall —

- (a) give one copy of the prepared consignment note referred to in paragraph (1) to the consignor who shall transmit such copy to the driver before transportation of the toxic industrial waste starts; and
- (b) submit the consignment note electronically —
 - (i) to the consignee; and
 - (ii) to the Director-General within 3 days of the transportation of the waste.

[S 60/2009 wef 01/07/2009]

18. *[Deleted by S 60/2009 wef 01/07/2009]*

Receipt of consignment note

19.—(1) The consignee shall, upon taking delivery of the toxic industrial waste —

- (a) obtain from the driver the copy of the consignment note transmitted to the driver under regulation 17(2)(a) and endorse such copy; and
- (b) within 3 days of the receipt of the toxic industrial waste, acknowledge receipt of the same on the consignment note submitted by the generator under regulation 17(2)(b)(i) and submit the acknowledged note electronically to the Director-General.

(2) The consignee shall immediately inform the Director-General of the quantity or type of toxic industrial waste received by or delivered to him if it is different from that shown in the consignment note referred to in regulation 17.

[S 60/2009 wef 01/07/2009]

Application

20. Regulations 16(a), 17 and 19 shall apply only to the transport or consigning for transport of any toxic industrial waste in an amount exceeding the quantities as specified in the third column of the Schedule.

[S 60/2009 wef 01/07/2009]

Collection from several generators

21.—(1) No person shall transport or collect toxic industrial waste in a vehicle from several generators at any one time unless he is a licensed toxic industrial waste collector or is engaged by a licensed toxic industrial waste collector.

(2) The total cumulated quantity of toxic industrial waste transported or collected per trip shall not exceed the quantities specified in the third column of the Schedule unless the toxic industrial waste collector has obtained an approval in writing by the Director-General.

[S 716/2006 wef 01/01/2007]

Carrier to obtain information on consignment

22.—(1) No carrier shall transport any toxic industrial waste unless he has been given a statement prescribed by regulation 24(1) as will enable him to comply with the requirements of these Regulations and to be aware of the risks created by the waste to the health or safety of any person.

(2) The statement shall be supplied by the consignor or owner of the consignment of toxic industrial waste to the carrier at the latest when the transport order is given, so as to enable the carrier to take all necessary steps to ensure that the driver of the vehicle used to transport the toxic industrial waste is aware of the instructions therein and is capable of carrying them out effectively.

(3) It shall be the duty of any person who supplies any statement relating to toxic industrial waste to a carrier under paragraph (1) to ensure that the information contained therein is accurate and sufficient for the purposes of that paragraph.

Carrier to be given copy of written approval, etc.

23. Notwithstanding regulation 22, no carrier shall transport any toxic industrial waste exceeding the quantities as specified in the third column of the Schedule unless he has been given a copy of the written approval of the Director-General as prescribed by regulation 16.

[S 716/2006 wef 01/01/2007]

[S 60/2009 wef 01/07/2009]

Transport documents

24.—(1) The consignor or owner of a consignment of toxic industrial waste shall provide in the transport documents a statement regarding the safety requirements and the actions required to be taken by the carrier which shall include the following:

- (a) supplementary operational requirements for loading, unloading, transport, storage, handling and stowage or a statement that no supplementary operational requirements are necessary;

- (b) restrictions, if any, on the mode of transport and any necessary routing instructions;
- (c) emergency action plans;
- (d) indication or indications of the general nature of the risk involved and safety precautions when handling the toxic industrial waste; and
- (e) a declaration that the contents of the consignment are properly described by name and are properly marked, labelled and packaged and are in a proper condition for transport.

(2) The declaration made under paragraph (1)(e) shall contain the original or stamped facsimile signature of the consignor or owner of the consignment of toxic industrial waste, as the case may be, together with the date and shall be in such form as may be prescribed by the Director-General.

[S 716/2006 wef 01/01/2007]

Instructions for drivers

25. The carrier shall, before any toxic industrial waste is transported, give the driver of the vehicle used to transport the waste a copy of the statement referred to in regulation 22(1) and ensure that the driver is adequately trained to carry out the instructions contained in the statement.

Driver's responsibility

26. The driver of a vehicle used for transporting any toxic industrial waste shall —

- (a) keep in the vehicle the copy of the consignment note and statement given to him under regulations 17 and 25, respectively, at all times when the waste is being transported; and
- (b) comply with all the instructions contained in the copy of the statement given to him under regulation 25.

[S 60/2009 wef 01/07/2009]

Transport routes

27. The carrier shall not transport any toxic industrial waste exceeding the quantities as specified in the third column of the Schedule except at such times and along such routes as may be prescribed by the Director-General.

[S 716/2006 wef 01/01/2007]

Hazard warning panels and labels

28.—(1) Where any toxic industrial waste is being transported in a road tanker, a freight container or a tank container or in any other vehicle, the carrier shall ensure that such appropriate hazard warning panel or label as prescribed in the code of labelling specified by the Director-General is displayed on the road tanker, freight container, tank container or on any other vehicle and such panel or label shall —

- (a) be weather resistant and indelibly marked;
- (b) be either rigid or fixed to be rigid;
- (c) be marked on or securely attached to the vehicle, freight container or tank container in a substantially vertical plane, and if the means of attachment is by a frame, that frame shall carry no other hazard warning panels; and
- (d) be kept clean and free from obstruction, except that a rear panel or label may be mounted behind a ladder of light construction which does not prevent the information on the panel or label from being easily read.

(2) Where a multi-load is transported in a compartmented tank container or freight container or, if in a road tanker, in separate tanks or compartments of a tank, the carrier shall ensure that each tank or compartment which contains a toxic industrial waste is provided with and displays the appropriate hazard warning panel or label prescribed in the code of labelling specified by the Director-General and the requirements of paragraph (1) shall apply to such panel or label.

[S 716/2006 wef 01/01/2007]

(3) The carrier shall ensure that such hazard warning panel or label is —

- (a) displayed on the road tanker, freight container, tank container or other vehicle at all times when any toxic industrial waste is being transported; and
- (b) removed when the road tanker, freight container, tank container or other vehicle is not used for transporting any toxic industrial waste.

Precaution against fire or explosion

29.—(1) Every person engaged in the transport of toxic industrial waste shall —

- (a) ensure as far as is reasonably possible that none of the waste is spilt or released; and
- (b) observe all precautions necessary for preventing fire or explosion.

(2) A suitable and efficient fire extinguisher shall be carried in an easily accessible position on any vehicle transporting any toxic industrial waste.

Prohibition against overfill

30. The consignor or owner of a consignment of toxic industrial waste shall ensure that any carrying tank of a road tanker, tank container or freight container in which the toxic industrial waste is transported is not overfilled at the time of consigning for transport.

Prohibition against carriage of multi-loads of toxic industrial waste

31. No person shall transport a multi-load of toxic industrial waste except in accordance with a code approved by the Director-General.

[S 716/2006 wef 01/01/2007]

Supervision of vehicles carrying toxic industrial waste

32.—(1) The driver of a vehicle used to transport any toxic industrial waste shall ensure that the vehicle, when not driven, is —

- (a) parked in a safe place; or

- (b) supervised at all times by him or by some other competent person above the age of 18 years.

[S 60/2009 wef 01/07/2009]

(2) Paragraph (1) shall not apply where any carrying tank of a road tanker, tank container or compartment thereof, which had contained a toxic industrial waste is nominally empty.

(3) In paragraph (2), “nominally empty” means that as much of the toxic industrial waste as is reasonably practicable has been discharged or unloaded from it and that such waste remaining within the carrying tank, tank container or compartment thereof is not sufficient to create a risk to the health and safety of any person.

PART VII

MISCELLANEOUS

Supply and sale of toxic industrial waste

33.—(1) No person shall supply or sell or permit to be supplied or sold any toxic industrial waste to any unlicensed toxic industrial waste collector.

(2) Paragraph (1) shall not apply to the export of toxic industrial waste from Singapore.

Storage requirements

34. It shall not be lawful to store any toxic industrial waste except in a container —

- (a) the design, construction and maintenance of which is in accordance with a code of practice approved by the Director-General;

[S 716/2006 wef 01/01/2007]

- (b) which is in an area to which entry is restricted to authorised personnel; and

- (c) which is labelled with the appropriate hazard warning sign as prescribed in a code of labelling approved by the Director-General.

[S 716/2006 wef 01/01/2007]

Mixing of toxic industrial waste

35. No person shall mix or permit the mixing of different types of toxic industrial waste or mix or permit the mixing of toxic industrial waste with non-toxic industrial waste unless the mixing is part of a process of treatment, use or disposal approved by the Director-General.

[S 716/2006 wef 01/01/2007]

Safe storage and dealing

36. Every generator or toxic industrial waste collector and every agent or employee of such person shall, when storing, using or otherwise dealing with toxic industrial waste, do so in such a manner as not to threaten the health or safety of any person or to cause pollution to the environment.

Notice requiring removal of toxic industrial waste from premises

37.—(1) If, in the opinion of the Director-General, the toxic industrial waste stored in any premises is likely to threaten the health or safety of any person or to cause pollution to the environment, the Director-General may, by notice in writing, require the owner or occupier of the premises to remove the toxic industrial waste to a disposal facility within a stipulated period.

[S 716/2006 wef 01/01/2007]

(2) The Director-General may, by notice in writing, require the owner or occupier upon whom a notice has been served under paragraph (1) to furnish evidence that the industrial waste from the premises has been disposed of at a disposal facility in accordance with the notice.

[S 716/2006 wef 01/01/2007]

[S 60/2009 wef 01/07/2009]

Emergency action plan to be prepared

38.—(1) The generator, toxic industrial waste collector, consignor or owner of any consignment of toxic industrial waste shall —

- (a) prepare and keep up to date the emergency action plan detailing how spillage, leakage or accidents which may arise from the transportation, storage, reprocessing or treatment of toxic industrial waste will be dealt with; and
- (b) ensure that his agents or employees have received adequate instruction and training to enable them to implement the emergency action plan in the event of any accident or emergency involving any toxic industrial waste stored, reprocessed, treated or transported.

(2) The Director-General may by notice in writing require any generator, toxic industrial waste collector, consignor or owner of any consignment of toxic industrial waste to prepare, improve or update the emergency action plan within a reasonable time fixed by him.

[S 716/2006 wef 01/01/2007]

Analysis of toxic industrial waste

39.—(1) The Director-General may, by notice in writing, require any person to submit samples of the toxic industrial waste or such industrial waste as the Director-General may suspect to be toxic industrial waste produced in his premises or collected or received by him to any laboratory approved by the Director-General for chemical analysis.

[S 716/2006 wef 01/01/2007]

[S 60/2009 wef 01/07/2009]

(2) All analysis reports shall be kept and shall be made available for inspection by the Director-General.

[S 716/2006 wef 01/01/2007]

Exemption

40. The Director-General may exempt any person or class of persons from any of the provisions of these Regulations.

[S 716/2006 wef 01/01/2007]

Penalty

41. A person who contravenes or fails to comply with any of the provisions of these Regulations shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$10,000 and, in the case of a continuing offence, to a further fine not exceeding \$100 for every day or part thereof during which the offence continues after conviction.

[S 60/2009 wef 01/07/2009]

THE SCHEDULE

Regulations 3, 4 (b), 20, 21(2), 23 and
27

LIST OF TOXIC INDUSTRIAL WASTES

List of Toxic Industrial Wastes	Prescribed Quantity For Generation Per Year	Prescribed Quantity For Transportation Per Trip
<i>Acids</i>		
1. Spent inorganic acids, e.g. hydrochloric acid, sulphuric acid, nitric acid, phosphoric acid, hydrofluoric acid, boric acid and pickling acid	1,000 l	250 l
2. Spent organic acids, e.g. acetic acid, formic acid, benzoic acid and sulphonic acid	1,000 l	250 l
<i>Alkalis</i>		
1. Spent alkaline solutions	1,000 l	250 l
2. Spent ammoniacal solutions	1,000 l	250 l
3. Metal hydroxide sludges and oxide sludges	1,500 kg	300 kg
<i>Antimony and its Compounds</i>		
Spent antimony potassium tartrate	0 kg	0 kg
<i>Arsenic and its Compounds</i>		

THE SCHEDULE — *continued*

List of Toxic Industrial Wastes	Prescribed Quantity For Generation Per Year	Prescribed Quantity For Transportation Per Trip
1. Timber preservative residues containing arsenic	0 kg	0 kg
2. Wastes containing gallium arsenide	0 kg	0 kg
<i>Asbestos</i>		
1. Asbestos wastes from asbestos/cement manufacturing processes	1,500 kg	300 kg
2. Empty sacks/bags which have contained loose asbestos fibre	1,500 kg	300 kg
3. Asbestos wastes generated from industrial activity, demolition, renovation and delagging works and ship repairing	1,500 kg	500 kg
<i>Cadmium and its Compounds</i>		
1. Plating effluents and residues containing cadmium	1,000 l	250 l
2. Wastes containing cadmium from Ni/Cd battery manufacturing	0 kg	0 kg
<i>Chromium Compounds</i>		
1. Plating effluents and residues containing chromium	1,000 l	250 l
2. Timber preservative residues containing chromium	0 kg	0 kg
3. Spent and aqueous solutions containing chromic compounds	1,000 l	250 l
4. Tannery effluents and residues containing chromium	1,000 l	250 l
<i>Copper Compounds</i>		
1. Plating effluents and residues containing copper	1,000 l	250 l

THE SCHEDULE — *continued*

List of Toxic Industrial Wastes	Prescribed Quantity For Generation Per Year	Prescribed Quantity For Transportation Per Trip
2. Spent etching solutions containing copper from printed circuit board manufacturing	1,000 l	250 l
3. Timber preservative residues containing copper <i>Cyanides</i>	0 kg	0 kg
1. Plating effluents and residues containing cyanides	0 kg	0 kg
2. Heat treatment residues containing cyanides	0 kg	0 kg
3. Spent quenching oils containing cyanides	0 kg	0 kg
4. Spent processing solutions containing cyanides from photographic processing <i>Fluoride Compounds</i>	0 kg	0 kg
1. Timber preservative residues containing fluorides	0 kg	0 kg
2. Spent ammonium bi-fluoride <i>Isocyanates</i>	1,000 l	250 l
Spent di-isocyanates, e.g. toluene di-isocyanate (TDI) and methylene di-isocyanate (MDI) from polyurethane foam-making process <i>Laboratory Wastes</i>	1,000 l	250 l
1. Obsolete laboratory chemicals	0 kg	0 kg
2. Toxic chemical wastes from chemical analysis <i>Lead Compounds</i>	0 kg	0 kg

THE SCHEDULE — *continued*

List of Toxic Industrial Wastes	Prescribed Quantity For Generation Per Year	Prescribed Quantity For Transportation Per Trip
1. Ash, residues and sludges containing lead and lead compounds	1,500 kg	300 kg
2. Spent organo-lead compounds, e.g. tetraethyllead (TEL) and tetramethyllead (TML)	0 kg	0 kg
3. Waste lead-acid batteries, whole or crushed	10,000 kg	1,000 kg
<i>Mercury and its Compounds</i>		
1. Effluents, residues or sludges containing mercury from chlor-alkali industry	0 kg	0 kg
2. Wastes containing mercury from equipment manufacturing involving the use of metal mercury	0 kg	0 kg
3. Spent catalysts from chemical processes containing mercury	0 kg	0 kg
4. Spent organo-mercury compounds	0 kg	0 kg
<i>Metal Catalysts</i>		
Spent metal catalysts from chemical processes and petroleum refining, e.g. catalysts containing chromium and cobalt	0 kg	0 kg
<i>Nickel Compounds</i>		
Plating effluents and residues containing nickel	1,000 l	250 l
<i>Organic Compounds containing Halogen</i>		

THE SCHEDULE — *continued*

List of Toxic Industrial Wastes	Prescribed Quantity For Generation Per Year	Prescribed Quantity For Transportation Per Trip
1. Spent halogenated organic solvents, e.g. trichloroethylene, 111-trichloroethane, perchloroethylene, methylene chloride, tetra-chloromethane and 112-trichloro-122-trifluoroethane	10,000 l	1,000 l
2. Residues from recovery of halogenated organic solvents	7,500 kg	1,500 kg
3. Packaging materials or residues containing chlorobenzenes and/or chlorophenals and their salts	0 kg	0 kg
<i>Organic Compounds not containing Halogen</i>		
1. Spent non-halogenated organic solvents, e.g. benzene, toluene, xylene, turpentine, petroleum, thinner, kerosene, methanol, ethanol, isobutanol, isopropanol, methyl ethyl ketone, methyl isobutyl ketone, isopropyl ether, diethyl ether, hexane, dimethyl sulphide and dimethyl sulphoxide	10,000 l	1,000 l
2. Residue from recovery of non-halogenated organic solvents	7,500 kg	1,500 kg
<i>Organotin Compounds</i>		
Sludges, residues, effluents and spent blasting grit generated from removal of paints containing organotin compounds	0 kg	0 kg
<i>Other Wastes</i>		
1. Obsolete/abandoned chemicals and pesticides from storage,	0 kg	0 kg

THE SCHEDULE — *continued*

List of Toxic Industrial Wastes	Prescribed Quantity For Generation Per Year	Prescribed Quantity For Transportation Per Trip
2. manufacturing and trading activities Used containers, bags and process equipment contaminated by chemicals and pesticides from storage, manufacturing and trading activities	0 kg	0 kg
3. Wastes/residues containing unreacted monomers, e.g. vinyl chloride and styrene monomers, from polymer manufacturing processes	7,500 kg	1,500 kg
4. Tar residues from distilling and tarry materials from refining	7,500 kg	1,500 kg
5. Wastes from toxic waste treatment processes, e.g. wastes and residues from solidification, fixation and incineration processes	7,500 kg	1,500 kg
6. Wastes from toxic chemical drums and tank cleaning activities	1,000 l	250 l
7. Chemical and oil slops from ship tankers	10,000 l	1,000 l
8. Waste from the production, formulation and use of resins, latex, plasticisers, glues/adhesives containing solvents and other contaminants	5,000 l	1,000 l
9. Wastes from the production, formulation and use of inks, dyes, pigments, paints, lacquers, varnish containing organic solvents, heavy metals or biocides	5,000 l	1,000 l

THE SCHEDULE — *continued*

List of Toxic Industrial Wastes	Prescribed Quantity For Generation Per Year	Prescribed Quantity For Transportation Per Trip
10. Solid wastes and sludges or obsolete/off specification materials not categorised elsewhere in the Schedule and failing the NEA's landfill disposal criteria	7,500 kg	1,500 kg
<i>Pathogenic Wastes</i>		
1. Pathogenic wastes from hospitals	0 kg	0 kg
2. Pathogenic wastes from healthcare and research institutions, clinics and laboratories	0 kg	0 kg
<i>Pharmaceutical Wastes</i>		
Pharmaceutical wastes comprising antineoplastic agents, antibiotics, vaccines and other immunological products, controlled drugs under the Misuse of Drugs Act (Cap. 185) and pharmaceutical wastes containing arsenics, cyanides and heavy metals and their salts	0 kg	0 kg
<i>Phenolic Compounds</i>		
1. Sludges/residues from paint stripping using chemicals containing phenols	1,500 kg	300 kg
2. Residues containing unreacted phenol and formaldehyde from adhesive industry	1,500 kg	300 kg
<i>Polychlorinated Bi-phenyl (PCB) Including Poly-chlorinated Ter-phenyl (PCT)</i>		

THE SCHEDULE — *continued*

List of Toxic Industrial Wastes	Prescribed Quantity For Generation Per Year	Prescribed Quantity For Transportation Per Trip
1. Spent transformer oil containing PCB and/or PCT	0 kg	0 kg
2. Retrofilled transformer contaminated with PCB and/or PCT	0 kg	0 kg
3. Electrical equipment and parts containing or contaminated with PCB and/or PCT, e.g. capacitors and transformers	0 kg	0 kg
4. Containers and all waste materials contaminated with PCB and/or PCT	0 kg	0 kg
<i>Polyvinyl Chloride (PVC)</i>		
All waste materials containing PVC, e.g. PVC insulated wires, PVC pipes and trunking, PVC parts, PVC upholstery and PVC resins	No Requirement	No Requirement
<i>Silver Compounds</i>		
Spent processing solutions containing silver from photographic processing	1,000 l	250 l
<i>Used, Contaminated Oil</i>		
1. Used mineral, lubricating and hydraulic oil from machine cylinders, turbines, switch gears and transformers	10,000 l	1,000 l
2. Spent motor oils from petrol and diesel engines	10,000 l	1,000 l
3. Spent quenching oil from metal hardening	10,000 l	1,000 l

THE SCHEDULE — *continued*

List of Toxic Industrial Wastes	Prescribed Quantity For Generation Per Year	Prescribed Quantity For Transportation Per Trip
4. Oil recovered from solvent degreasers	5,000 l	1,000 l
5. Spent oil water emulsions, e.g. spent coolants from metal working industries	5,000 l	1,000 l
6. Oil water mixtures (mainly oil), e.g. oily ballast water from ship tankers	10,000 l	1,000 l
7. Oil and sludge from oil interceptors	7,500 kg	1,500 kg
8. Tanker sludges and oil sludges/residues from storage tanks	7,500 kg	1,500 kg
9. Oil sludges containing acid from recovery and recycling of used oil	7,500 kg	1,500 kg
<i>Zinc Compounds</i>		
Plating effluents and residues containing zinc	1,000 l	250 l

LEGISLATIVE HISTORY
ENVIRONMENTAL PUBLIC HEALTH (TOXIC INDUSTRIAL
WASTE) REGULATIONS
(CHAPTER 95, RG 11)

This Legislative History is provided for the convenience of users of the Environmental Public Health (Toxic Industrial Waste) Regulations. It is not part of these Regulations.

1. G. N. No. S 111/1988 — Environmental Public Health (Toxic Industrial Waste) Regulations 1988

Date of commencement : 6 August 1988

2. G. N. No. S 305/1988 — Environmental Public Health (Toxic Industrial Waste) (Amendment) Regulations 1988

Date of commencement : 6 August 1988

3. G. N. No. S 24/1989 — Environmental Public Health (Toxic Industrial Waste) (Amendment) Regulations 1989

Date of commencement : 20 January 1989

4. G. N. No. S 197/1989 — Environmental Public Health (Toxic Industrial Waste) (Amendment No. 2) Regulations 1989

Date of commencement : 1 July 1989

5. 1990 Revised Edition — Environmental Public Health (Toxic Industrial Waste) Regulations

Date of operation : 25 March 1992

6. G. N. No. S 102/1996 — Environmental Public Health (Toxic Industrial Waste) (Amendment) Regulations 1996

Date of commencement : 1 April 1996

7. G. N. No. S 610/1998 — Environmental Public Health (Toxic Industrial Waste) (Amendment) Regulations 1998

Date of commencement : 1 February 1999

8. 2000 Revised Edition — Environmental Public Health (Toxic Industrial Waste) Regulations

Date of operation : 31 January 2000

9. G. N. No. S 130/2000 — Environmental Public Health (Toxic Industrial Waste) (Amendment) Regulations 2000

Date of commencement : 1 April 2000

10. G. N. No. S 716/2006 — Environmental Public Health (Toxic Industrial Waste) (Amendment) Regulations 2006

Date of commencement : 1 January 2007

11. G. N. No. S 60/2009 — Environmental Public Health (Toxic Industrial Waste) (Amendment) Regulations 2009

Date of commencement : 1 July 2009

12. G. N. No. S 76/2010 — Environmental Public Health (Toxic Industrial Waste) (Amendment) Regulations 2010

Date of commencement : 1 April 2010

13. G. N. No. S 556/2010 — Environmental Public Health (Toxic Industrial Waste) (Amendment No. 2) Regulations 2010

Date of commencement : 1 October 2010