

ENVIRONMENTAL PROTECTION AND MANAGEMENT ACT
(CHAPTER 94A, SECTION 77)

ENVIRONMENTAL PROTECTION AND MANAGEMENT
(HAZARDOUS SUBSTANCES) REGULATIONS

ARRANGEMENT OF REGULATIONS

PART I

PRELIMINARY

Regulation

1. Citation
2. Definitions

PART II

TRANSPORT OF HAZARDOUS SUBSTANCES

3. Application of this Part
4. Consignor's responsibility for safe consignment
5. Carrier to obtain information on consignment
6. Transport documents
7. Instructions for drivers
8. Responsibilities of drivers
9. Transport routes
10. Hazard warning panels and labels
11. Precaution against fire or explosion
12. Prohibition against overfill
13. Prohibition against carriage of multi-loads of hazardous substances
14. Supervision of vehicles carrying hazardous substances

PART III

IMPORT OF HAZARDOUS SUBSTANCES

15. Import of hazardous substances
16. Collection of imported hazardous substances

PART IV

STORAGE AND SUPPLY OF HAZARDOUS SUBSTANCES

Regulation

17. Permission to store and use hazardous substances
18. Records of storage of hazardous substances
19. Storage requirements
20. Instruction and training
21. Sale and supply of hazardous substances

PART V

MISCELLANEOUS

22. Establishment of emergency action plan to deal with accidents and emergencies
23. Notification of accidents and emergencies
24. Notification of loss or theft of hazardous substances
25. Penalty
The Schedule

[1st April 1999]

PART I

PRELIMINARY

Citation

1. These Regulations may be cited as the Environmental Protection and Management (Hazardous Substances) Regulations.

Definitions

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

“carrier” means any person undertaking the transport of hazardous substances 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 hazardous substances presented by a consignor for transport;

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

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

“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;

“hazardous substance” does not include any ozone depleting substance specified in Part I of the Second Schedule to the Act other than methyl bromide;

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

“owner”, in relation to any hazardous substance, includes any person acting as agent for the owner;

“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) For the purposes of these Regulations, a vehicle shall be deemed to be used for the transport of a hazardous substance throughout the period, whether or not the vehicle is on a road at the material time —

(a) in the case of a road tanker, from the commencement of loading for the purpose of conveying the substance on a road until the tank or compartment of the tank has been cleaned or purged so that any of the substances 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 tank container from —

(i) the time at which the tank container containing the hazardous substance is placed on the vehicle; or

(ii) if the tank container was placed on the vehicle before loading was commenced, the commencement of loading,

for the purpose of conveying the substance on a road until —

(A) the tank 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 substances or its vapour which remains in it is not sufficient to create a risk to the health or safety of any person.

PART II

TRANSPORT OF HAZARDOUS SUBSTANCES

Application of this Part

3. This Part shall apply to the transport or consigning for transport of any hazardous substance exceeding the quantities specified in the Schedule.

Consignor's responsibility for safe consignment

4.—(1) A person shall not consign for transport of any hazardous substance unless —

- (a) he has obtained the approval in writing of the Director-General in regard to the proposed transport of such substance; and
- (b) the container, tank container, freight container or road tanker to be used for the transport of the hazardous substance is designed, constructed and maintained in accordance with a code of practice approved by the Director-General.

(2) It shall not be lawful for any person to transport or consign for transport of any hazardous substance unless the transport or consignment of the hazardous substance is effected in accordance with the provisions of the approval issued to him under paragraph (1) and with any condition specified therein.

Carrier to obtain information on consignment

5.—(1) No carrier shall transport any hazardous substance unless he has been given a statement provided under regulation 6(1) as will enable him to comply with the requirements of these Regulations and to be aware of the risks created by the hazardous substance to the health or safety of any person.

(2) The statement shall be supplied by the consignor or owner of the consignment of the hazardous substance 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 hazardous substance is aware of the instructions

contained in the statement and is capable of carrying them out effectively.

(3) For the purpose of this regulation, it shall be the duty of the consignor or owner of any consignment of hazardous substance who supplies any statement relating to a hazardous substance to a carrier to ensure that the information contained therein is accurate and sufficient.

Transport documents

6.—(1) The consignor or owner of any consignment of a hazardous substance shall provide, in the transport documents relating to the hazardous substance, a statement regarding the safety requirements and the actions that must be taken by the carrier which shall include the following instructions:

- (a) supplementary operational requirements for loading, transport, storage, unloading, 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 plan as established in accordance to regulation 22; and
- (d) an indication of the general nature of risk and safety precautions when handling the hazardous substance.

(2) The consignor or owner of any consignment of a hazardous substance shall include in the transport documents for the consignment of the hazardous substance —

- (a) the designation and quantity of the hazardous substance;
- (b) the approval of the Director-General in regard to the transport of the hazardous substance;
- (c) an acknowledgment of receipt to be signed by the consignee or his assigns; and
- (d) a declaration that the contents of the consignment are properly described by name and are properly packaged,

marked and labelled and are in a proper condition for transport.

- (3) The declaration made under paragraph (2)(d) shall —
- (a) contain the original or stamped facsimile signature of the consignor or owner of the consignment of the hazardous substance, as the case may be, together with the date; and
 - (b) be substantially in such form as may be determined by the Director-General.

Instructions for drivers

7. Before any hazardous substance is transported, the carrier shall —

- (a) give the driver of the vehicle used to transport the hazardous substance a copy of the statement referred to in regulation 5(1) relating to the substance being transported; and
- (b) ensure that the driver is adequately trained to carry out the instructions contained in the statement.

Responsibilities of drivers

8. The driver of a vehicle used to transport any hazardous substance shall —

- (a) keep in the cab of the vehicle a copy of the statement given to him under regulation 7 where the information will be available at all times while the substance to which it relates is being transported; and
- (b) comply with all instructions contained in the copy of the statement given to him under regulation 7.

Transport routes

9. The carrier shall not transport any hazardous substance except at the times and along the routes as determined by the Director-General.

Hazard warning panels and labels

10.—(1) Where a hazardous substance is being transported in a road tanker, a freight container, a tank container or other vehicle, the carrier shall ensure that the 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 other vehicle.

(2) The hazard warning panel or label shall be —

- (a) weather resistant and be indelibly marked;
- (b) either rigid or fixed to be rigid;
- (c) marked on or securely attached to the road tanker, freight container, tank container or other vehicle in a substantially vertical plane, and if the means of attachment is by a frame, that frame shall carry no other hazard warning panels or labels; and
- (d) 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.

(3) Where a multi-load is transported in a road tanker, in separate tanks or in compartments of a tank, or in a compartmented tank container, the carrier shall ensure that each such tank or compartment which contains a hazardous substance 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 (2) shall apply to such panels or labels.

(4) The carrier shall ensure that the hazard warning panel or label is —

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

Precaution against fire or explosion

11.—(1) The consignor or owner of any consignment of a hazardous substance, the carrier and the driver shall ensure that —

- (a) adequate precautionary measures are taken to prevent the hazardous substances from spilling, dropping, or being released during transportation; and
- (b) all precautions necessary for preventing a fire or an explosion are being observed.

(2) The consignor or owner of any consignment of a hazardous substance, the carrier and the driver shall ensure that suitable and efficient fire extinguishers are carried in an easily accessible position on every vehicle transporting any hazardous substance.

Prohibition against overfill

12. The consignor or owner of any consignment of a hazardous substance shall ensure that any carrying tank of a road tanker, tank container or any other container in which the hazardous substance is transported is not overfilled at the time of consigning for transport.

Prohibition against carriage of multi-loads of hazardous substances

13. No person shall transport a multi-load of hazardous substances except in accordance with a code of practice approved by the Director-General.

Supervision of vehicles carrying hazardous substances

14.—(1) The driver of a vehicle used to transport any hazardous substance 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.

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

(3) In paragraph (2), “nominally empty”, in relation to a carrying tank of a road tanker, tank container or compartment thereof, means —

- (a) that as much of the hazardous substance as is reasonably practicable has been discharged or unloaded from it; and
- (b) that such hazardous substance remaining within the carrying tank of the road tanker, tank container or compartment thereof is not sufficient to create a risk to the health and safety of any person.

PART III

IMPORT OF HAZARDOUS SUBSTANCES

Import of hazardous substances

15. Any person to whom a licence has been granted under section 22 of the Act to import hazardous substance into Singapore shall ensure that the container or tank container in which the hazardous substance is imported into Singapore is designed, constructed, maintained and labelled in accordance with a code of practice approved by the Director-General.

Collection of imported hazardous substances

16. Where a hazardous substance is imported and is to be delivered in Singapore, the importer or an agent duly authorised to act on his behalf shall take delivery of the substance —

- (a) at the Woodlands or Tuas Customs Station if the substance is imported into Singapore by road;
- (b) at a railway station in Singapore if the substance is imported into Singapore by rail;
- (c) at a wharf in Singapore if the substance is imported into Singapore by water; or
- (d) at an air cargo terminal in Singapore if the substance is imported into Singapore by air.

PART IV

STORAGE AND SUPPLY OF HAZARDOUS SUBSTANCES

Permission to store and use hazardous substances

17.—(1) A person shall not use, keep or have in his possession or under his control any hazardous substance specified in the Schedule unless he is authorised to store such hazardous substance.

(2) A person shall be authorised to store hazardous substances where he is issued with a permit to store and use such hazardous substances or where he is in possession of a licence granted under section 22 of the Act to deal in hazardous substances.

(3) A permit to store and use hazardous substances shall be valid for such period as the Director-General may specify in the permit.

(4) The following fees shall be payable to the Agency in respect of a permit to store and use hazardous substances:

(a) a fee of —

(i) \$74 for the issue or renewal of the permit for one year; or

(ii) \$148 for the issue or renewal of the permit for 2 years;

(b) a fee of \$20 for making amendments to the permit on any one occasion.

[S 553/2010 wef 01/10/2010]

(5) It shall not be lawful for any person to store or use any hazardous substance specified in the Schedule unless the storage or use of the hazardous substance is effected in accordance with the provisions of the permit and with any condition specified therein.

Records of storage of hazardous substances

18. Any person issued with a permit to store and use hazardous substances —

(a) shall keep a record of the quantity of such substances stored in such form as may be determined by the Director-General; and

- (b) shall not store the substances for any purpose other than for the purpose or purposes stated in the permit.

Storage requirements

19. It shall not be lawful to store any hazardous substance except in a container —

- (a) which design, construction and maintenance is in accordance with a code of practice approved by the Director-General;
- (b) which is in an area entry to which is restricted to authorised personnel; and
- (c) which is labelled as prescribed in a code of labelling approved by the Director-General.

Instruction and training

20. Every person authorised to store hazardous substances shall ensure that his agents and employees have received adequate instruction and training to enable them to understand —

- (a) the nature of the dangers of all hazardous substances being stored; and
- (b) the emergency action plan to be implemented in the event of any accident or emergency involving any hazardous substance stored.

Sale and supply of hazardous substances

21.—(1) No person shall sell or supply any hazardous substance to any person who is not authorised to store hazardous substances.

(2) Paragraph (1) shall not apply to the export of hazardous substances from Singapore.

(3) Any person to whom a licence has been granted under section 22 of the Act shall keep a record of all arrivals, sales and supplies of hazardous substances in such form as may be determined by the Director-General.

PART V

MISCELLANEOUS

Establishment of emergency action plan to deal with accidents and emergencies

22.—(1) The consignor or owner of any consignment of a hazardous substance or any person authorised to transport or store hazardous substances shall establish and keep up-to-date an adequate emergency action plan to deal with any spillage, leakage, release, accident or emergency which may arise from the transport or storage of the hazardous substance.

(2) The consignor or owner of any consignment of a hazardous substance or any person authorised to transport or store hazardous substances shall submit an emergency action plan to the Director-General for approval.

(3) The emergency action plan shall cover off-site impact, if any, and shall include the following:

- (a) identification of likely accident scenarios and establishment of the likely impact zones;
- (b) notification and activation procedures;
- (c) response actions to control and contain the release and to mitigate the impact of the release;
- (d) monitoring of the affected areas, including the off-site affected areas;
- (e) procedures for decontamination and clean-up of affected areas;
- (f) names of personnel with their assigned roles and responsibilities in dealing with the emergency; and
- (g) list of emergency response equipment, including protective gears, fire fighting equipment, oversized drums, emergency containers/tankers, absorbents, neutralising agents, monitoring equipment, clean-up equipment, etc., made available for dealing with the emergency.

(4) The Director-General may require the consignor or owner of any consignment of a hazardous substance or any person authorised to transport or store hazardous substances to review, test and improve his emergency action plan within such time as the Director-General may specify.

(5) The consignor or owner of any consignment of a hazardous substance or any person authorised to transport or store hazardous substances shall have in readiness at all times trained personnel and equipment to deal adequately in accordance with the established emergency action plan with any spillage, leakage, release, accident or emergency which may arise.

Notification of accidents and emergencies

23.—(1) In the event of an accidental release of any hazardous substance, the consignor or owner of any consignment of a hazardous substance or any person authorised to transport or store hazardous substances shall directly or through his agent or employee —

- (a) take immediate actions and mitigating measures in accordance to the established emergency action plan to control and contain the release;
- (b) immediately notify the consignor or owner of any consignment of a hazardous substance or any person authorised to transport or store hazardous substances, whichever person is appropriate; and
- (c) immediately notify the Director-General and the Singapore Civil Defence Force.

(2) The consignor or owner of any consignment of a hazardous substance or any person authorised to transport or store hazardous substances shall also have the affected areas decontaminated, cleaned-up and restored to normal.

(3) As soon as practicable, the consignor or owner of any consignment of a hazardous substance or any person authorised to transport or store hazardous substances shall furnish to the Director-General a detailed report in writing —

- (a) as to the circumstances of the accidental release of such hazardous substance;
- (b) the immediate actions and mitigating measures taken by him to control and contain the release and the measures taken to restore the affected areas to normal; and
- (c) the measures taken by him to prevent a recurrence of a similar spillage, leakage, release, accident or emergency.

Notification of loss or theft of hazardous substances

24. In the event of discovery of any loss or theft of any hazardous substance, the consignor or owner of any consignment of a hazardous substance or any person authorised to transport or store hazardous substance shall directly or through his agent or employee —

- (a) immediately notify the loss or theft (as the case may be) to the police and the Director-General; and
- (b) as soon as practicable, furnish to the Director-General a detailed report in writing on the following:
 - (i) the circumstances leading to the loss or theft (as the case may be); and
 - (ii) the measures taken by him to prevent a recurrence of the loss or theft (as the case may be).

Penalty

25. Any person who contravenes regulation 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14(1), 15, 16, 17(1) or (5), 18, 19, 20, 21(1) or (3), 22, 23 or 24 shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$30,000 or to imprisonment for a term not exceeding 2 years or to both and, in the case of a continuing offence, to a further fine not exceeding \$1,000 for every day or part thereof during which the offence continues after conviction.

THE SCHEDULE

Regulations 3 and 17

HAZARDOUS SUBSTANCES

<i>Substance</i>	<i>Quantity (kgs)</i>
1,2-dibromoethane (EDB)	0
Acetic acid	1,000
Acetic Anhydride	500
Acetyl bromide	0
Alachlor	0
Allyl isothiocyanate	0
Ammonia (35% or greater)	500
Ammonia (less than 35%)	1,000
Antimony pentachloride	50
Antimony trihydride	0
Arsine	0
Arsenical substances	50
Boric acid; Sodium borate	5,000
Boron tribromide	0
Boron trichloride	50
Boron trifluoride	50
Bromine; Bromine solutions	50
Captafol	0
Carbamates, excepting — Bendiocarb BPMC (Fenobucarb) Mercaptodimethur (methiocarb)	0
Carbon monoxide	1,000
Carbon tetrafluoride	500
Chlorinated hydrocarbons	0
Chlorine	500

THE SCHEDULE — *continued*

Chlorine trifluoride	50
Chlorobenzenes	0
Chlorophenols	0
Chlorophenoxyacids; their salts, esters, amines	0
Chlorosilanes	50
Chlorosulphonic acid	50
Chromic acid	50
Cyanides	50
Diborane	50
Dibromochloropropane	50
Diethyl sulphate	500
Epichlorohydrin	50
Ethyl mercaptan	50
Ethylene dichloride	0
Ethylene imine	0
Ethylene oxide	50
Ferric chloride	1,000
Fipronil	5,000
Fluorine	0
Fluoroacetamide	0
Formic acid	1,000
Germane	0
Hydrazine anhydrous; Hydrazine aqueous solutions	50
Hydrochloric acid	1,000
Hydrofluoric acid	500
Hydrogen chloride	500
Hydrogen cyanide; Hydrocyanic acid	0
Hydrogen selenide	0
Isocyanates	500

THE SCHEDULE — *continued*

Lead tetra-ethyl and similar lead containing compounds in petrol intended for use in Singapore as a fuel for motor vehicles	0
Mercury compounds including inorganic mercury compounds, alkyl mercury compounds, alkyloxyalkyl and aryl mercury compounds, and other organic compounds of mercury	0
Metanil yellow (sodium salt of metanilylazo-diphenylamine)	5,000
Methyl bromide	50
Methyl chloride	50
Methyl mercaptan	50
Monomethyltetrachloro diphenyl methane	0
Monomethyl-dichloro-diphenyl methane	0
Monomethyl-dibromodiphenyl methane	0
Neonicotinoid compounds used as pesticides	5,000
Nitric acid (95% or greater)	50
Nitric acid (less than 95%)	1,000
Nitric oxide	0
Nitrogen trifluoride	50
Oleum	50
Orange II [sodium salt of p-(2-hydroxy-1-naphthylazo) benzenesulphonic acid]	5,000
Organic peroxides	500
Organo-tin compounds	0
Perchloromethyl mercaptan	50
Perfluorooctane sulfonate (PFOS)	0
Phenols	500
Phosgene	0
Phosphides	0
Phosphine	0
Phosphorus compounds, excepting —	0

THE SCHEDULE — *continued*

Dimethoate	
Fenclorphos	
Fenitrothion	
Phenthoate	
Profenophos	
Prothiophos	
Quinalphos	
Phosphorus oxybromide	0
Phosphorus oxychloride	50
Phosphorus pentabromide	0
Phosphorus pentachloride	50
Phosphorus pentafluoride	50
Phosphorus trichloride	50
Polybrominated biphenyls	0
Polybrominated diphenyl ethers	0
Polychlorinated biphenyls	0
Polychlorinated terphenyls	0
Potassium hydroxide	1,000
Prochloraz	0
Pyrethroid compounds used as pesticides	5,000
Sodium azide	0
Sodium hydroxide	1,000
Sulphur in diesel intended for use in Singapore as a fuel for motor vehicles or industrial plants	0
Sulphur tetrafluoride	0
Sulphur trioxide	50
Sulphuric acid	1,000
Sulphuryl chloride	0
Sulphuryl fluoride	0

THE SCHEDULE — *continued*

Tetraethyl lead, tetramethyl lead and similar lead containing compounds	0
Titanium tetrachloride	1,000
Tris (2,3-dibromopropyl) phosphate	0
Tungsten hexafluoride	0

[S 440/2011 wef 01/09/2011]

[S 59/2009 wef 01/07/2009]

[G.N. Nos. S 159/99; S128/2000; S 603/2000; S 77/2005; S
713/2006; S 295/2007; S 41/2008]

LEGISLATIVE HISTORY
ENVIRONMENTAL PROTECTION AND MANAGEMENT
(HAZARDOUS SUBSTANCES) REGULATIONS
(CHAPTER 94A, RG 4)

This Legislative History is provided for the convenience of users of the Environmental Protection and Management (Hazardous Substances) Regulations. It is not part of these Regulations.

1. G. N. No. S 159/1999 — Environmental Pollution Control (Hazardous Substances) Regulations 1999

Date of commencement : 1 April 1999

2. G. N. No. S 128/2000 — Environmental Pollution Control (Hazardous Substances) (Amendment) Regulations 2000

Date of commencement : 1 April 2000

3. G. N. No. S 603/2000 — Environmental Pollution Control (Hazardous Substances) (Amendment No. 2) Regulations 2000

Date of commencement : 1 January 2001

4. 2001 Revised Edition — Environmental Pollution Control (Hazardous Substances) Regulations

Date of operation : 31 January 2001

5. G. N. No. S 77/2005 — Environmental Pollution Control (Hazardous Substances) (Amendment) Regulations 2005

Date of commencement : 16 February 2005

6. G. N. No. S 713/2006 — Environmental Pollution Control (Hazardous Substances) (Amendment) Regulations 2006

Date of commencement : 1 January 2007

7. G. N. No. S 295/2007 — Environmental Pollution Control (Hazardous Substances) (Amendment) Regulations 2007

Date of commencement : 1 July 2007

8. G. N. No. S 41/2008 — Environmental Pollution Control (Hazardous Substances) (Amendment) Regulations 2008

Date of commencement : 31 January 2008

**9. 2008 Revised Edition — Environmental Protection and Management
(Hazardous Substances) Regulations**

Date of operation : 1 April 2008

**10. G. N. No. S 59/2009 — Environmental Protection and Management
(Hazardous Substances) (Amendment)
Regulations 2009**

Date of commencement : 1 July 2009

**11. G. N. No. S 553/2010 — Environmental Protection and Management
(Hazardous Substances) (Amendment)
Regulations 2010**

Date of commencement : 1 October 2010

**12. G.N. No. S 440/2011 — Environmental Protection and Management
(Hazardous Substances) (Amendment)
Regulations 2011**

Date of commencement : 1 September 2011