

DANGEROUS GOODS PANEL

Dubai, 31 March to 4 April 2003

LIMITED QUANTITIES AND CONSUMER COMMODITIES

(Presented by the Secretary)

1. INTRODUCTION

1.1 At the Paris meeting on limited quantities held during November 2002 prior to the 22nd session of the UN Sub-Committee of Experts the UK promised to produce a first draft of a paper proposing changes to Chapter 3.4 of the UN Recommendations. This paper is provided for information proposes.

Chapter 3.4 Dangerous Goods Packed in Excepted, [Consumer Commodities/Retail Sale] and [Limited] Quantities

Introduction

Following the informal meeting held in Paris in November 2002 it was agreed that the United Kingdom would prepare a draft proposal taking into account the decisions of that meeting and the discussions held at the informal meeting in Geneva on 5 December. This paper sets out a range of possible changes to the UN limited quantity provisions.

The modes have a number of variations both of principle and detail notably air where there are excepted quantities and consumer commodities as well as limited quantities.

These have been taken into account as well as those in 49CFR. It was agreed at the Paris meeting in November that ideally a new name should be developed that could at least incorporate the concepts of limited quantities and consumer commodities. Some suggestions are included at the end.

Principles adopted in this proposal

Exempted substances

Substances which are completely exempted from the dangerous goods provisions will continue to be shown in Special Provisions e.g. 145, 146, 188, 190, 119, 216 and 219. No changes are proposed.

Substances not exempted

These will be subject to the full regulations but may benefit from some concessions in Chapter 3.4 and it is proposed in this draft to have three sections in the chapter:

- Excepted quantities
- Limited quantities and
- Consumer commodities

Quantities in Column 7

It was not part of the work to review in detail the quantities in column 7 of the dangerous goods list however a number of anomalies have been identified and should be considered by the working group.

The changes made in 1999 allowed for PGIII in classes 3, 6.1 and 8 allows 5 litres i.e. standard across the most common classes.

For PGIII the limits are 1 litre for classes 3, 5.1 and 8 but only 100ml for 6.1. Is this reasonable considering that part of the 1999 rationalisation eliminated from the limited quantities the most dangerous substances in Packing group II? Should the limit be aligned to 1 litre?

In Division 4.3 there are liquids and solids but the limited quantities are only shown as mass e.g. UN3148 water reactive solids.

Revised Chapter 3.4

The text below includes comments in the right hand column

Square brackets indicate the names/terms should be reviewed.

Draft proposal

3.4.1. This Chapter provides provisions for the carriage of certain dangerous goods in: excepted quantities, [Consumer Commodities], and [Limited quantities].

All provisions and requirements of these Regulations apply to the transport of these categories except as specifically provided in this Chapter.

Comments

3.4.2 Excepted Quantities

3.4.2.1. Excepted quantities may only be transported if there is a limited quantity provision shown in Column 7 of the Dangerous Goods List in Chapter 3.2. The table below shows quantities that may be exempted from the regulations when carried in accordance with the provisions in 3.4.2.2.2 – 3.4.2.2.8

Class or Division		PG	Qty per inner
Division 2.1	Aerosols <50ml		<50ml
Division 2.2	Without subsidiary risk		30mL
Class 3	All packing groups	I	30mL
		II	30mL
		III	30mL
Class 4(excluding all self-reactive substances)		II	30mL/30g
		III	30mL/30g
Division 5.1		II	30mL/30g
		III	30mL/30g
Division 5.2	Only when contained in a chemical kit or a first-aid kit		500mL/500g
Division 6.1	All substances other than those having an inhalation toxicity of Packing Group I	I	1mL/1g
		II	1mL/1g
		III	30mL/30g*
Class 8	(excluding UN Nos. 2803 and 2809)	II	30mL/30g
		III	30mL/30g
Class 9			30mL/30g

1. This table and the quantities per inner are taken from the ICAO technical instructions without any change.

2. Air mode which claims to be the most restrictive has this total exemption which means that such goods move by road to airports without restriction. It has existed for nearly twenty years without problem and should be adopted by the surface modes.

*if subsidiary hazard label required 1mL/1g

3.4.2.2. Excepted quantities of dangerous goods shall be packed only in inner packagings placed in suitable outer packagings. However, the use of inner packagings is not necessary for the transport of articles such as aerosols. The packagings shall meet the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 and be so designed that they meet the construction requirements of 6.1.4. The total gross mass of the package shall not exceed 1kg.

1. The maximum mass per package would broadly align with the ICAO technical instructions
2. The shrink-wrap provision for limited quantities has been omitted to maintain alignment with air until the working group decide whether this should be adopted

3.4.2.3. Liquid goods of Class 8, Packing Group II in glass, porcelain or stoneware inner packagings shall be enclosed in a compatible and rigid intermediate packaging.

3.4.2.4. Different dangerous goods packed in excepted quantities may be placed in the same outer packaging provided they will not interact dangerously in the event of leakage.

3.4.2.5. Packages of excepted dangerous goods transported according to this Chapter need not be labelled. Any segregation provisions for dangerous goods need not apply within a vehicle or freight container.

3.4.2.6. Documentation is not required except as required in 3.4.2.8.

3.4.2.7. Packages containing dangerous goods in excepted quantities need not be marked with the proper shipping name of the contents, but shall be marked with either:

the letters "EQ" placed within a diamond. The width of line forming the diamond shall be at least 2 mm; the number shall be at least 6 mm high.



[3.4.2.8. Where the total consignment on one transport unit exceeds 1000kg a transport document in accordance with 5.4.1 shall be prepared and submitted to the carrier]

OR

[3.4.2.8 No single consignment of excepted quantities shall exceed 100kg.]

3.4.3 [Limited Quantities]

3.4.3.1. The applicable quantity limit for the inner packaging or article is specified for each substance in Column 7 of the Dangerous Goods List in Chapter 3.2. In addition, the word "None" has been indicated in Column 7 of the Dangerous Goods List in Chapter 3.2 for each entry not permitted to be transported in accordance with this Chapter

3.4.3.2. Dangerous goods shall be packed only in inner packagings placed in suitable outer packagings. However, the use of inner packagings is not necessary for the transport of articles such as aerosols or "receptacles, small, containing gas". The packagings shall meet the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 and be so designed that they meet the construction requirements of 6.1.4. The total gross mass of the package shall not exceed 30 kg.

This would not be needed if a consignment limit is adopted see 3.4.2.8.

The first option aligns with the current ICAO text the second is a development from the current 3.4.8. IATA markings have not been considered but are more extensive.

It is suggested that these marks are illustrated in future editions of the regulations.

If certain loads of limited quantities are going to be marked logic suggests that there will be a need to at least declare the consignment.

As an alternative have a consignment limit of say 100kg. If a consignor exceeds this then Limited quantities must be used and this could be discounted in assessing load limits for the rest of the transport unit.

Existing text from 3.4.1.

Existing text from 3.4.2

3.4.3.3. Shrink-wrapped or stretch-wrapped trays meeting the conditions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 are acceptable as outer packagings for articles or inner packagings containing dangerous goods transported in accordance with this Chapter, except that inner packagings that are liable to break or be easily punctured such as those made of glass, porcelain, stoneware or certain plastics, materials, etc, shall not be transported in such packagings. The total gross mass of the package shall not exceed 20 kg.

Existing text from 3.4.3

3.4.3.4. Liquid goods of Class 8, Packing Group II in glass, porcelain or stoneware inner packagings shall be enclosed in a compatible and rigid intermediate packaging.

Existing text from 3.4.4

3.4.3.5. Different dangerous goods packed in limited quantities may be placed in the same outer packaging provided they will not interact dangerously in the event of leakage.

Existing text from 3.4.5

3.4.3.6. Packages of dangerous goods transported according to this Chapter need not be labelled. Any segregation provisions for dangerous goods need not apply within a vehicle or freight container.

Existing text from 3.4.6

3.4.3.7. In addition to the provisions for documentation specified in 5.4.1, the words "limited quantity" or "LTD QTY" shall be included with the description of the consignment (see 5.4.1.5.2).

Existing text from 3.4.7

3.4.3.8. Packages containing dangerous goods in limited quantities need not be marked with the proper shipping name of the contents, but shall be marked with the UN number of the contents (preceded by the letters "UN") placed within a diamond. The width of line forming the diamond shall be at least 2 mm; the number shall be at least 6 mm high. Where more than one substance is included in the package and the substances are assigned to different UN numbers, then the diamond shall be large enough to include each relevant UN number. [The mark shall be applied on at least one side or end of the outer packaging and conform to the provisions of paragraphs 5.2.1.2 (a) to (d).]

Existing text from 3.4.8 except for the last sentence. A number of limited quantity packages have been seen where they were obscured by other package markings and this was proposed in INF51 as an editorial amendment. The sentence would align with other marked dangerous goods

It is suggested that these marks are illustrated in future editions of the regulations.



[3.4.3.8A Overpacks containing packages conforming to these provisions shall be marked in accordance with the provisions of 3.4.8.]

It is suggested that the provisions for overpacks applicable to regulated substances should be applied.

3.4.3.9. [Where the total consignment on one transport unit exceeds 10,000kg (gross mass) a transport unit shall be marked as follows:



The mark shall be at least 250 x 250mm. The width of line forming the diamond shall be at least 10 mm; the number shall be at least 50 mm high.]

3.4.4 [Consumer commodities]

3.4.4.1. A limited quantity which is intended or suitable for personal, recreational or household use including drugs, medicines and other items administered or sold to or for humans or animals by doctors, medical administrations, veterinary practitioners, pharmacies or retail sales distributors may be carried as a consumer commodity under the conditions set out below.

Current ICAO Text

[Consumer commodities are materials that are packaged and distributed in a form intended or suitable for retail sale for purposes of personal care or household use. These include items administered or sold to patients by doctors or medical administrations]

3.4.4.2. The applicable quantity limit for the inner packaging or article [**shall be one half OR 500g/500ml**] of that specified for each substance in Column 7 of the Dangerous Goods List in Chapter 3.2. In addition, the word "None" has been indicated in Column 7 of the Dangerous Goods List in Chapter 3.2 for each entry not permitted to be transported in accordance with this Chapter.

It is suggested that these marks are illustrated in future editions of the regulations.

For ADR this would be part of Chapter 3.4 and remain outside the scope of orange plates, driver training etc. This cannot be addressed in the UN working group as it is a modal issue.

ADR does not require documentation it is the only mode that doesn't and perhaps the Joint Meeting would have to review this.

There may need to be a cross reference to the provision in Part 7 of the model regulations.

From INF51 July 2002 Sub Committee

It has been suggested that the ICAO definition may be preferable

At present ICAO limit liquid to 500ml and solids to 500g as consumer commodities. This should align broadly with PGII substances. Using this figure of 50% of the limited quantity value in column 7 would permit 2.5l/2,5kg PGIII quantities.

For non-flammable aerosols there would be reduction from 820ml but flammable aerosols would be unchanged.

There are no limited quantities generally for other gases ICAO permit up to 120ml.

These quantities are not as generous as permitted under the ORM – D provisions of 49CFR.

3.4.4.3. Consumer commodities shall meet the requirements of 3.4.3.2 to 3.4.3.7

3.4.4.4. Documentation is not required except as required in 3.4.4.6.

3.4.4.5. Packages containing consumer commodities shall bear the UN number "4000", preceded by the letters "UN", placed within a diamond. The width of the line forming the diamond shall be at least 2 mm and the UN number shall be at least 6 mm high. The mark shall be applied on at least one side or end of the outer packaging and conform to the provisions of paragraphs 5.2.1.2 (a) to (d).



It is suggested that these marks are illustrated in future editions of the regulations.

Alternatively insert "CQ" inside the diamond.

3.4.4.6. [Where the total consignment on one transport unit exceeds 5000kg a transport document in accordance with 5.4.1 shall be prepared and submitted to the carrier]

Consequential changes

UN No.	Name and Description	Class or division	Subsidiary risk	UN packing group	Special provisions	Limited quantities	Packagings and IBCs	
							Packing Instruction	Special Provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4000	CONSUMER COMMODITY	9			[3XX]	see Chapter 3.4	-	-

[3XX Consumer commodities are dangerous goods intended or suitable for personal, recreational or household use including drugs, medicines and other items administered or sold to or for humans or animals by doctors, medical administrations, veterinary practitioners, pharmacies or retail sales distributors. (see Chapter 3.4.2.)]

Issue Not addressed but worth consideration

- 1 Radioactive excepted quantities
To all intents these are a limited quantity provision once classified the package is marked with the UN number and a document only shows a UN number (see 2.7.9). Should the provisions be moved to Chapter 3.4?
- 2 Diagnostic specimens
These are a limited quantity type provision. Should the provisions be moved to Chapter 3.4?
- 3 Materials of trade. The model regulations and the modal regulations make no provision for small traders such as plumbers, electricians builders, farmers etc. to have any exemption from the regulations in practice a private individual could have more dangerous goods in their cars on a journey home from the supermarket. Should the UN adopt some provisions there are some simple transport exemptions in ADR and a more comprehensive approach in US regulations. The relevant text is shown in the appendix to this paper.
- 4 Alternative names

"Excepted Quantity" should stay and mean what it says *excepted from the regulations*.

"Limited Quantity" was questioned as it was small packages in unlimited quantities. "Limited Quantity" would have more meaning if a load marking limit is imposed and could be retained but if a change is needed, what about "Small Package Limits", "Small Packs", "Smalls"

"Consumer Commodity" if retained might be "Consumer Goods", "Consumer Products", "Consumer Packs", "Shop Goods", "Personal Use Goods", "Retail Goods", "Retail Packs", "User Packs", "People Products", "People Packs"

A couple of meanings attributed to "Consumer Goods":
Oxford English Dictionary 1952 - *things which directly satisfy human wants*
Oxford English Dictionary 1998 - *goods bought and used by consumers, rather than by manufacturers for producing other goods.*

Meanings change through usage over the years. Perhaps *"Consumer"* needs to be dropped.

Appendix

Extract from ADR

1.1.3.1 Exemptions related to the nature of the transport operation

The provisions laid down in ADR do not apply to:

- (a) the carriage of dangerous goods by private individuals where the goods in question are packaged for retail sale and are intended for their personal or domestic use or for leisure or sporting activities;
- (b) the carriage of machinery or equipment not specified in ADR and which happen to contain dangerous goods in their internal or operational equipment;
- (c) the carriage undertaken by enterprises which is ancillary to their main activity, such as deliveries to building or civil engineering sites, or in relation to surveying, repairs and maintenance, in quantities of not more than 450 litres per packaging and within the maximum quantities specified in 1.1.3.6. Carriage undertaken by such enterprises for their supply or external or internal distribution does not fall within the scope of this exemption;
- (d) the carriage undertaken by, or under the supervision of, the emergency services, in particular by breakdown vehicles carrying vehicles which have been involved in accidents or have broken down and contain dangerous goods;
- (e) emergency transport intended to save human lives or protect the environment provided that all measures are taken to ensure that such transport is carried out in complete safety.

NOTE: For radioactive material see 2.2.7.1.2

Materials of Trade from 49CFR

"Material of trade" means a hazardous material, other than a hazardous waste, that is carried on a motor vehicle

- (1) For the purpose of protecting the health and safety of the motor vehicle operator or passengers;
- (2) For the purpose of supporting the operation or maintenance of a motor vehicle (including its auxiliary equipment);

or

- (3) By a private motor carrier (including vehicles operated by a rail carrier) in direct support of a principal business that is other than transportation by motor vehicle.

§ 173.6 Materials of trade exceptions.

When transported by motor vehicle in conformance with this section, a material of trade (see § 171.8 of this subchapter) is not subject to any other requirements of this subchapter besides those set forth or referenced in this section.

(a) Materials and amounts. A material of trade is limited to the following:

- (1) A Class 3, 8, 9, Division 4.1, 5.1, 5.2, 6.1, or ORM-D material contained in a packaging having a gross mass or capacity not over
 - (i) 0.5 kg (1 pound) or 0.5 L (1 pint) for a Packing Group I material;
 - (ii) 30 kg (66 pounds) or 30 L (8 gallons) for a Packing Group II, Packing Group III, or ORM-D material;
 - (iii) 1500 L (400 gallons) for a diluted mixture, not to exceed 2 percent concentration, of a Class 9 material.

(2) A Division 2.1 or 2.2 material in a cylinder with a gross weight not over 100 kg (220 pounds), or a permanently mounted tank manufactured to ASME standards of not more than 70 gallon water capacity for a non-liquefied

Division 2.2 material with no subsidiary hazard.

(3) A Division 4.3 material in Packing Group 11 or III contained in a packaging having a gross capacity not exceeding 30 ml, (1 ounce).

(4) This section does not apply to a hazardous material that is self-reactive (see § 173.124), poisonous by inhalation (see § 173.133), or a hazardous waste.

(b) Packaging.

(1) Packagings must be leak tight for liquids and gases, sift proof for solids, and be securely closed, secured against movement, and protected against damage.

(2) Each material must be packaged in the manufacturer's original packaging, or a packaging of equal or greater strength and integrity.

(3) Outer packagings are not required for receptacles (e.g., cans and bottles) that are secured against movement in cages, carts, bins, boxes or compartments.

(4) For gasoline, a packaging must be made of metal or plastic and conform to the requirements of this subchapter or to the requirements of the Occupational Safety and Health Administration of the Department of Labor contained in 29 CFR 1910.106(d)(2) or 1926.152(a)(1).

(5) A cylinder or other pressure vessel containing a Division 2.1 or 2.2 material must conform to packaging, qualification, maintenance, and use requirements of this subchapter, except that outer packagings are not required. Manifolding of cylinders is authorized provided all valves are tightly closed.

(c) Hazard communication.

(1) A non-bulk packaging other than a cylinder (including a receptacle transported without an outer packaging) must be marked with a common name or proper shipping name to identify the material it contains, including the letters "RQ" if it contains a reportable quantity of a hazardous substance.

(2) A bulk packaging containing a diluted mixture of a Class 9 material must be marked on two opposing sides with the four-digit identification number of the material. The identification number must be displayed on placards, orange panels or, alternatively, a white square-on-point configuration having the same outside dimensions as a placard (at least 273 mm (10.8 inches) on a side), in the manner specified in § 172.332 (b) and (c) of this subchapter.

(3) A DOT specification cylinder (except DOT specification 39) must be marked and labeled as prescribed in this subchapter. Each DOT-39 cylinder must display the markings specified in § 178.65(i).

(4) The operator of a motor vehicle that contains a material of trade must be informed of the presence of the hazardous material (including whether the package contains a reportable quantity) and must be informed of the requirements of this section.

(d) Aggregate gross weight. Except for a material of trade authorized by paragraph (a)(1)(iii) of this section, the aggregate gross weight of all materials of trade on a motor vehicle may not exceed 200 kg (440 pounds).

(e) Other exceptions. A material of trade may be transported on a motor vehicle under the provisions of this section with other hazardous materials without affecting its eligibility for exceptions provided by this section.