(b) The environmentally hazardous substance mark (required on packages, IBCs, freight containers, portable tanks, and tank wagons containing dangerous goods of Class 9 that are toxic to the aquatic environment, UN 3077 or UN 3082);

(c) Orientation arrows (required on outer packagings that contain inner packages of liquid dangerous goods; sole packagings fitted with vents; open cryogenic receptacles for transporting refrigerated, liquefied gases; and overpacks or unit load devices containing any of these packagings);

(d) In the case of Class 8 corrosives of Packing Groups I and II, additional marks with the words 'strong acid' or 'strong alkali' should be used; and

(e) In the case of food items being transported by road or rail where there is possibility of it being loaded with incompatible dangerous goods, a marking clearly identifying the food item, or container in which the food item is loaded, should be marked as 'food items'.

For full details of the requirements for special marks, including circumstances when they are not required, refer to the Dangerous Goods Rule.

In addition to the marking requirements of this standard, other markings may be necessary as required by legislation as follows:

(a) Hazardous Substances (Labelling) Notice 2017; and

(b) Regulations for the Safe Transport of Radioactive Material of the International Atomic Energy Agency.

C5.3
The creation of the new special marks – strong acids and strong alkalis – is not currently recognised in the Dangerous Goods Rule but is instead regarded as new industry practice.

5.4 Labelling

5.4.1 Application

Section 5.4 describes requirements for the labelling on packaging or containers in order to indicate the hazard classification of the dangerous goods carried.

NOTE – This section is intended to be incorporated by reference in the Dangerous Goods Rule.

5.4.2 Label design

Diamond shaped labels or pictograms are used to indicate the hazards (see Appendix B). This is a system of identifying the hazard from a distance by the colour and design; this aids segregation and helps to overcome language and literacy barriers.

5.4.3 Subsidiary risk labelling

Secondary risk labels are identical to primary risk labels. They shall display the class numbers.

5.4.4 Type of class labels

Class labels shall be of the following types:

(a) Stick-on (the adhesive used shall be waterproof);

(b) Plate of suitable material; or

(c) Printed directly on to the surface of a package or container.

Labels shall conform to the requirements of durability, colour, graphics, and lettering as defined in Appendix B.

5.4.5 Sizes of class labels

Class labels for use on packaging and containers shall be not less than 100 mm square, except in the case of packages of such dimensions that they can only bear smaller labels (for example, gas cylinders for Class 2). See Table B1 in Appendix B for guidance on label sizes for small packages.

Gas cylinders for Class 2 may, on account of their shape, orientation, and securing mechanisms for transport, bear labels which have been reduced in size, as appropriate, for display on the shoulder of such cylinders.

5.4.6 Marking and labelling

Markings such as the orientation arrows shown in Figure 9 are required for the transport of some dangerous goods (see 5.3). Refer to the Dangerous Goods Rule for more detail.

Figure 10 shows examples of special markings for strong acid and strong alkali.

Figures 11 and 12 shows markings for lithium batteries from the UNRTDG. Examples of marking and labelling for a combination package containing liquid inner packagings and for a single package are shown in Figure 13 and Figure 14, respectively.

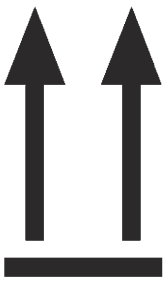
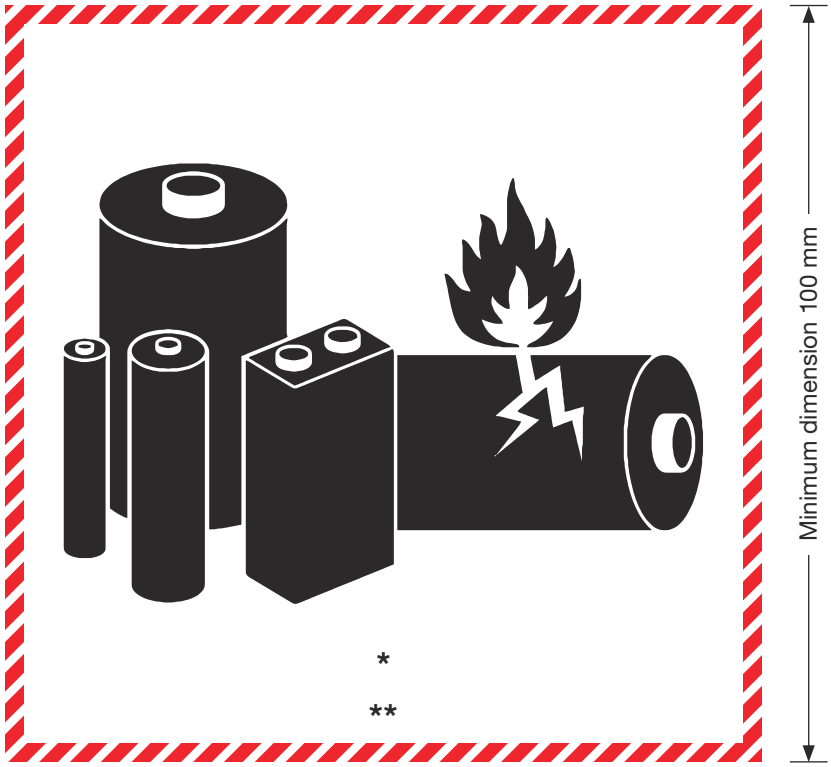


Figure 9 – Handling label

Figure 10 – Examples of special markings for strong acid and strong alkali



Lithium battery mark

* Place for UN number(s)
** Place for telephone number for additional information

NOTE – The label is for both lithium-metal and lithium-ion types. To be used when lithium-metal content is < 2 grams and lithium-ion output is < 100 Wh in accordance with Special Provision 188.

Figure 11 – Package label (mark) for lithium batteries on all packages

NOTE – The label is used also as the dedicated dangerous goods diamond on outer packages with dimensions at least 100 mm each side. If the dangerous goods for transport trigger levels for lithium metal and lithium ion are exceeded this Class 9A diamond must be applied externally to a consignment package in line with all dangerous goods diamond application requirements. For example, under IATA, UN 3480, PI 956 IB, this label is used.

Figure 12 – Class 9 diamond label for packages containing lithium-metal and lithium-ion batteries exceeding the dangerous goods trigger levels

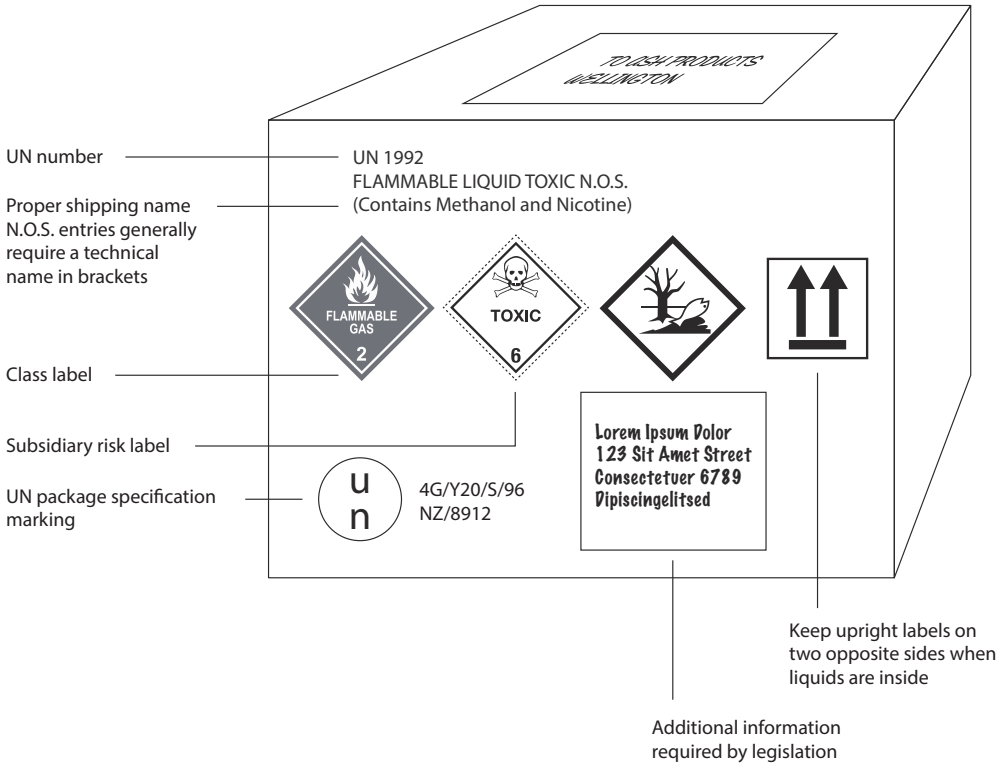
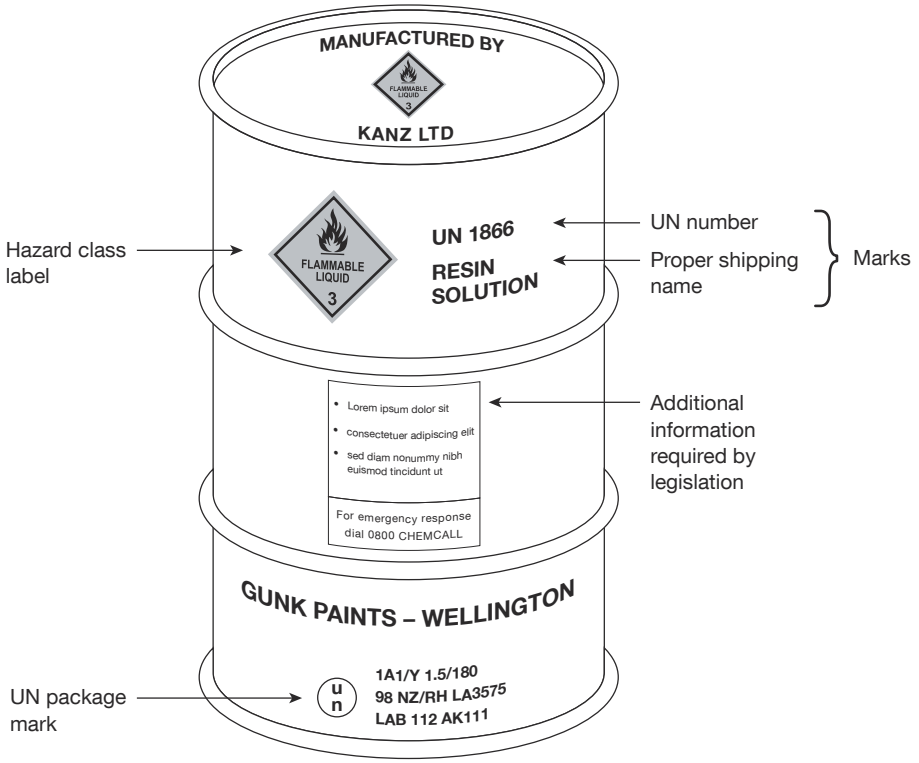


Figure 13 – Marking and labelling of a combination package (fibreboard box) containing liquid inner packagings



NOTE – For explanation of packaging markings see 3.1.5.

Figure 14 – Example of marking and labelling for a single packaging (steel drum)

5.5 Positioning of class labels

5.5.1

Every item of packaging and every container shall be clearly labelled with the requisite class label or labels in such a manner that under conditions of transport, the nature of the hazard is readily recognisable.

5.5.2

Labels indicating the class of the dangerous goods are not required on the outer packaging of the following goods:

(a) Dangerous goods in limited quantities or consumer commodities;

(b) Aerosols of Class 2.1 or 2.2; and

(c) Dangerous goods in excepted quantities and excepted packages of radioactive material.

5.5.3

Labels representing each class of dangerous goods (including subsidiary risks) contained in a package, intermediate bulk container or unit load device should be prominently positioned as follows:

(a) Cartons and boxes – on at least one side;

(b) Drums, cans, and similar containers – on the side, in the upper half, but not in close proximity to the bungs, to avoid damage by leakage or when in use;

(c) Jerricans – on at least one side;

(d) Gas cylinders – near or on the shoulder. For large cylinders and pressure vessels where the size or slope makes labels difficult to read, labels should also be positioned on the opposite side;

(e) IBCs and large packagings – on two opposite sides in the upper half; and

(f) Unit load devices (including pallets) – on two opposite sides in the upper half, except where the class labels on packages within the device are clearly legible.

5.6 Empty containers

5.6.1

A container that previously contained dangerous goods shall be marked, labelled, and placarded as required for those dangerous goods, unless the container is sufficiently cleaned of residue of the dangerous goods and purged of vapours so as to nullify any hazard.

5.6.2

Empty containers that have not been cleaned are classified as dangerous goods and shall be transported in accordance with the Dangerous Goods Rule. However, the Dangerous Goods Rule makes provision for transporting empty containers that have been cleaned of all dangerous residues in accordance with procedures approved by the relevant regulatory authority.

5.6.3

Clean containers are not classified as dangerous goods for transport on land in New Zealand and should have all dangerous goods labels and marks removed before they are transported. Section 148(3) of the Land Transport Act states that if the vehicle or the load is labelled or marked as dangerous goods, then dangerous goods are presumed to be on the vehicle, unless there is evidence to the contrary. This places responsibility on the transport operator to prove that clean and empty containers do not contain dangerous goods, if they remain labelled.

5.6.4

If a container remains labelled after it has been cleaned in accordance with an approved process, it should be accompanied by a document that complies with the Dangerous Goods Rule. The purpose of the document is to provide evidence to counter the presumption in the Land Transport Act. This will make it clear to transport operators, enforcement officers, or emergency services personnel that the container no longer poses any risk to people, property, or the environment. An example of a form that may be used is provided in Figure 15.

5.6.5

Except for agrichemical containers, no general cleaning procedures have been approved by the relevant regulatory authority for any class or division of dangerous goods. However, there are some circumstances when empty containers for a particular type of dangerous goods do not contain any dangerous residue. A container that has been cleaned to comply with the Hazardous Substances (Disposal) Notice 2017 will also be free of any dangerous residue. In these circumstances, the container is not classified as dangerous goods for transport on land.

5.6.6

Table 21 provides advice for circumstances when an empty container does not need to be transported as dangerous goods. In the first instance, refer to the safety data sheet (SDS). Otherwise, advice should be sought from the relevant regulatory authority, that is, the Ministry of Health, the Ministry for Primary Industries, the Environmental Protection Authority, Maritime NZ, or WorkSafe New Zealand, for appropriate cleaning procedures.

Table 21 – Advice for circumstances when empty containers are not dangerous goods

Class or division	Advice for circumstances when empty containers are not dangerous goods
Class 1	Packagings used for Class 1 explosive articles do not normally have any dangerous residue remaining in them, unless an article of explosives had been damaged. Empty packagings that have contained explosive articles (for example, fireworks, ammunition, and detonators) may be transported as clean packagings, provided there was no leakage of an explosive substance from any article that was in the packaging.
Class 2	There are no approved cleaning procedures for gas cylinders or tanks. Gases of Division 2.2, other than cryogenic liquids, are not classified as dangerous for transport if the pressure in the cylinder or tank is less than 200 kPa gauge at 20°C. This will apply to most empty Division 2.2 cylinders. Apart from compressed air cylinders, empty Division 2.2 cylinders shall be transported with valves closed to prevent the risk of asphyxiating gases leaking from the cylinder. When cylinders are connected together in a cascade, it is permissible to leave the individual cylinder valves open, but the main outlet shall be closed. It is important to remember that an increase in temperature will generate an increase in pressure in a cylinder. This could cause a cylinder to explode, if it was involved in a fire.
Class 3	There are no general approved cleaning procedures for Class 3 containers. Containers for Class 3 agrichemicals (see note) may be cleaned by the triple rinse process as described in S5.1.1 of Appendix S to NZS 8409, 'The management of agrichemicals'. Please note that even after cleaning, flammable vapours can still accumulate due to seepage from joints or seams. Caution must always be taken with flammable liquid containers, even after they have been cleaned.
Class 4	There are no approved cleaning procedures for Divisions 4.1, 4.2, or 4.3 containers.
Class 5	There are no approved cleaning procedures for Divisions 5.1 or 5.2 containers.
Division 6.1	There are no general approved cleaning procedures for Division 6.1 containers. Containers for Division 6.1 liquid agrichemicals may be cleaned by the triple rinse process as described in S5.1.1 of Appendix S to NZS 8409, 'The management of agrichemicals'.
Division 6.2	There are no approved cleaning procedures for Division 6.2 containers.
Class 7	An empty packaging that previously contained radioactive material may be transported as an excepted package if it meets conditions in the International Atomic Energy Agency (IAEA) Regulations for the Safe Transport of Radioactive Material. The conditions relate to the general condition of the packaging, covering any uranium or thorium in the structure of the packaging, the level of internal contamination and covering or removing class labels. The National Radiation Laboratory (the relevant regulatory authority for radioactive material) has declared excepted packages, which comply with IAEA requirements, not to be dangerous goods for transport on land.
Class 8	There are no general, approved cleaning procedures for Class 8 containers. Containers for Class 8 liquid agrichemicals may be cleaned by the triple rinse process as described in S5.1.1 of Appendix S to NZS 8409, 'The management of agrichemicals'.
Class 9	There are no general, approved cleaning procedures for Class 9 containers. Containers for Class 9 liquid agrichemicals may be cleaned by the triple rinse process as described in S5.1.1 of Appendix S to NZS 8409, 'The management of agrichemicals'.
NOTE – Agrichemicals are defined in Appendix A of NZS 8409 as: 'any substance, whether inorganic or organic, man-made or naturally occurring modified or in its original state, that is used in any agriculture, horticulture or related activity, to eradicate, modify or control flora and fauna. For the purposes of this Standard (NZS 8409), it includes agricultural compounds, but excludes fertilisers, vertebrate pest control products and oral nutrition compounds.'	

5.7 Salvage packagings

Salvage packagings shall be marked with the proper shipping name and UN number of, and bear all the labels prescribed for, the dangerous goods contained therein. In addition, they shall be marked with the word 'SALVAGE'.

CLEAN AND EMPTY DANGEROUS GOODS CONTAINERS

Number, size and type of container (e.g. 4 × 205 litre metal drums or 20 plastic boxes @ 500 × 400 × 300 mm)	**Description of previous dangerous contents** (UN no., proper shipping name and class)

Additional Information (e.g. Information about non-dangerous goods in the containers)

Deliver to: **Telephone number:**

Address:

Statement of compliance

The containers described in this document have been cleaned in accordance with the procedures for cleaning dangerous goods containers in _____[1] and are empty of dangerous goods.

Name: **Telephone number:**

Address:

Signature: **Date:**

[1] Insert reference to approved cleaning procedures, e.g. for agrichemical containers, refer NZS 8409.

Figure 15 – Clean and empty dangerous goods containers

6 DOCUMENTATION

6.1 General

One of the primary aims of the UN system is to convey information to the transporter and, where necessary, to emergency services and enforcement agencies. Documentation, in the form of dangerous goods declarations, schedules of quantities, load plans, and container or vehicle packing certificates may be required to identify the dangerous goods being carried and shall be kept separate from the dangerous goods. See Appendix D for examples of load plans and vehicle packing certificates. Recommended standard format for rapid reference of numerous documents in single consignment.

Refer to section 5 of the Dangerous Goods Rule.

NOTE – The information in section 6 complements the requirements contained in section 5 of the Dangerous Goods Rule.

6.2 Dangerous goods declaration

6.2.1 Reasons documentation is essential

Documentation is essential in order to know:

(a) What is being carried;

(b) Where it is stowed;

(c) How it is packaged;

(d) How to deal with emergencies;

(e) Where to source specialist information; and

(f) What else is on board that may exacerbate a situation.

6.2.2 Data to be included in a declaration

A dangerous goods declaration shall include a declaration which verifies this data, for example:

'I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked, and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations.'

6.2.3 Information required on the dangerous goods transport document

6.2.3.1 Dangerous goods description

The dangerous goods transport document shall contain the following information for each dangerous substance, material, or article offered for transport:

(a) The UN number preceded by the letters 'UN';

(b) The proper shipping name, as determined according to 2.0.2 in UNRTDG, including the technical name enclosed in parenthesis;

(c) The primary hazard class or, when assigned, the division of the goods, including, for Class 1, the compatibility group letter. The words 'Class' or 'Division' may be included preceding the primary hazard class or division numbers;

(d) Subsidiary hazard class or division number(s) corresponding to the subsidiary risk label(s) required to be applied, when assigned, shall be entered following the primary hazard class or division and may be enclosed in parenthesis. The words 'Class' or 'Division' may be included preceding the subsidiary hazard class or division numbers;

(e) Where assigned, the packing group for the substance or article, which may be preceded by 'PG' (for example, 'PG II').

6.2.3.2 Sequence of dangerous goods description

The five elements of the dangerous goods description specified in 6.2.3.1 should be shown in the order listed above (such as (a), (b), (c), (d), and (e)) with no additional information interspersed.

Examples of dangerous goods description are:

(a) UN 1098 ALLYL ALCOHOL 6.1 (3) I; or

(b) UN 1098 ALLYL ALCOHOL, Division 6.1, (Class 3), PG I.

NOTE – In addition to the requirements of this standard, other elements of information may be required by the competent authority or for certain modes of transport (for example, flashpoint for sea transport). Unless permitted or required by this standard, additional information shall be placed after the dangerous goods description.

6.2.3.3 Information that supplements the proper shipping name in the dangerous goods declaration

The proper shipping name in the dangerous goods description shall be supplemented as follows:

(a) Technical names for 'N.O.S.' and other generic descriptions: Proper shipping names that are assigned special provision 61, 274, or 318 in column 6 of the Dangerous Goods List shall be supplemented with their technical or chemical group names;

(b) Empty uncleaned packagings, bulk containers, and tanks: Empty means of containment (including packagings, IBCs, bulk containers, portable tanks, tank vehicles, and tank wagons) that contain the residue of dangerous goods of classes other than Class 7 shall be described as such by, for example, placing the words 'EMPTY UNCLEANED' or 'RESIDUE LAST CONTAINED' before or after the dangerous goods description specified in 6.2.3.1(a) to (e);

(c) Wastes: For waste dangerous goods (other than radioactive wastes) that are being transported for disposal, or for processing for disposal, the proper shipping name shall be preceded by the word 'WASTE', unless this is already a part of the proper shipping name;

(d) Elevated temperature substances: If the proper shipping name of a substance that is transported or offered for transport in a liquid state at a temperature equal to or exceeding 100°C, or in a solid state at a temperature equal to or exceeding 240°C, does not convey the elevated temperature condition (for example, by using the term 'MOLTEN' or 'ELEVATED TEMPERATURE' as part of the shipping name), the word 'HOT' shall immediately precede the proper shipping name;

(e) The number and kind of packages and the total quantity of dangerous goods covered by the description (by volume or mass);

(f) Where required to be tracked, refer to Health and Safety at Work (Hazardous Substances) Regulations 2017;

(g) For a Class 4.1, self-reactive substance or a Class 5.2 organic peroxide, the control and emergency temperatures, if applicable;

(h) If dangerous goods are being transported in salvage packagings, the words 'SALVAGE PACKAGING' should be indicated, together with the description of the goods;

(i) When for certain self-reactive substances of Division 4.1 and organic peroxides of Division 5.2 the competent authority has permitted the 'EXPLOSIVE' subsidiary risk label (see label for Divisions 1.1, 1.2, and 1.3 in Figure B1) to be dispensed with for the specific package, a statement to this effect shall be included on the dangerous goods declaration;

(j) When an IBC or portable tank is transported after the date of expiry of the last periodic test or inspection, a statement shall be included in the dangerous goods declaration to the effect that is transported in accordance with 6.7.2.19.6(b), 6.7.3.15.6(b), or 6.7.4.14.6(b) of the UNRTDG.

6.2.4 Example of dangerous goods declaration

An example of a dangerous goods declaration is shown in Appendix C.

6.2.5 Examples of dangerous goods descriptions

Examples of acceptable dangerous goods descriptions are:

(a) UN 1993 FLAMMABLE LIQUID, N.O.S. (Ethanol and dodecylphenol), Class 3, PG II, (–18°C c.c.), Marine Pollutant;

(b) UN 2761 ORGANOCHLORINE PESTICIDE, SOLID, TOXIC, Class 6.1, PG III, Marine Pollutant;

(c) UN 2901 BROMINE CHLORIDE, Class 2.3, (5.1 and 8); and

(d) UN 1238 METHYL CHLOROFORMATE, Class 6.1, (3, 8), PG I.

NOTE – The flashpoint or identification of marine pollutants is required only if the goods are going to be transported by sea, for example, across Cook Strait, as per the UNRTDG.

6.3 Container packing certificate and vehicle packing certificate

6.3.1 What is to be included in a certificate

If the dangerous goods are in a closed, prepacked freight container or a closed, prepacked vehicle, a container packing certificate or vehicle packing certificate, as appropriate, shall be carried and the certificate shall:

(a) Indicate that:

(i) The freight container or vehicle was clean, dry, and fit to receive the goods when packed

(ii) Goods that have to be segregated comply with section 6 of the Dangerous Goods Rule

(iii) All packages have been externally inspected for damage, leaking, or sifting, and only sound packages have been loaded