

DGSM INFORMATION PAPER NO. 2



MANIFESTS FOR DANGEROUS GOODS STORAGE

**UNDER THE
*DANGEROUS GOODS SAFETY MANAGEMENT ACT 2001***

January 2002

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1. INTRODUCTION

When emergency services respond to fires and chemical spills in premises that store dangerous goods and combustible liquids, the responders need to know the potential hazards involved at such incidents. For effective and efficient emergency action, they need information about the type, quantity and locations of the dangerous goods and combustible liquids stored at the premises.

Manifests are a means of providing this information, and should be a part of an overall safety management strategy for premises storing or handling dangerous goods.

After commencement of the *Dangerous Goods Safety Management Regulation 2001* (DGSM Regulation) on 7 May 2002, premises storing dangerous goods and combustible liquids in quantities exceeding prescribed quantities are to provide a manifest.

Manifests should not be confused with dangerous goods registers which are a list of all stated dangerous goods or combustible liquids stored or handled at the facility including a MSDS for each of the stated dangerous goods. A register is to be made readily accessible to persons in the facility work areas where dangerous goods are stored or handled, whereas a manifest is kept for access by emergency services. Registers are discussed further in Section 4 of this information paper.

1.1 LEGISLATIVE BACKGROUND

Under section 58 of the DGSM Regulation, a manifest must be provided at a premises which is a Large Dangerous Goods Location (Large DGL) or Major Hazard Facility (MHF). A premises is a Large DGL when the quantity of stated dangerous goods and combustible liquids stored at the premises exceeds the prescribed quantities listed in Column 4 of the Table in Schedule 1 of the DGSM Regulation (see **Appendix 1**). A premises is a MHF when the quantity of dangerous goods stored at the premises exceeds the prescribed quantities listed in Schedule 2 of the DGSM Regulation. Locations and workplaces that are not a Large DGL or a MHF are not required to have manifests.

Under section 41 of the DGSM Regulation, a register for dangerous goods is required for **all** premises where dangerous goods and combustible liquids are stored and handled. This register can be combined with the register of hazardous substances required under the *Workplace Health and Safety (Miscellaneous) Regulation 1995 - Part 13 Hazardous Substances*.

2. DEFINITIONS

ADG Code means the document known as the Australian Dangerous Goods Code comprising the Australian Code for the Transport of Dangerous Goods by Road and Rail (6th Edition or a later prescribed edition) as amended from time to time.

Aerosol means a non-refillable metal aerosol dispenser, pressurised by liquefied, dissolved or compressed propellant gas.

Class means the hazard class of the dangerous goods as stated in the ADG Code. Where a class has sub-divisions, the term includes the sub-divisions.

Cryogenic Liquid means a liquefied gas having a boiling point below -90°C at atmospheric pressure.

Dangerous Goods Location (DGL) is a place where the quantity of stated dangerous goods and combustible liquids stored and handled exceeds the prescribed quantities stated in column 3 of the Schedule 1 Table.

Fire risk dangerous goods means dangerous goods of class or sub-risk 2.1, 3, 4.1, 4.2, 4.3, 5.1 or 5.2 which burn readily or support combustion.

Goods Too Dangerous To Be Transported (GTDTBT) means goods listed in Appendix 5 of the ADG Code as goods too dangerous to be transported. These goods are inherently unstable but it may be possible to transport the goods after mixing them with diluents, stabilisers, inhibitors, desensitisers, phlegmatizers, solvents, wetting agents or adulterants to overcome the instability.

Large Dangerous Goods Location (Large DGL) is a place where the quantity of stated dangerous goods and combustible liquids stored and handled exceeds the prescribed quantities stated in the column 4 of the Schedule 1 Table. All the requirements for a DGL apply to a Large DGL.

Major Hazard Facility (MHF) is a place where the quantity of stated dangerous goods and combustible liquids stored and handled exceeds the prescribed quantities stated in Schedule 2 of the DGSM Regulation. All the requirements for a Large DGL apply to a MHF.

Minor Storage workplace means a workplace that is not a DGL or MHF where stated dangerous goods or combustible liquids are stored or handled.

Occupier is an employer or other person who has overall management of the MHF, DGL, facility or other place.

Package means:

- (a) for class 2 dangerous goods, a container having a capacity of not more than 500 litres;
- (b) for other classes of dangerous goods, a container with a capacity of not more than 450 litres and a net mass of not more than 400 kilograms.

The term refers to the complete product consisting of the goods and their packaging for transport.

Packing Group is assigned to dangerous goods (other than Class 1, 2 and 7) according to the degree of risk the goods present.

- PGI – great danger
- PGII – medium danger
- PGIII – minor danger

Schedule 1 Table is the table in Schedule 1 of the DGSM Regulation. Schedule 1 is reproduced in Appendix 1 of this information paper.

Stated Combustible Liquids are:

- (a) C1 combustible liquids, and
- (b) C2 combustible liquids stored with fire risk dangerous goods.

Note: C1 combustible liquids have a flash point >60.5°C to 150°C. C2 combustible liquids have a flash point greater than 150°C. Liquids with flash point 60.5°C or less are class 3 Dangerous Goods.

Stated Dangerous Goods are:

- (a) dangerous goods of classes 2, 3, 4, 5, 6.1, 8 and 9, and
- (b) GTDTBT.

Sub-risk means the subsidiary risk of the dangerous goods, as stated in the ADG Code.

Tank means:

- (a) for class 2 dangerous goods, a container having a capacity of more than 500 litres; or
- (b) for other classes of dangerous goods and for combustible liquids, a container with either a capacity of more than 450 litres or a net mass of more than 400 kilograms.

3. ROLE OF MANIFESTS

The role of the “emergency services” manifest is to inform emergency personnel (primarily fire officers) of the **types, quantities, and locations** of all dangerous goods and combustible liquids stored on site. The manifest provides information on locations by including a site plan. The manifest adds to the information sources available to emergency services, such as **placards** (see *DGSM Information Paper No. 1 - Placarding for Dangerous Goods Storage under the Dangerous Goods Safety Management Act 2001*).

Dangerous goods registers may be of only limited use to the emergency services workers called to a fire or spill as they may contain too much information to be assimilated readily during an emergency. However, an occupier should be able to retrieve MSDSs from the dangerous goods register if additional information is required by the emergency services.

Useful information on emergency services manifests can be found in the National Occupational Health and Safety Commission’s *Guidance Note for Emergency Services Manifests [NOHSC:3010, 1990]*.

3.1 INFORMATION TO BE INCLUDED IN THE MANIFEST

Manifests should be prepared from current stock inventories or dangerous goods registers. The manifest must contain information in accordance with Schedule 4 of the DGSM Regulation. A sample manifest is illustrated in **Appendix 2**.

3.1.1 General Information

The manifest must state:

- the name of the occupier of the MHF or Large DGL;
- the address of the MHF or Large DGL;
- the date when the manifest was prepared or last revised;
- contact details for at least 2 persons who may be contacted in the event of an accident.

In addition, it must give the following information about the dangerous goods and combustible liquids stored at the premises.

3.1.2 Dangerous Goods or Combustible Liquids Stored in Tanks (other than in IBCs)

For dangerous goods and combustible liquids stored in tanks (other than in IBCs), the manifest must include the following information:

- for each tank:
 - its identification number or code;
 - its type and capacity; and
 - details of its contents, as follows;
- for dangerous goods (other than GTDTBT):
 - the proper shipping name;
 - the UN number;
 - the class; and
 - packing group;
- for combustible liquids:
 - the product name; and
 - the words “Combustible Liquid”.
- for GTDTBT:
 - the name of the goods as in Appendix 5 of the ADG Code; and
 - the words “Goods too dangerous to be transported”.

3.1.3 Dangerous Goods or Combustible Liquids stored in Packages or IBCs

For dangerous goods stored in packages and IBCs that are required to have an information placard, the manifest must include the following information:

- for each storage area:
 - its identification number or code;
 - details of dangerous goods and combustible liquids stored or likely to be stored in the area, as follows;
- for dangerous goods of packing group I or of class 2.3:
 - the proper shipping name;
 - the class;
 - the maximum quantity of each of the dangerous goods kept or likely to be kept;
- for GTDTBT:
 - the name of the goods as in Appendix 5 of the ADG Code;
 - the words “Goods too dangerous to be transported”;
 - the maximum quantity of each of the goods kept or likely to be kept;
- for other dangerous goods:
 - the class;
 - the maximum quantity of each class of dangerous goods kept or likely to be kept;
- for combustible liquids:
 - the words “Combustible Liquid”;
 - the maximum quantity of combustible liquids kept or likely to be kept.

3.1.4 Dangerous Goods or Combustible Liquids in Manufacture

For each area where dangerous goods or combustible liquids are manufactured, the manifest must include the following information:

- identification number or code of the area;
- the following information about the materials in manufacture there:
 - for dangerous goods (other than goods too dangerous to be transported):
 - the class;
 - the maximum quantity of each class;
 - for GTDTBT:
 - the words “Goods too dangerous to be transported”;
 - the maximum quantity of the goods;
 - for combustible liquids:
 - the words “Combustible Liquid”; and
 - the maximum quantity of the combustible liquids.

3.1.5 Dangerous Goods in Transit

If the dangerous goods are in transit, and there are dangerous goods shipping documents that comply with the ADG Code available for the goods, the information outlined in sections 3.1.2 and 3.2.3 is taken to be included in the manifest if the shipping documents are attached to the manifest.

3.2 SITE PLANS

The DGSM Regulation (section 8 of Schedule 4) requires that site plans be included in the manifest. The purpose of the plan of the premises is to identify the places, buildings and structures on the premises where dangerous goods are stored and handled as well as detailing significant facility and local community features. It should be easy for emergency services personnel to read. The plan of the premises should be on a scale that adequately illustrates the details required by the Regulation.

The following information is required on a site plan:

- locations and identification number or code of:
 - tanks;
 - storage areas for packaged dangerous goods and dangerous goods in IBCs;
 - areas where dangerous goods are manufactured; and
 - areas where dangerous goods in transit may be located;
- legend for the identification numbers and codes for the above areas;
- main entrance and other entry points to the premises;
- location of essential site services including fire services and isolation points for fuel and power;
- location of manifests for the premises;
- location of all drains on the site; and
- land usage or nature of the occupancy on adjoining sites or premises.

In addition, the following information may be relevant:

- the location of all buildings, amenities, structures and internal roadways on the premises and their uses including environmentally sensitive areas and watercourses;

- areas of public access adjacent to the site and parking (if any);
- public street names adjacent to the premises and evacuation routes;
- nature of fences (if any);
- north point indicator;
- distance scale;
- site topography; and
- location of emergency resources and equipment.

A sample site plan is provided in **Appendix 3**.

3.3 LOCATION OF MANIFEST AND SITE PLANS

Manifests and site plans are required to be kept in a red weatherproof container (commonly known as a hazmat box). An example of a hazmat box is shown below:



Figure 1: A Hazmat Box

The box must be located inside and as close as practicable to, the main entry to the occupiers facility or location so that it is easily accessible to emergency services personnel (section 60 of the DGSM Regulation).

It is recommended that the Hazmat box be located on the left hand side as you enter the premises so the fire officer riding on the left side of the fire appliance can easily obtain the manifest. Consultation with the local fire station of the QFRS is advisable regarding its location. The Hazmat box should be located near the outer warning placard, unless otherwise agreed with the emergency services. If more than one entry point is used regularly (e.g. two street access) it may be necessary to have a box at each entry.

3.3.1 HAZMAT Boxes

It is recommended that the Hazmat box have the minimum dimensions: 400 mm x 300 mm x 90 mm deep. The box should be signal red in colour preferably with 100 mm white letters stating "HAZMAT". It should be mounted securely, for example, on a steel post and concreted in position. For security, a 003 series lock should be installed on the box to enable the emergency services to open the lock as desired. Details of such locks are available from the QFRS.

4. DANGEROUS GOODS REGISTERS

The DGSM Regulation (section 41) requires that occupiers of premises where stated dangerous goods and combustible liquids are stored keep a dangerous goods register. The register is simply a list of the product names of all stated dangerous goods and combustible

liquids stored and handled in the workplace accompanied by the current MSDS for the stated dangerous goods. If you are required to keep a register by Part 13 - Hazardous Substances of the *Workplace Health and Safety Regulation 1997*, you may combine that register with one required by the DGSM Regulation.

A *register* should not be confused with a *manifest*. A manifest provides information to the fire service in the event of an emergency while a register provides information to assist you in the management of dangerous goods in your workplace.

The only stated dangerous goods or combustible liquids that do not have to be included in the register are:

- goods in packages of a size not large enough to need to be marked under the ADG Code; and
- goods in transit.

The register must be maintained to ensure it is current. Update the register when:

- new dangerous goods are introduced to the workplace;
- the use of existing dangerous goods is discontinued; and
- the manufacturer, importer or supplier provides a revised MSDS.

Since manufacturers and importers are required to review, and where necessary, revise MSDS at least every 5 years, all MSDS in the register or otherwise accessible in the workplace should have issue dates within the last 5 years.

If the use of a dangerous goods is to be permanently discontinued, you should remove it from the register. Goods used periodically or seasonally do not need to be removed from the register.

The register must be readily accessible to any employee at the premises and any other person who is likely to be affected by the dangerous goods on the premises. Keep it in a central location, or provide a copy of it to each work area.

If a person ceases to be the occupier of a DGL or MHF and a new occupier assumes responsibility of the DGL or MHF, the register must be provided to the new occupier as stated in section 42 of the DGSM Regulation.

5. FURTHER INFORMATION AND ASSISTANCE

This information paper provides general information only. For further information, contact your local office of the Division of Workplace Health and Safety after 7 May 2002.

Any enquiries relating to this information paper may be directed to the Dangerous Goods Section of the CHEM Services.

Postal Address

Chemical Hazards and Emergency Management Services
Department of Emergency Services
GPO Box 1425
BRISBANE QLD 4001

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Emergency Services Complex
Cnr Kedron Park and Park Roads
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APPENDIX 1 SCHEDULE 1 OF THE DGSM REGULATION

PRESCRIPTION FOR DANGEROUS GOODS LOCATIONS AND LARGE DANGEROUS GOODS LOCATIONS

1 What are stated dangerous goods or combustible liquids

The dangerous goods or combustible liquids mentioned in columns 1 and 2 of the table in this schedule are stated dangerous goods or combustible liquids with the following exceptions—

- (a) batteries while they are in use;
- (b) dangerous goods or combustible liquids in a fuel container that is fitted to a vehicle or boat;
- (c) dangerous goods in the form of an appliance or plant that forms part of a vehicle or boat and is necessary for its operation;
- (d) dangerous goods in portable fire fighting equipment, portable safety equipment or portable medical equipment for use at particular premises;
- (e) class 2.1 dangerous goods if stored as fuel for a domestic appliance at a place principally used for residential purposes.

2 When is a place a dangerous goods location

(1) A place, other than a rural place, is a dangerous goods location if the quantity stored or handled at the place, or likely to be stored or handled at the place, of the stated dangerous goods or combustible liquids mentioned in columns 1 and 2 of the table in this schedule is equal to or more than the quantity in column 3 opposite the goods or liquids.

- (2) In this section—
“rural place” means a place—
- (a) that has an area of 5 ha or more; and
 - (b) used by its occupier for agricultural, horticultural, floricultural, aquacultural or pastoral purposes; and
 - (c) at which there are no stated dangerous goods or combustible liquids being stored for resale.

3 When is a dangerous goods location a large dangerous goods location

A dangerous goods location is a large dangerous goods location if the quantity stored or handled at the location, or likely to be stored or handled at the location, of stated dangerous goods or combustible liquids mentioned in columns 1 and 2 of the table in this schedule, is equal to or more than the quantity in column 4 opposite the goods or liquids.

	Column 1	Column 2	Column 3	Column 4
Item	Stated dangerous goods or combustible liquids	Packing group	Quantity for dangerous goods location	Quantity for a large dangerous goods location
1.	Class 2 . Class 2.1 . Class 2.2 - Subsidiary Risk 5.1 . Class 2.2 - Other . Class 2.3 Aerosols Cryogenic Fluids	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	500 L 2 000 L 5 000 L 50 L 5 000 L 1 000 L	5 000 L 10 000 L 10 000 L 500 L 10 000 L 10 000 L
2.	Any one of class 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1 or 8	I	50 kg or L	500 kg or L
II		250 kg or L	2 500 kg or L	
III		1 000 kg or L	10 000 kg or L	
Mixed packing groups in a single class with the quantity of each packing group below the quantity specified for the packing group.		1 000 kg or L	10 000 kg or L	
3.	Class 9	II	1 000 kg or L	10 000 kg or L
III		5 000 kg or L	10 000 kg or L	
Mixed packing groups in class 9 with the quantity of each packing group below the quantity specified for the packing group		5 000 kg or L	10 000 kg or L	
4(a).	Mixed classes of stated dangerous goods where none of the classes, types or packing groups (if any) present exceeds the quantities specified in items 1, 2 and 3 of this table.	Not applicable	2 000 kg or L Where the quantity specified in this schedule for each of the classes is 2 000 kg or L or less.	10 000 kg or L
4(b).	Mixed classes of stated dangerous goods where none of the classes, types or packing groups (if any) present exceeds the quantities specified in items 1, 2 and 3 of this table.	Not applicable	5 000 kg or L Where the quantity specified in this schedule for one or more of the classes is 5 000 kg or L and placarding is not required for Items 1, 2, 3 and 4(a).	10 000 kg or L
5.	Goods too dangerous to be transported	Not applicable	5 kg or L	50 kg or L
6.	Combustible liquids with fire risk dangerous goods	Not applicable	1 000 kg or L Includes both C1 and C2	10 000 kg or L Includes both C1 and C2
7.	C1 combustible liquids	Not applicable	10 000 L in a tank 50 000 L in packages 50 000 L in tanks and packages combined provided the quantity of C1s in tanks does not exceed 10 000 L	100 000 L in tanks or packages

4 How to calculate quantity of stated dangerous goods or combustible liquids in packages

- (1) For the table in this schedule, the quantity of stated dangerous goods or combustible liquids in packages must be calculated under this section.
- (2) For non-liquid stated dangerous goods (other than class 2), the quantity is to be calculated by the net mass in kilograms of the goods in the package.
- (3) For liquid stated dangerous goods (other than class 2) or combustible liquids, the quantity is to be calculated by the net capacity of the package.
- (4) For class 2 stated dangerous goods, the quantity is to be calculated by the total capacity of the package.

5 How to calculate quantity of stated dangerous goods or combustible liquids in tanks

- (1) For the table in this schedule, the quantity of stated dangerous goods or combustible liquids in tanks must be calculated under this section.
- (2) For non-liquid stated dangerous goods (other than class 2), the quantity is to be calculated by the mass in kilograms that the tank is designed to hold.
- (3) For liquid stated dangerous goods (other than class 2) or combustible liquids, the quantity is to be calculated by the design capacity of the tank in litres.
- (4) For class 2 stated dangerous goods, the quantity is to be calculated by the total capacity of the tank.

6 How to calculate quantity of solid stated dangerous goods not in a tank or package

For the table in this schedule, the quantity of solid stated dangerous goods not in tanks or packages is the undivided mass of the goods in kilograms.

7 How to calculate quantity of articles or things

For the table in this schedule, the quantity of stated dangerous goods that are part of an article or thing is the net quantity of that part of the article or thing that is stated dangerous goods.

APPENDIX 2**EMERGENCY SERVICES MANIFEST****DANGEROUS GOODS AND COMBUSTIBLE LIQUIDS MANIFEST**Occupier: XYZ CHEMICALS PTY LTDAddress of premises: 123 Cambridge Street, NoidaDate of preparation: 21 September 2001Site Plan Number: SP0124**Emergency contacts**

NAME	POSITION	TELEPHONE
B Wright	Production Supervisor	B/H A/H
A Citizen	Safety Manager	B/H A/H
		B/H A/H

1. BULK STORAGE

Tank Id No.	Dangerous goods					Tank	
	Name	Class	Sub Risk/s	UN No.	PG	Type	Capacity
DG T1	Petrol	3	n/a	1203	II	u/g	30,000 L
DG T3	LP Gas	2.1	n/a	1075	n/a	a/g	3,000 L
DG T4	Hydrogen Peroxide	5.1	8	2014	II	a/g	18,000 L

u/g — underground

a/g — aboveground

n/a — not applicable

2. PACKAGE STORAGE AREAS

2.1 Packaged dangerous goods of Packing Group I or Class 2.3

Storage area	Dangerous goods					Quantity	
	Name	Class	Sub Risk	UN No.	PG	Average	Maximum
PS1	Sodium Picramate	4.1		1349	I	20 kg	50 kg

2.2 Other packaged dangerous goods

Storage area	Class	Sub Risk(s)	Packing Group	Average Quantity	Maximum Quantity
PS2	6.1		III	10,000 kg/L	15,000 kg/L
PS3	3		II	15,000 L	20,000 L
	3		III	15,000 L	25,000 L
	3	8	III	600 L	1,000 L
	C1			15,000 L	20,000 L
PS4	8		II	8,000 kg/L	12,000 kg/L

3. MANUFACTURING AREAS

Area	Class	Sub Risk(s)	Packing Group	Maximum Quantity
MA1	3		II	2,000 L
	3		III	10,050 L
MA2	5.1	8	II	1,500 L
MA3	3		II	200 L
	3		III	25 L
	8		II	100 L
	8		III	2,000 L

APPENDIX 3

SITE PLAN FOR A MANIFEST

XYZ CHEMICALS PTY LTD SITE PLAN

NAME OF PREMISES... XYZ Chemicals Pty Ltd

ADDRESS...123 Cambridge Street, Noida

BUILDING NUMBER....

NUMBER OF CHEMICAL STORES AT THIS SITE.....

DATE OF THIS PLAN....

DATE OF REVISION...

