



FEDERAL SUBSIDIARY LEGISLATION

OCCUPATIONAL SAFETY AND HEALTH ACT 1994 [ACT 514]

P.U. (A) 39/1996

OCCUPATIONAL SAFETY AND HEALTH (CONTROL OF INDUSTRIAL MAJOR ACCIDENT HAZARDS) REGULATIONS 1996

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Preamble

IN exercise of the powers conferred by section 66 of the Occupational Safety and Health Act 1994 [Act 514], the Minister makes the following regulations:

PART I PRELIMINARY

1. Citation and commencement.

These regulations may be cited as the **Occupational Safety and Health (Control of Industrial Major Accident Hazards) Regulations 1996** and shall come into force on 1 February 1996.

2. Application.

These Regulations shall apply to all industrial activities except-

- (a) a nuclear installation;
- (b) an installation under the armed forces;
- (c) a vehicle or vessel transporting hazardous substances to or from the site of an industrial activity; and
- (d) an industrial activity in which there is involved or likely to be involved a quantity of hazardous substance or a category or categories of substances which is or are equal or less than ten per cent of the threshold quantity of the hazardous substance or substances.

3. Interpretation.

In these Regulations, unless the context otherwise requires-

"Competent Person" means an employee or any other person who is appointed by the manufacturer and approved in writing by the Director General to prepare a written report pursuant to the requirements of Part IV;

"further relevant information", for the purpose of Schedule 3, means information which is necessary for the assessment of the potential effects of a major accident and which, in the circumstances of the case-

- (a) is reasonably required by an inquirer to assess the risks to his health and safety created by an industrial accident and to know and understand what action he should take in the event of an accident; and
- (b) where the information is to be disclosed by a manufacturer, the information is such as is reasonable for him to disclose having regard to the requirements of the law and his commercial interests;

"hazardous substance" means-

- (a) any substance which is within any of the criteria laid down in Schedule 1; or
- (b) any substance listed in Part 1 of Schedule 2;

"industrial activity" means-

(a) an operation carried out in an industrial installation referred to in Schedule 4 involving or likely to involve one or more hazardous substances, and includes on-site storage and on-site transport which are associated with the operations; or

(b) a storage of hazardous substances or preparations at any place, installation, premises, building or area of land, whether isolated or within an establishment, being a site used for the purpose of storage;

"local authority" means any city council, municipal council, district council, town council, town board, local council, rural board or other similar local authority established by any written law and includes an authority in charge of a Federal Territory established by any written law;

"major accident" means an occurrence including, in particular, a major emission, fire or explosion resulting from uncontrolled development in the course of an industrial activity which leads to serious danger to persons, whether immediate or delayed or inside or outside and installation, or to the environment, and involving one or more hazardous substances;

"major hazard installation" means an industrial activity which produces, processes, handles, uses, disposes of or stores, whether permanently or temporarily, one or more hazardous substances or a category or categories of hazardous substances in a quantity or quantities which is or are equal to or exceed the threshold quantity, or an industrial activity which is so determined by the Director General in accordance with subregulation 7(2);

"manufacturer" means an employer or occupier having control of an industrial activity;

"officer" means an occupational safety and health officer appointed under section 5 of the Act;

"port authority" means any port authority established under any written law;

"preparation" means a mixture or solution of two or more substances;

"site" means-

(a) the whole of an area of land under the control of a manufacturer and includes a pier, jetty or similar structure, whether floating on water or not; or

(b) a structure, whether floating on water or not, which is under the control of manufacturer;

"threshold quantity", in relation to a given hazardous substance or a category or categories which is or are equal to the amount set out in Schedule 2.

4. Limitation of power of officer.

All powers conferred and duties imposed upon the Director General under these Regulations may be exercised by an officer except those specified in subregulation 7(2) and regulation 13.

5. Obligations of manufacturer and employee.

(1) Every manufacturer who undertakes an industrial activity shall-

(a) comply with the requirements of these Regulations;

(b) as soon as he becomes aware of an imminent danger which may affect the safety of persons or the environment, take immediate action to rectify the situation; and

(c) establish and maintain a good management system for controlling any major accident as described in the report made under subregulation 14(1) and regulation 16.

(2) Every employee shall-

(a) co-operate with the manufacturer in complying with the requirements of these Regulations;

(b) act in such manner so as not to endanger himself or to cause or be likely to cause bodily injury to himself or to other persons, or damage to life and property; and

(c) notify the manufacturer as soon as he becomes aware of any potential hazard he considers is capable of generating a major accident, and shall have the right to notify an officer of the potential hazard.

PART II IDENTIFICATION AND NOTIFICATION OF AN INDUSTRIAL ACTIVITY

6. Application.

This Part shall apply to an industrial activity in which there is involved or likely to be involved a hazardous substance.

7. Identification and notification.

(1) Every manufacturer shall-

(a) identify an industrial activity within his control; and

(b) submit to the Director General the Notification of Industrial Activity Form (hereinafter referred to as the "Notification") specified in Schedule 5-

(i) within three months after the commencement of these Regulations in respect of an existing installation or an installation which is under construction; or

(ii) in respect of a new installation after the commencement of these Regulations, within a month before the construction thereof.

(2) Upon receiving the Notification, the Director General may determine that the installation-

(a) is a major hazard installation even though the quantity of the hazardous substance as listed in Part 1 of Schedule 2 or the substances and preparations falling within a category or categories specified in Part 2 of Schedule 2 is or are less than the threshold quantity if, in his opinion, the installation may cause a major accident; or

(b) is not a major hazard installation even though the quantity of the hazardous substance listed in Part 1 of Schedule 2 or the substances and preparations falling within a category or categories specified in Part 2 of Schedule 2 is or are equal to or exceed the threshold quantity if, in his opinion, the installation is incapable of causing a major accident.

8. Notification of change.

The manufacturer shall immediately notify the Director General of any change in any of the particulars furnished in the Notification including an increase or a reduction in the maximum quantity of any hazardous substance which is or is likely to be at the site or in the pipeline, or the cessation of an industrial activity, by resubmitting the Notification.

PART III DEMONSTRATION OF SAFE OPERATION FOR NON-MAJOR HAZARD INSTALLATION

9. Application.

This Part shall apply to-

- (a) an industrial activity in which there is involved or likely to be involved-
 - (i) for a hazardous substance listed in Part 1 of Schedule 2, a quantity of the hazardous substance which is less than the threshold quantity specified therein; or
 - (ii) for substances and preparations falling within a category or categories specified in Part 2 of Schedule 2, a total quantity of the substances and preparations in the category or categories which is less than the threshold quantity specified therein and which is not determined as a major hazard installation under paragraph 7(2)(a); and
- (b) an installation which is determined as a non-major hazard installation by the Director General under paragraph 7(2)(b).

10. Demonstration of safe operation.

A manufacturer who has control of an industrial activity to which this Part applies shall, at any time, at the request of the Director General, provide evidence including the production of documents to show that he has-

- (a) identified the possible major accident hazards; and
- (b) taken adequate steps to-
 - (i) prevent any major accident or minimize its consequences to persons and the environment; and
 - (ii) provide persons working on the site with the information, training and equipment necessary to ensure their safety; and
- (c) prepared and kept up to date an adequate on-site emergency plan detailing how major accidents will be dealt with.

11. Review of demonstration of safe operation.

The Director General may require the manufacturer to submit documents on the demonstration of the safe operation of his industrial activity prepared in pursuance of regulation 10 and may review the documents; in the event the Director General is of the opinion that the documents submitted are not

satisfactory, he shall direct in writing for the manufacturer to provide additional information within such time as he may specify.

PART IV
REPORT ON INDUSTRIAL ACTIVITY AND PREPARATION OF EMERGENCY
PLAN FOR MAJOR HAZARD INSTALLATION

12. Application.

This Part shall apply to-

(a) an industrial activity in which there is involved or likely to be involved-

(i) for a hazardous substance listed in Part 1 of Schedule 2, a quantity of the hazardous substance which is equal to or exceed the threshold quantity specified therein; or

(ii) for substances and preparations falling within a category or categories specified in Part 2 of Schedule 2, a total quantity of the substances and preparations in the category or categories which is equal to or exceed the threshold quantity specified therein,

and which is not determined as a non-major hazard installation by the Director General under paragraph 7(2)(b); or

(b) an industrial activity which is determined as a major hazard installation by the Director General under paragraph 7(2)(a).

13. Registration of Competent Person.

(1) The Director General shall specify the qualifications of, and register, the persons to be appointed for the purposes of carrying out the functions of a Competent Person under this Part.

(2) The Director General shall maintain a Register of Competent Persons and shall cause to be published annually in the Gazette the names of the persons so registered and the revocation of any such registration.

14. Report on industrial activity.

(1) A manufacturer shall not undertake an industrial activity to which this Part applies unless he has consulted a Competent Person to prepare a written report containing the information as specified in Schedule 6, and has sent a copy of the report to the Director General at least three months before commencing the activity or within such shorter period as the Director General may consent in writing.

(2) Where a manufacturer-

(a) has commenced an industrial activity before the commencement of these Regulations; or

(b) has commenced construction of an industrial installation for the purpose of an industrial activity six months before the commencement of these Regulations,

it shall be a sufficient compliance of subregulation (1) if the manufacturer sends to the Director General a copy of the report within twelve months after the commencement of these Regulations or within such longer period as the Director General may consent in writing.

(3) Where an industrial activity has been determined as a major hazard installation under paragraph 7(2)(a), the manufacturer shall send a copy of the report to the Director General within twelve months from the date of the determination or within such longer period as the Director General may consent in writing.

15. Modification.

(1) Where a manufacturer has made a report in pursuance of subregulation 14(1), he shall not make any modification to the industrial activity to which the report relates which can materially affect the particulars in the report unless he has consulted a Competent Person to prepare a further written report to take into account the modifications and has sent a copy of the report to the Director General at least three months before making the modifications or within such shorter period as the Director General may consent in writing.

(2) Notwithstanding subregulation (1) a manufacturer shall be entitled to take urgent and remedial action with respect to an industrial activity in order to put an end to or prevent imminent danger to life and property, and shall, as soon as possible, submit a report to the Director General to account for the action taken.

16. Updating of report.

Where a manufacturer has made a report in pursuance of subregulation 14(1) or 15(1) and the industrial activity is continuing, the manufacturer shall within three years from the date of the last report consult a Competent Person to make a further report which shall have regard in particular to new technical knowledge which materially affects the particulars in the previous report relating to safety and development in the knowledge of hazard assessment, and shall within one month after the expiry of the three-year period or within such longer period as the Director General may consent in writing send a copy of the latest report to the Director General.

17. Review of report.

The Director General may review the reports submitted to him pursuant to subregulations 14(1), 15(1) and regulation 16 and shall, if he is of the opinion that the information submitted is not satisfactory, direct the manufacturer in writing to submit further information within such time as he may specify.

18. On-site emergency plan.

(1) A manufacturer who has control of an industrial activity to which this Part applies shall, after consulting a Competent Person, prepare and keep an up-to-date and adequate on-site emergency plan detailing how major accidents are to be dealt with on the site on which the industrial activity is carried on, and the plan shall include the name of the person who is responsible for safety on the site and the names of those who are authorised to take action pursuant to the plan in the event of an emergency.

(2) The manufacturer shall ensure that the on-site emergency plan prepared in pursuance of subregulation (1) is constantly updated to take into account any material change made in the industrial activity and that every person on the site who is affected by the plan is informed of its relevant provisions.

(3) The manufacturer shall prepare and submit the on-site emergency plan to the Director General-

(a) at least three months before the commencement of the industrial activity;

(b) in the case of an industrial activity which has commenced before the commencement of these Regulations, within three months of the commencement thereof or within such longer periods as the Director General may consent in writing; or

(c) in the case of an industrial activity which has been determined as a major hazard installation by the Director General under paragraph 7(2)(a), within three months from the date of the determination or within such longer period as the Director General may consent in writing.

19. Updating of on-site emergency plan.

Where a manufacturer has prepared an on-site emergency plan in pursuance of subregulation 18(1) and the industrial activity concerned is continuing, the manufacturer shall update the on-site emergency plan as part of the report required under regulation 16.

20. Review of on-site emergency plan.

The Director General may review the on-site emergency plan submitted to him pursuant to subregulation 18(1) and regulation 19, and shall, if he is of the opinion that the plan submitted is not satisfactory, direct the manufacturer in writing to improve the emergency plan within such time as he may specify.

21. Off-site emergency plan.

(1) A manufacturer who has control of an industrial activity to which this Part applies shall inform the local authority or port authority of the area that his industrial activity is considered capable of producing a major accident hazard and of the need for the preparation of an off-site emergency plan for the area surrounding his site which may be likely to be affected by a major accident.

(2) In pursuance of subregulation (1) the manufacturer shall-

(a) in the case of an industrial activity which has commenced before the commencement of these Regulations, inform the local authority or port authority within three months of the commencement thereof, or in the case of an industrial activity which has been determined as a major hazard installation by the Director General under paragraph 7(2)(a), within three months from the date of the determination;

(b) provide the local authority or port authority with the information relating to the industrial activity under his control as the local authority or port authority may reasonably require including the nature, extent and likely effects off-site of any possible major accident; and

(c) afford to the local authority or port authority upon request all reasonable facilities for the preparation and implementation of an off-site emergency plan.

(3) The local authority or port authority may upon receiving the information prepare and keep an up-to-date and adequate off-site emergency plan.

22. Information to the public.

(1) It shall be the duty of a manufacturer who has control of an industrial activity to which this Part applies to ensure that persons outside the site who are likely to be in an area which, in the opinion of the Director General, is likely to be affected by a major accident occurring at the site, are supplied in an appropriate manner with at least the information specified in Schedule 3 without their having to request for it.

(2) Without prejudice to its duty under subregulation (1), the manufacturer shall endeavour to enter into an agreement with the local authority or port authority in whose area the industrial activity is situated for the local authority or port authority to disseminate the information specified in Schedule 3 to the persons concerned but the manufacturer shall remain responsible for the accuracy, completeness and form of the information supplied.

(3) The manufacturer shall ensure that the information supplied in accordance with subregulation (1) is updated and re-supplied at appropriate intervals.

(4) The manufacturer shall take all necessary steps to comply with subregulations (1) and (2) before commencing the industrial activity except that -

(a) in the case of an industrial activity which has already commenced before the commencement of these Regulations, it shall be a sufficient compliance if the manufacturer takes the necessary steps within six months after the commencement of the Regulations; or

(b) in the case of an industrial activity which has been determined as a major hazard installation by the Director General under paragraph 7(2)(a), it shall be a sufficient compliance if the manufacturer takes the necessary steps within six months from the date of the determination thereof.

PART V NOTIFICATION OF MAJOR ACCIDENT

23. Notification of major accident.

Where a major accident occurs on a site a manufacturer shall notify the nearest occupational safety and health office of the accident by the quickest means available and the manufacturer who makes the notification shall provide-

(a) the following information relating to the accident as soon as it becomes available:

(i) the circumstances of the accident;

(ii) the hazardous substances involved;

(iii) the date available for assessing the effects of the accident on persons and the environment; and

(iv) the emergency measures taken; and

(b) a statement of the steps envisaged to alleviate medium or long term effects of the accidents, if any, and prevent the recurrence of such an accident.

**PART VI
PENALTY**

24. Penalty.

(1) A manufacturer who commits an offence against any of the provisions of these Regulations for which no corresponding penalty is provided by the Act shall, on conviction, be liable to a fine not exceeding fifty thousand ringgit or to a term of imprisonment not exceeding two years or to both.

(2) An employee who commits an offence against any of the provisions of these Regulations for which no corresponding penalty is provided by the Act shall, on conviction, be liable to a fine not exceeding one thousand ringgit or to a term of imprisonment not exceeding three months or to both.

SCHEDULE 1

(Regulation 2)

INDICATIVE CRITERIA

1. Very Toxic Substances

(a) Substances which correspond to line 1 of the table below; and

(b) Substances which correspond to line 2 of the table below and which, owing to their physical and chemical properties, are capable of producing major accident hazards similar to those caused by the substances mentioned in line 1:

	<i>LD50 (oral) mg/kg body weight</i>	<i>LD50 (cutaneous) mg/kg body weight</i>	<i>LC50 mg/1 (inhalation)</i>
1.	$LD50 \leq 5$	$LD50 \leq 10$	$LC50 \leq 0.1$
2.	$5 < LD50 \leq 25$	$10 < LD50 \leq 50$	$0.1 < LC50 \leq 0.5$

2. Other Toxic Substances

Substances with the following values of acute toxicity as shown in the table below and having physical and chemical properties capable of producing major accident hazards:

	<i>LD50 (oral) mg/kg body weight</i>	<i>LD50 (cutaneous) mg/kg body weight</i>	<i>LC50 mg/1 (inhalation)</i>
1.	$25 < LD50 \leq 200$	$50 < LD50 \leq 400$	$0.5 < LC50 \leq 2$

3. Flammable Substances

(a) Flammable gases

— substances which in the gaseous state at normal pressure and mixed with air become flammable and the boiling point of which at normal pressure is 20 degree celcius or below;

(b) Highly flammable liquids

— substances which have a flash point lower than 21 degrees celcius and the boiling point of which at normal pressure is above 20 degrees celcius; and

(c) Flammable liquids

— substances which have a flash point lower than 55 degrees celcius and which remain liquid under pressure and where under particular processing conditions such as high pressure and high temperature, may create major accident hazards.

4. Explosive Substances

— substances which may explode under the effect of flame or which are more sensitive to shocks or friction than dinitrobenzene.

5. Oxidizing substances

— substances which give rise to highly exothermic reaction when in contact with other substances particularly flammable substances.

For the purpose of this Schedule-

LD50 (oral) means a dose of a substance in mg/kg of body weight that produces death in 50% of a given experimental animal population;

LD50 (cutaneous) means a dose of a substance in mg/kg of body weight that produces death in 50% of a given experimental animal population; and

LC50 means a concentration of a substance in air that is estimated to produce death after inhalation for four hours in 50% of a given experimental animal population.

SCHEDULE 2

(Regulation 2)

LIST OF SUBSTANCES AND QUANTITIES

The quantities set out below relate to each installation or group of installations belonging to the same manufacturer where the distance between the installations is not sufficient to avoid, in foreseeable circumstances, any aggravation of major accident hazards. The quantities apply in any case to each group of installations belonging to the same manufacturer where the distance between the installations is less than 500 metres.

Part 1: Named Substances

Where a substance or group of substances listed in Part 1 also falls within a category of Part 2 the quantities set out in Part 1 shall be used.

Substance

Threshold Quantity

Group 1 - Toxic Substances (quantity \leq 1 tonne)

Aldicarb	100 kilograms
4-Aminodiphenyl	1 kilogram
Amiton	1 kilogram
Anabasine	100 kilograms
Arsenic pentoxide, arsenic (V) acid and salts	500 kilograms
Arsenic trioxide, arsenious (III) acid and salts	100 kilograms
Arsine (Arsenic hydride)	10 kilograms
Azinphos-ethyl	100 kilograms
Azinphos-methyl	100 kilograms
Benzidine	1 kilogram
Benzidine salts	1 kilogram

Beryllium (powders, compounds)	10 kilograms
Bis (2-chloroethyl) sulphide	1 kilogram
Bis (chloromethyl) ether	1 kilogram
Carbofuran	100 kilograms
Carbophenothion	100 kilograms
Chlorfenvinphos	100 kilograms
4-(Chloroformyl) morpholine	1 kilogram
Chloromethyl methyl ether	1 kilogram
Cobalt (metal, oxides, carbonates and sulphides as powders)	1 tonne
	100 kilograms
Crimidine	
Cyanthoate	100 kilograms
Cychloheximide	100 kilograms
Demeton	100 kilograms
Dialifos	100 kilograms
00-Diethyl S-ethylsulphinylmethyl phosphorothioate	100 kilograms
00-Diethyl S-ethylsulphonylmethyls phosphorothioate	100 kilograms
00-Diethyl S-ethylthiomethyl phosphorothioate	100 kilograms
00-Diethyl S-isopropylthiomethyl phosphorothioate	100 kilograms
00-Diethyl S-propylthiomethyl phosphorodithioate	100 kilograms
Dimefox	100 kilograms
Dimethylcarbamoyl chloride	1 kilogram
Dimethylnitrosamine	1 kilogram
Dimethyl phosphoramidocyanidic acid	1 tonne
Diphacinone	100 kilograms
Disulfoton	100 kilograms
EPN	100 kilograms
Ethion	100 kilograms
Fensulfothion	100 kilograms
Fluometil	100 kilograms
Fluoroacetic acid	1 kilogram
Fluoroacetic acid, salts	1 kilogram
Fluoroacetic acid, esters	1 kilogram
Fluoroacetic acid, amides	1 kilogram
4-Fluorobutyric acid	1 kilogram
4-Fluorobutyric acid, salts	1 kilogram
4-Fluorobutyric acid, esters	1 kilogram
4-Fluorobutyric acid, amides	1 kilogram
4-Fluorocrotonic acid	1 kilogram
4-Fluorocrotonic acid, salts	1 kilogram
4-Fluorocrotonic acid, esters	1 kilogram
4-Fluorocrotonic acid, amides	1 kilogram
4-Fluoro-2-hydroxybutyric acid	1 kilogram
4-Fluoro-2-hydroxybutyric acid, salts	1 kilogram
4-Fluoro-2-hydroxybutyric acid, esters	1 kilogram
4-Fluoro-2-hydroxybutyric acid, amides	1 kilogram
Gltcolonitrile (Hydroxyacetoneitrile)	100 kilograms
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	100 kilograms
Hexamethylphosphoramide	1 kilogram
Hydrogen selenide	10 kilograms
Isobenzan	100 kilograms
Isodrin	100 kilograms
Juglone (5-Hydroxynaphthalene-1,4-dione)	100 kilograms
4,4'-Methylenebis (2-chloroaniline)	10 kilograms
Methyl isocyanate	150 kilograms
Mevinphos	100 kilograms
2-Naphthylamine	1 kilogram
Nickel metal, oxides, carbonates and sulphides as powders	1 tonne

Nickel tetracarbonyl	10 kilograms
Oxydisulfoton	100 kilograms
Oxygen difluoride	10 kilograms
Paraoxon (Diethyl 4-nitro-phenyl phosphate)	100 kilograms
Parathion	100 kilograms
Parathion-methyl	100 kilograms
Pentaborane	100 kilograms
Phorate	100 kilograms
Phosacetim	100 kilograms
Phosgene (Carbonyl chloride)	750 kilograms
Phosphamidon	100 kilograms
Phosphine (Hydrogen phosphide)	100 kilograms
Promurit (1-(3,4-Dichlorophenyl)-3-triazenethio-carboxamide)	100 kilograms
1,3-Propanesultone	1 kilogram
1-Propen-2-chloro-1,3-diol diacetate	10 kilograms
Pyrazoxon	100 kilograms
Selenium hexafluoride	10 kilograms
Sodium selenite	100 kilograms
Stibine (Antimony hydride)	100 kilograms
Sulfotep	100 kilograms
Sulphur dichloride	1 tonne
Tellurium hexafluoride	100 kilograms
TEPP	100 kilograms
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1 kilogram
Tetramethylene-disulphotetramine	1 kilogram
Thionazin	100 kilograms
Tirpate (2,4-Dimethyl-1,3-dithiolane-2-carboxadihyde 0-methylcarbamoyloxime)	100 kilograms
Trichloromethanesuphenyl chloride	100 kilograms
1-Tri(cyclohexy)stannyl-1 H-1,2,4-triazole	100 kilograms
Triethylenemelamine	10 kilograms
Warfarin	100 kilograms

Group 2 - Toxic Substances (quantity > 1 tonne)

Acetone cyanohydrin (2-Cyanopropan-2-ol)	200 tonnes
Acrolein (2-Propenal)	200 tonnes
Acrylonitrile	20 tonnes
Allyl alcohol (2-Propen-1-ol)	200 tonnes
Allyamine	200 tonnes
Ammonia	100 tonnes
Bromine	10 tonnes
Carbon disulphide	200 tonnes
Chlorine	10 tonnes
Diphenyl methane di-isocynate (MDI)	200 tonnes
Ethylene dibromide (1,2-Dibromoethane)	50 tonnes
Ethyleneimine	50 tonnes
Formaldehyde (concentration > 90%)	20 tonnes
Hydrogen chloride (liquefied gas)	250 tonnes
Hydrogen cyanide	20 tonnes
Hydrogen fluoride	50 tonnes
Hydrogen sulphide	50 tonnes
Methyl bromide (Bromomethane)	200 tonnes
Nitrogen oxides	50 tonnes
Propyleneimine	50 tonnes
Sulphur dioxide	20 tonnes
Sulphur Trioxide	20 tonnes
Tetraethyl lead	50 tonnes
Tetramethyl lead	50 tonnes

Toluene di-isocyanate (TDI) 100 tonnes

Group 3 - Highly Reactive Substances

50 tonnes

Acetylene (Ethyne) 500 tonnes

Ammonium nitrate (a) 1,000 tonnes

Ammonium nitrate (the form of fertilizer) (b) 50 tonnes

2,2-Bis(tert-butylperoxy) butane (concentration > 70%) 50 tonnes

1,1-Bis(tert-butylperoxy) cyclohexane (concentration > 80%) 50 tonnes

Tert-Butyl peroxyacetate (concentration > 70%) 50 tonnes

Tert-Butyl peroxyisobutyrate (concentration > 80%) 50 tonnes

Tert-Butyl peroxy isopropyl carbonate (concentration > 80%) 50 tonnes

Tert-Butyl peroxy maleate (concentration > 80%) 50 tonnes

Tert-Butyl peroxy pivalate (concentration > 77%) 50 tonnes

Dibenzyl peroxydicarbonate (concentration > 90%) 50 tonnes

Di-sec-butyl peroxydicarbonate (concentration > 80%) 50 tonnes

Diethyl peroxydicarbonate (concentration > 30%) 50 tonnes

2,2-Dihydroperoxypropane (concentration > 30%) 50 tonnes

Di-isobutyl peroxide (concentration > 50%) 50 tonnes

Di-n-propyl peroxydicarbonate (concentration > 80%) 50 tonnes

Ethylene oxide 5 tonnes

Ethyl nitrate 50 tonnes

3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetroxacy-clononane (concentration > 75%) 50 tonnes

Hydrogen 10 tonnes

Methyl ethyl ketone peroxide (concentration > 60%) 5 tonnes

Methyl isobutyl ketone peroxide (concentration > 60%) 50 tonnes

Oxygen 500 tonnes

Peracetic acid (concentration > 60%) 50 tonnes

Propylene oxide 50 tonnes

Sodium chlorate 20 tonnes

Group 4 - Explosive Substances

50 tonnes

Barium azide 50 tonnes

Bis (2,4,6-trinitrophenyl)-amine 50 tonnes

Chlorotrinitrobenzene 50 tonnes

Cellulose nitrate (containing > 12.6% nitrogen) 50 tonnes

Cyclotetramethylene-tetranitramine 50 tonnes

Cyclotrimethylene-trinitramine 50 tonnes

Diazodinitrophenol 10 tonnes

Diethylene glycol dinitrate 10 tonnes

Dinitrophenol, salts 50 tonnes

Ethylene glycol dinitrate 10 tonnes

1-Guanyl-4-nitrosaminoguanyl-1-tetrazene 10 tonnes

2,2',4,4',6,6'-Hexanitrostilbene 50 tonnes

Hydrazine nitrate 50 tonnes

Lead azide 50 tonnes

Lead styphnate (lead 2,4,6-trinitroresorcinol) 50 tonnes

Mercury fluminat 10 tonnes

N-Methyl-n,2,4,6-tetranitroaniline 50 tonnes

Pentaerythritol tetranitrate 50 tonnes

Nitroglycerine 10 tonnes

Pentaerythritol tetranitrate 50 tonnes

Picric acid (2,4,6-Trinitrophenol) 50 tonnes

Sodium picramate 50 tonnes

Styphnic acid (2,4,6-trinitroresorcinol) 50 tonnes

1,3,5-Triamino-2,4,6-trinitrobenzene 50 tonnes

Trinitroaniline	50 tonnes
2,4,6-Trinitroanisole	50 tonnes
Trinitrobenzene	50 tonnes
Trinitrobenzene acid	50 tonnes
Trinitrocresol	50 tonnes
2,4,6-Trinitrophenetole	50 tonnes
2,4,6-Trinitrotoluene	50 tonnes

NOTE:

(a) This applies to ammonium nitrate and mixtures of ammonium nitrate where the nitrogen contents derived from the ammonium nitrate is more than 28% by weight and aqueous solutions of ammonium nitrate where the concentration of ammonium nitrate is more than 90% by weight.

(b) This applies to straight ammonium nitrate fertilizers and compound fertilizers where the nitrogen content derived from the ammonium nitrate is more than 28% by weight (a compound fertilizer contains ammonium nitrate together with phosphate and/or potash).

Part 2: Categories of Substances and Preparations not specifically named in Part 1.

The quantities of different substances and preparations of the same category are cumulative. Where there is more than one category specified in the same entry, the quantities of all substances and preparations of the specified categories in that entry shall be summed up.

<i>Categories of Substance</i>	<i>Threshold Quantity</i>
1. Substances and preparations which are classified as 'very toxic' as in item 1 of Schedule 1	5 tonnes
2. Substances and preparations which are classified as 'toxic' as in item 2 of the Schedule 1	10 tonnes
3. Substances and preparations which are classified as 'explosive' as in item 4 of Schedule 1	10 tonnes
4. Substances and preparations which are classified as 'oxidizing' as in item 5 of Schedule 1	10 tonnes
5. Gaseous substances and preparations, including those in liquefied form, which are gaseous at normal pressure and which are classified as 'highly flammable' as in paragraph (a) of item 3 of Schedule 1	50 tonnes
6. Substances and preparations (excluding gaseous substances and preparations covered in item 5 above) which are classified as 'highly flammable' or 'extremely flammable' as in paragraph (b) of item 3 of Schedule 1)	5,000 tonnes
7. Flammable substances as defined in paragraph (c) of item 3 of Schedule 1	200 tonnes

SCHEDULE 3

(Subregulation 22(1))

ITEMS OF INFORMATION TO BE COMMUNICATED TO THE PUBLIC

- (a) Name of manufacturer and address of site of industrial activity.
- (b) Identification by position held of person giving the information.
- (c) Confirmation that the site is subject to these Regulations and that the report referred to in subregulation 15(1) has been submitted to the Director General.
- (d) An explanation in simple terms of the activity undertaken on the site.
- (e) The common names or the generic names of the general danger classification of the substances and preparations involved on the site which could give rise to a major accident with an indication of their principal hazardous characteristics.
- (f) General information relating to the nature of a major accident hazard including its potential effects on the population and the environment.
- (g) Adequate information on how the population concerned will be warned and kept informed in the event of an accident.
- (h) Adequate information on the actions the population concerned should take and on the behaviour they should adopt in the event of an accident.
- (i) Confirmation that the manufacturer is required to make adequate arrangements on the site, including liaison with the emergency services, to deal with accidents and to minimise their effects.
- (j) A reference to the off-site emergency plan drawn up to cope with any off-site effects from a major accident. This shall include advice to co-operate with any instruction or request from the emergency services at the time of a major accident.
- (k) Details of where further relevant information can be obtained subject to the requirements of confidentiality laid down in any national legislation.

SCHEDULE 4

(Regulation 2)

INDUSTRIAL INSTALLATIONS

1. Installations for the production, processing or treatment of organic or inorganic chemicals using for these purposes, amongst others, the following:

- alkylation
- amination by ammonolysis
- carbonylation
- condensation

- dehydrogenation
- esterification
- halogenation and manufacture of halogens
- hydrogenation
- hydrolysis
- oxidation
- polymerization
- sulphonation
- desulphurization, manufacture and transformation of sulphur-containing compounds
- nitration and manufacture of nitrogen-containing compounds
- manufacture of phosphorus-containing compounds
- formulation of pesticides and pharmaceutical products
- distillation
- extraction
- solvation
- mixing.

2. Installations for distillation, refining or other process in processing of petroleum or petroleum products.

3. Installations for the total or partial disposal of solid or liquid substances by incineration or chemical decomposition.

4. Installations for the production, processing or treatment of energy gases, for example, light petroleum gas, light natural gas and synthetic natural gas.

5. Installations for the dry distillation of coal or lignite.

6. Installations for the production of metals or non-metals by a wet process or by means of electrical energy.

7. Installations for the bottling of flammable and toxic substances defined under items 1, 2 and 3 of Schedule 1, for example, light petroleum gas, ammonia, chlorine and acetylene.

SCHEDULE 5

OCCUPATIONAL SAFETY AND HEALTH ACT 1994

OCCUPATIONAL SAFETY AND HEALTH (CONTROL OF INDUSTRIAL MAJOR ACCIDENT HAZARDS) REGULATIONS 1996

(Paragraph 7(1)(b))

NOTIFICATION OF INDUSTRIAL ACTIVITY FORM

I, the undersigned hereby give notice of the industrial activity concerned particulars of which are as given below:

A. Particulars of Installation

1. Name of Manufacturer	
2. Address of Installation	
3. Date of commencement of operation	
4. Name and address of local authority or port authority having statutory jurisdiction over the area where installation is situated	
5. Description of the industrial activity carried on or intended to be carried on	(Use Form A)

B. Quantity of Hazardous Substances at the Installation

<i>Substances</i>	<i>Maximum Quantity likely on site</i>	<i>Nature of Substances (raw materials, finished product, intermediate product or by-product)</i>	<i>Hazardous Criteria as indicated in Schedule 1 or 2</i>

NOTE:

(a) Each substance listed in the table above shall be attached with a Material Safety Data Sheet.

(b) Use additional sheet if required.

C. Particulars of Manufacturer making the Notification

(1) Name:

(2) NRIC No:

(3) Designation:

(4) Address:

(5) Date:

I certify that the information provided is true and correct to the best of my knowledge/I have ceased operation.*

.....
(Signature)

FORM A

<i>Industrial Installations</i>	<i>Please tick (/) processes applicable to your installation</i>
1. Installations for the production, processing or treatment of organic or inorganic chemicals using for these purposes, amongst others-	
— alkylation	
— amination by ammonolysis	
— carbonylation	
— condensation	
— dehydrogenation	
— esterification	
— halogenation and manufacture of halogens	
— hydrogenation	
— hydrolysis	
— oxidation	
— polymerization	
— sulphonation	
— desulphurization, manufacture and transformation of sulphur-containing compounds	
— nitration and manufacture of nitrogen-containing compounds	
— manufacture of phosphorus-containing compounds	
— formulation of pesticides and pharmaceutical products	
— distillation	
— extraction	
— solvation	
— mixing.	
2. Installations for distillation, refining or other process in processing of petroleum or petroleum products.	
3. Installations for the total or partial disposal of solid or liquid substances by incineration or chemical decomposition.	
4. Installations for the production, processing or treatment of energy gases, for example, light petroleum gas, light natural gas and synthetic natural gas.	
5. Installations for the dry distillation of coal or lignite.	
6. Installations for the production of metals or non-metals by a wet process or by means of electrical energy.	
7. Installations for the bottling of flammable and toxic substances defined under items 1, 2 and 3 of Schedule 1, for example, light petroleum gas, ammonia, chlorine and acetylene.	

SCHEDULE 6

(Subregulation 14(1) and 15(1))

INFORMATION TO BE INCLUDED IN THE REPORT ON INDUSTRIAL ACTIVITY

The report on industrial activity under subregulations 14(1) and 15(1) shall contain the following information:

(a) information relating to every hazardous substance involved in the industrial activity and its relevant quantity as listed in Schedule 2, namely-

(i) the name of the hazardous substance as given in Schedule 2 or, for a hazardous substance included under a general designation, the name corresponding to the chemical formula of the hazardous substance;

(ii) a general description of the analytical method available to the manufacturer in determining the presence of the hazardous substance or references to such method in the scientific literature;

(iii) a brief description of the hazards which may be created by the hazardous substance; and

(iv) the degree of purity of the hazardous substance and the names of its main impurities and their percentages;

(b) information relating to the installation, namely-

(i) a map of the site and its surrounding area to a scale large enough to show any feature that may be significant in the assessment of the hazard or risk associated with the site;

(ii) a scale plan of the site showing the locations and quantities of all significant inventories of the hazardous substance;

(iii) a description of the processes or storage involving the hazardous substance and an indication of the conditions under which it is normally held;

(iv) the maximum number of persons likely to be present on the site;

(v) information about the nature of the land use and the size and distribution of the population in the vicinity of the industrial activity to which the report relates; and

(vi) information on the nearest emergency services (fire station, hospital, police station, community hall, etc.);

(c) information relating to the system of management for controlling the industrial activity, namely-

(i) the staffing arrangements for controlling the industrial activity with the name of the person responsible for safety on the site and the names of the persons who are authorised to set emergency procedures in motion and to inform outside authorities;

(ii) the arrangements made to ensure that the means provided for the safe operation of the industrial activity are properly designed, constructed, tested, operated, inspected and maintained; and

(iii) the arrangements for training persons working on the site; and

(d) information relating to a potential major accident in the form of risk assessment which contains the following:

(i) a description of the potential sources of a major accident and the conditions or events which could be significant in giving rise to one;

(ii) a diagram of the plant in which the industrial activity is carried on sufficient to show the features which are significant as regards the potential for a major accident or its prevention or control;

(iii) a description of the measures taken to prevent, control or minimise the consequences of a major accident;

(iv) information about the prevailing meteorological conditions in the vicinity of the site;

(v) an estimate of the number of people on-site and off-site who may be exposed to the hazards considered in the report; and

(vi) the consequences to the surrounding areas in the form of appropriate risk measures where possible.

Made 20 January 1996.

[KSM (Sulit) 32/1/2/5/33; PN. (PU?) 54.]

DATO' LIM AH LEK,
Minister of Human Resources