

Dangerous goods

transported as tools-of-trade

The Land Transport Rule: Dangerous Goods 2005 (and its amendments) detail the legal requirements for transporting dangerous goods safely.

The Rule applies to all people who transport dangerous goods, but how the Rule applies will depend on:

- The type of dangerous goods being transported.
- The quantity of dangerous goods being transported.
- The purpose for which the dangerous goods are being transported.

This factsheet applies to people who carry dangerous goods as tools-of trade, for agricultural use or commercial purposes:

- If you transport dangerous goods for domestic or recreational purposes, read Factsheet 69 *Dangerous goods transported for domestic or recreational purposes*.
- If you're a licensed transport service operator or if you transport dangerous goods for direct reward, read Factsheet 67 *Dangerous goods carried by transport service operators or for direct reward*.

These factsheets provide an overview only. If your business involves transporting dangerous goods, you must also refer to the Rule. The Rule is available for download from the Transport Agency website (www.nzta.govt.nz/dangerous-goods). Printed copies of the Rule are available from selected bookshops that sell legislation and some libraries.

What are dangerous goods?

Dangerous goods for transport on land include substances and articles that have explosive, flammable, toxic, infectious, corrosive or environmentally hazardous properties, and containers that have held dangerous goods. All classes of dangerous goods are described in table A of the Rule, which is based on classifications in the *United Nations (UN) Recommendations on the transport of dangerous goods – model regulations*.

Commonly available goods that are classified as dangerous for transport include:

- ammunition and fireworks
- aerosol canisters
- LPG and CNG cylinders
- oxyacetylene and other welding cylinders
- compressed air cylinders for scuba diving
- diesel
- flammable liquids such as petrol, kerosene, methylated spirits, turpentine, thinners, solvent-based paints and epoxy resin

- hardener for epoxy resin
- some swimming pool chemicals
- some commercial and household cleaning products, such as dishwasher detergents
- some garden care products.

How do I recognise dangerous goods?

Packages containing dangerous goods must be marked or labelled to identify their hazardous properties. This is to warn everyone who handles or transports the goods, or finds the goods in an emergency situation.

For transport, dangerous goods are identified with a diamond shaped class warning label, a United Nations (UN) number and a proper shipping name:

- The diamond-shaped class warning labels give a pictorial representation of the danger – such as a flame for flammable substances or skull and cross bones for toxic (poisonous) substances. The class number of the dangerous goods is printed in the bottom corner of these labels.
- The UN number is a four-digit number preceded by the capital letters UN. For example, the UN number for petrol is UN 1203.
- The proper shipping name is usually of a chemical or technical nature and is often written in capital letters (eg LIQUEFIED PETROLEUM GASES or PETROL).

Some products also require special marks to warn of hazards that are not indicated by other labels or marks. For example, products that are toxic to the aquatic environment and classified as environmentally hazardous substances must be identified with the environmentally hazardous substance mark (a diamond-shaped symbol of a dead fish and tree).

Dangerous goods packaged for retail sale do not always have the diamond-shaped label on the package, but are marked with warning information to identify the hazards presented by the product.



Transporting small quantities of dangerous goods

If you carry dangerous goods as tools-of-trade, for agricultural use or for a commercial purpose, but not for hire or direct reward, and the quantity is within the limits in schedule 1 of the Rule (see table 2), then you are responsible for:

- making sure the goods are properly packaged and identified
- segregating incompatible dangerous goods (keeping them apart to prevent dangerous reactions)
- securing the load on your vehicle
- carrying emergency response information
- safe handling practices and emergency procedures.

Packaging and identification

Packaging must not contaminate or react with the goods, and must be strong enough to transport the goods safely and without leaking under normal conditions.

Packaging must not contaminate or react with the goods, and must be strong enough to transport the goods safely and without leaking under normal conditions. Section 3 of the Rule refers to packaging performance standards or the requirements of other New Zealand authorities. Packaging must also comply with the United Nations packing instructions, which include details of types and sizes of packaging suitable for each dangerous goods product.

When you buy dangerous goods, they are contained in packaging that meets the requirements for transport, and are marked or labelled to identify the danger of the goods.

There are, however, some common situations when you supply the container for dangerous goods. They are when you:

- fill a container of your own with petrol or diesel (this doesn't include filling your vehicle's fuel tank), or
- have a portable LPG cylinder refilled.

In these circumstances, both you and the person selling the goods have a responsibility to ensure the container meets the requirements of the Rule and, in the case of the LPG cylinder, has passed a test inspection within the last 10 years.

Your container must show that it contains dangerous goods. You need the UN number, proper shipping name and class of dangerous goods. For high flash point diesel containers bigger than five litres, you also need the environmentally hazardous substance mark (see the diesel information document for more details and examples of labels and marks for diesel containers).

If your container does not have a diamond-shaped warning label to identify the class of dangerous goods, write the class number on it, together with the UN number and proper shipping name. For example the identification for:

- petrol is UN 1203, PETROL, class 3
- LPG is UN 1075, LIQUEFIED PETROLEUM GASES, class 2.1
- high flash point diesel is UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diesel), class 9 and if the container is over 5 litres, the environmentally hazardous substance mark.

These details can be written clearly on the container or on a tag attached to the container. You could also ask the person selling the goods for a class warning label to identify the danger.

Alternatively, the labels or markings required by any other law (eg the Hazardous Substances and New Organisms Act 1996), which clearly identify the contents of the package, are also acceptable.

Segregate dangerous goods

To prevent serious reactions between different dangerous goods, they should be kept apart from each other. Small quantities of goods, such as aerosols (class 2.1 or 2.2), flammable liquids (class 3), toxic substances (class 6.1), corrosive sustances (class 8) and environmentally hazardous substances (class 9) can be carried together.

Explosives (class 1), oxidising substances (class 5.1) and organic peroxides (class 5.2) should be kept apart as much as possible, and preferably not be carried together in the same vehicle or with other dangerous goods. Class 6 or class 8 substances should also be kept apart from food items, to prevent the food being contaminated.

Secure your load

All loads must be carried securely, so they don't fall from the vehicle or cause any harm to people, property or the environment. This is especially important with dangerous goods. If the packages are damaged they could either spill (and put people, property or the environment in danger) or react dangerously with other goods.

Emergency response information and training

You must carry emergency response information and know about the hazards of the goods, safe handling practices and emergency procedures.

You can get emergency response information from safety data sheets or a handbook such as SAA/SNZ HB76:2010 Dangerous goods - initial emergency response guide. These can be obtained from:

Standards New Zealand	Responsible Care New Zealand
Private Bag 2439	PO Box 5557
Wellington 6140	Wellington 6145
Phone 0800 782 632	Phone +64 4 499 4311
+64 4 498 5990	info@responsiblecarenz.com
enquiries@standards.co.nz	www.responsiblecarenz.com
www.standards.co.nz	

Transporting large quantities of dangerous goods

Table 1 shows which sections of the Rule apply depending on the nature and quantity of dangerous goods you are transporting.

Table 2 is a copy of schedule 1 in the Rule and shows the maximum amount of different dangerous goods that you can transport as tools-of-trade, for agricultural use or commercial purposes.

If the quantities being transported exceed the limits in schedule 1, then you must comply with all the requirements of the Rule. This includes requirements for:

- packaging
- identification
- documentation
- segregation
- placarding
- transport procedures as they apply to licensed transport service operators (see Factsheet 67)
- having a D endorsement on your driver licence (note: a D endorsement is not required to transport environmentally hazardous substances that are toxic to the aquatic environment (UN 3077 or UN 3082) such as high flashpoint diesel

Table 1: Guide to provisions of the Rule (for dangerous goods both within and above the limit in schedule 1)

Dangerous goods transported as tools-of-trade, for agricultural use or for a commercial purpose, but not for hire or direct reward							
Nature and quantity	Packaging	Labelling and marking	Documents	Segregate	Placards	Transport procedures	Training
DGLQ ¹ , Con Coms ² and other dangerous goods ³ within the limit in schedule 1	section 3	4.4(1)(a) and 4.4(2)	not required 5.3(1)(b)	GSR ⁴ 6.1(1)	7.4 ⁵	GSR ⁴ 8.1(1) and ERI ⁶ 8.3	GSR ⁴ (9.1)
Above the limit in schedule 1	section 3	section 4	section 5	section 6	section 7	section 8	section 9

¹ DGLQ – Dangerous goods in limited quantities. These are dangerous goods of low to moderate danger, packaged in small quantities as listed in schedule 2 and complying with requirements in clause 2.3.

² Con Coms – Consumer commodities. These are DGLQ packaged for retail sale for personal care, recreational or domestic use.

³ Other dangerous goods includes those packaged in the types and sizes of packaging permitted in subclause 3.2(8) and dangerous goods in excepted quantities or excepted packages of radioactive material transported in accordance with clause 2.9.

⁴ GSR – General safety requirements set out at the beginning of each section of the Rule.

⁵ Placards are not generally required for transporting dangerous goods as tools-of-trade when the quantity is within the limits in schedule 1. However, placards must be permanently displayed on bulk containers for environmentally hazardous substances (UN 3077 or UN 3082). This includes tank trailers and portable tanks for high flash point diesel and some agrichemical products that may be transported as tools-of-trade in bulk.

⁶ ERI – Emergency response information. This is information, which identifies the goods, their hazards and the procedures to follow in an emergency.

Table 2: Quantity limits (copy of schedule 1 from the Rule)

Schedule 1: Quantity limits for dangerous goods transported for domestic or recreational purposes, for use as tools-of-trade, for agricultural use or for a commercial purpose, but not transported for hire or direct reward			
Class or division	Class or division name or product	Packing group+	Maximum quantity*
1	Explosives (except UN 0012, CARTRIDGES, SMALL ARMS)	-	50 kg subject to other New Zealand legislation
1.4S	UN 0012, CARTRIDGES, SMALL ARMS	-	250 kg
2.1	Flammable gases	-	250 litres water capacity
2.2	Non-flammable, non-toxic gases; cryogenic liquids (except UN 1977, NITRO-GEN, REFRIGERATED LIQUID)	-	25 litres water capacity
	UN 1977, NITROGEN, REFRIGERATED LIQUID	-	100 litres
	Non-flammable, non-toxic gases (except cryogenic liquids)	-	250 litres water capacity
2.3	Toxic gases (except those listed below)	-	50 litres water capacity
	UN 1026, CYANOGEN; UN 1067, NITROGEN DIOXIDE; UN 1076, PHOSGENE; UN 1589, CYANOGEN CHLORIDE, STABILIZED	-	1 litre water capacity

Table 2: Quantity limits (copy of schedule 1 from the Rule) continued

Schedule 1: Quantity limits for dangerous goods transported for domestic or recreational purposes, for use as tools-of-trade, for agricultural use or for a commercial purpose, but not transported for hire or direct reward			
3	Flammable liquids	I	5 litres
	Petrol is classified as UN 1203, PETROL, Class 3, Packing Group II. Diesel with a flash point of 60°C or less is classified as UN 1202, GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT, Class 3, Packing Group III. Note: For diesel with a flash point over 60°C see Class 9.	II or III	250 litres
4.1	Flammable solids	I	5kg
		II	50kg
		III	250kg
4.2	Spontaneously combustible substances	I	No quantity permitted
	Spontaneously combustible substances (Packaged as Dangerous Goods in Limited Quantities or Consumer Com-modities only)	II or III	50kg
4.3	Dangerous when wet (except UN 1397, ALUMINIUM PHOSPHIDE; UN 1402, CALCIUM CARBIDE and UN 2011, MAGNESIUM PHOSPHIDE)	I	No quantity permitted
	UN 1397, ALUMINIUM PHOSPHIDE; UN 1402, CALCIUM CARBIDE and UN 2011, MAGNESIUM PHOSPHIDE	I	5kg
	Dangerous when wet (Packaged as Dangerous Goods in Limited Quantities or Consumer Commodities only)	II or III	50kg
5.1	Oxidizing substances	I	5kg (solids, powders, etc) or 5 litres (liquids)
		II	50kg (solids, powders, etc) or 50 litres (liquids)
		III	250kg (solids, powders, etc) or 250 litres (liquids)
5.2	Organic peroxides Type B (Packaged as Dangerous Goods in Limited Quantities or Consumer Commodities only)	-	5kg (solids, powders, etc) or 5 litres (liquids)
	Organic peroxides Type C, D, E or F (As hardener for an organic resin or packaged as Dangerous Goods in Limited Quantities or Consumer Commodities)	-	10kg (solids, powders, etc) or 10 litres (liquids)
6.1	Toxic substances	I	5 kilograms (solids, powders, etc) or 5 litres (liquids)
		II	50kg (solids, powders, etc) or 50 litres (liquids)
		III	250kg (solids, powders, etc) or 250 litres (liquids)
6.2	Infectious substances Category A	-	5kg (solids, powders, etc) or 5 litres (liquids)
	Infectious substances Category B (except portable toilet effluent, septic tank wastes and sewage screening sludge, classified as infectious substances Category B)	-	50kg (solids, powders, etc) or 50 litres (liquids)
	UN 3291, CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S.	II	50kg (solids, powders, etc) or 50 litres (liquids)
	Portable toilet effluent, septic tank wastes and sewage screening sludge, classified as infectious substances Category B	-	250kg, 250 litres or two portable toilets, whichever is the greater quantity
7	Radioactive material	-	As permitted by Regula-tions for the Safe Transport of Radioactive Material of the International Atomic Energy Agency or the re-quirements of the relevant regulatory authority

Table 2: Quantity limits (copy of schedule 1 from the Rule) continued

Schedule 1: Quantity limits for dangerous goods transported for domestic or recreational purposes, for use as tools-of-trade, for agricultural use or for a commercial purpose, but not transported for hire or direct reward			
8	Corrosive substances (except batteries listed below)	I	5kg (solids, powders, etc) or 5 litres (liquids)
		II	50kg (solids, powders, etc) or 50 litres (liquids)
		III	250kg (solids, powders, etc) or 250 litres (liquids)
	UN 2794, BATTERIES, WET, FILLED WITH ACID, electric storage UN 2795, BATTERIES, WET, FILLED WITH ALKALI, electric storage UN 2800, BATTERIES, WET, NON-SPILLABLE, electric storage	-	250 litres (measured by the volume of the battery case)
	UN 3028, BATTERIES, DRY, CONTAINING POTASSIUM HYDROXIDE SOLID, electric storage	-	250kg
9	Miscellaneous dangerous substances and articles (except those listed below)	I	5kg (solids, powders, etc) or 5 litres (liquids)
		II	50kg (solids, powders, etc) or 50 litres (liquids)
		III	250kg (solids, powders, etc) or 250 litres (liquids)
	Substances, other than diesel, that are toxic to the aquatic environment (UN 3077 or UN 3082)	III	1000kg (solids, powders, etc) or 1000 litres (liquids)
	Diesel with a flash point over 60°C, classified as UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diesel) Note: for diesel with a flash point of 60°C or less see Class 3.	III	2000 litres
Mixed loads	The maximum quantity for a mixed load is an aggregate amount of 500, using the following units: kilograms (solids, powders, etc including the weight of the packaging), litres (liquids), litres water capacity (gases). The quantity of Class 9 diesel, or Class 9 substances that are toxic to the aquatic environment, is in addition to the maximum quantity for a mixed load. The maximum quantity for a mixed load is exceeded if the quantity for any class or division in the load exceeds the limit specified for that class or division.		
* The maximum quantity is determined by the actual quantity of dangerous goods carried, measured in: kilograms (including the weight of the packaging) for solids, powders, etc; litres for liquids; litres water capacity of the cylinder or container for gases, except for cryogenic liquids (such as UN 1977, NITRO-GEN, REFRIGERATED LIQUID) where the actual quantity can easily be measured with a dip-stick or similar measuring device.			
+ Packing group means one of three groups into which dangerous goods of Class or Division 3, 4, 5.1, 6.1, 8 and 9 are divided for packaging purposes according to their degree of danger, and that are ranked in a decreasing order of danger: 'Packing Group I' (high danger), 'Packing Group II' (medium danger) and 'Packing Group III' (low danger).			

Where can I find out more?

- Refer to the Rule. (You can get printed copies from bookshops that sell legislation and some libraries.).
- For a copy of SAA/SNZ HB76:2010 contact Standards New Zealand (0800 782 632) or Responsible Care New Zealand.
- For detailed description of the definitions used in this factsheet, refer to the Rule (www.nzta.govt.nz/dangerous-goods).

The information in this factsheet is a general guide only. It is not the source of the law and should not be used in place of authoritative legal documents. Some factsheets are updated frequently and print versions can quickly become out of date. If the currency of the information you are reading is important, check the factsheet index on our website (www.nzta.govt.nz/factsheets) or call us on 0800 699 000.

Contact details

- Call our contact centre: 0800 699 000.
- Visit our website: www.nzta.govt.nz.
- Email us: info@nzta.govt.nz.
- Write to us: NZ Transport Agency, Private Bag 11777, Palmerston North 4442.