



SUB-COMMITTEE ON DANGEROUS  
GOODS, SOLID CARGOES AND  
CONTAINERS  
8th session  
Agenda item 3

DSC 8/3/11  
11 July 2003  
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**AMENDMENTS TO THE IMDG CODE AND SUPPLEMENTS, INCLUDING  
HARMONIZATION OF THE IMDG CODE WITH THE  
UN RECOMMENDATIONS ON THE TRANSPORT  
OF DANGEROUS GOODS**

**Outcome of the United Nations informal Working Group on  
dangerous goods packed in limited quantities**

**Submitted by the Chairman of the DSC Sub-Committee**

**SUMMARY**

**Executive summary:** The Sub-Committee is invited to make comments on the report of the United Nations Limited Quantities informal Working Group (attached as an annex to this proposal) for consideration at the next meeting of this Working Group in October 2003

**Action to be taken:** Paragraphs 6 and 7

**Related documents:** ST/SG/AC.10/C.3/44, ST/SG/AC.10/C.3/2003/CRP.1/Add.4

1 At its twenty-second session (2 to 6 December 2003), the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods decided to include the transport of dangerous goods packed in limited quantities in its programme of work for 2003-2004. In addition, the United Nations Sub-Committee agreed that an informal working group should consider the issue with the following terms of reference:

- .1 the informal working group should try to establish thresholds, in terms of both quantity in packages and quantities per transport unit, below which substances need not be subject to the full scope of the United Nations Model Regulations;
- .2 the informal working group should try to achieve intermodal harmonisation for classification, packaging standards, package sizes, documentation, marking and labelling (including placards), limiting modal differences to provisions concerning transport operations; and
- .3 the informal working group should try to review the terminology that applies to goods that need not be subject to the full scope of the current Regulations, i.e. "goods packaged for retail sale", "Limited Quantities", "Consumer Commodities".

In addressing these objectives, the informal working group was asked to give consideration to:

- the balance between trade and safety;
- the impact on industry and the public;
- cost/benefit; and
- enforcement.

The review should consider all classes of dangerous goods.

2 Moreover, the United Nations Sub-Committee was of the opinion that, throughout the process, the informal working group should ensure that there is wide representation and consultation with the relevant modal representatives, intergovernmental organisations and industry bodies. The chairman of the modal bodies is invited to participate, solicit the views of their constituencies and advise accordingly.

3 The Limited Quantities informal Working Group met in Paris (25 to 27 June 2003). Its report is attached as an annex to this document.

4 During its meeting, the informal working group suggested to encourage the appropriate modal bodies to consider the different options mentioned in its report in order to follow the UN Sub-committee advice, as mentioned in paragraph 2 of the current proposal, and in order to develop a satisfactory solution.

5 At its twenty-third session, the Sub-Committee of Experts agrees that the informal working group should pursue its work, and that a full day discussion on this issue should be scheduled for the December 2003 session of the United Nations Sub-Committee. The next informal working group meeting is scheduled to be held in on 22 to 24 October in Montreal, at ICAO headquarters.

6 In that context, the Sub-Committee is invited to make comments on the report of the Limited Quantities informal Working Group for consideration at the next meeting of this Working Group in October 2003.

#### **Action requested of the Sub-Committee**

7 The Sub-Committee is invited to consider the above and take appropriate action.

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**ANNEX**

UN/SCETDG/23/INF.30

**COMMITTEE OF EXPERTS ON THE TRANSPORT OF  
DANGEROUS GOODS AND ON THE GLOBALLY  
HARMONIZED SYSTEM OF CLASSIFICATION  
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the  
Transport of Dangerous Goods  
(Twenty-third session, 30 June to 4 July 2003)

**UN *AD HOC* WORKING GROUP ON LIMITED QUANTITIES****Report of Meeting 1, Paris, 25 to 27 June 2003**

At the 22nd session, the United Nations Committee of Experts for the Transport of Dangerous Goods and the Globally Harmonised System agreed that a working group should consider the issue of Limited Quantities in accordance with terms of reference that are attached to this report. (attachment 1).

The Limited Quantities Working Group met in Paris, 25-27 June 2003, with participation by organisations and people as listed in attachment 2. This document is a summary of the discussions of the Working Group.

It commenced by considering the issues raised in the thought starter document LQWG.doc.2003/03 from the UK (attachment 3). Some key initial reactions to the draft text are presented below.

Industry wants to move materials seamlessly across modes. They find the excepted quantities provisions in ICAO useful and want the provisions extended to all modes. Without these provisions being accepted in Europe goods arriving in Europe by air as excepted quantities may have no documentation, and hence have difficulty complying with RID/ADR.

**Excepted Quantities**

The first issue discussed was whether there was a need to introduce small quantity exceptions similar to the Excepted Quantity provisions in ICAO TI.

Three options were considered:

First, ICAO as it stands, Part 4.1, which is broader than current UN Limited Quantities but it has more specific packaging requirements.

Second, a subset of the present Limited Quantities but with lower quantity limits (aligned with ICAO Excepted Quantities), no documentation or marking requirements and covering only substances currently allowed as UN Limited Quantities.

There was a third option: not to introduce excepted quantities at all because the issue may be resolved following discussion of Limited Quantities.

### **Action**

USA will review and report on materials covered by the provisions for ICAO Excepted Quantities which were not covered by UN Limited Quantities.

### **Limited Quantities**

The Working Group agreed to work through the key elements applicable to transport of dangerous goods with a view to identifying what needed to apply for reduced transport requirements.

#### **Scope and thresholds**

Present position was described as follows:

There is a clear multimodal discontinuity between IMDG (aligned with UN), ICAO and RID/ADR.

The WG noted that the inner packaging quantities in the United Nations Model Regulations were harmonised on the basis of document ST/SG/AC.10/C.3/1999.Inf.8

However it was noted that some differences still exist in various regulations.

IMDG is aligned with UN except for certain severe marine pollutants, which have lower quantity limits for inner packagings. The working group was prepared to accept this deviation.

Air mode also has some differences and needs to review them.

### **Action:**

Comparative lists will be prepared by France and USA to show differences between UN and RID/ADR, CFR49 and ICAO/IATA.

IECC will provide a list of differences between ICAO and RID/ADR to include in the review.

#### **Packaging Standards**

Agreed that there is no need to change the packaging requirements for Limited Quantities. Packaging will be required to withstand the normal provisions of transport but need not be performance tested.

Air standard packagings are more robust than others so they are accepted for all other modes. Agreed to leave unchanged.

Perhaps add a note in the recommendations that there are different requirements for air and these are accepted for all other modes.

### Segregation requirements

UN requires segregation within outers so inners of incompatible goods may not be transported within one outer. However, incompatible dangerous goods in outers may be transported together within freight containers. This requirement is harmonised across all surface modes and most jurisdictions. No change needed to United Nations Model Regulations.

### Hazard Communication (Labelling, placarding, Documentation)

It seemed to be generally agreed that there is a need to accompany Limited Quantities loads of dangerous goods with information. The information may be documentation or some signage on the packaging and transport unit. This needs to be agreed.

Dangerous Goods Consignors find redrafting DG documentation for each segment of distribution is not practical. They would prefer some sort of marking on packages.

The designation of Proper Shipping Name is not practical for regions with a multitude of languages.

Two broad options were put forward for consideration.

#### Option 1

It was proposed that the recently adopted provisions (December 2002) for marking limited quantity packages should be maintained (i.e. UN number(s) in a diamond) for road, rail and sea transport.

Dangerous goods that meet the limited quantity conditions and that also meet the definition of consumer commodities could be afforded further exceptions such as allowing them to be described using a single UN number (e.g., UN 8000) and excepting them from the requirement for a transport document when transported by road and rail.

As a variation of this option, it may be possible to combine limited quantities and consumer commodities in one grouping using a single package mark and extending the transport document exception to limited quantities for road and rail transport. For transport by air and sea it would be reasonable to maintain the existing requirements for transport documentation and in the case of air transport, the requirement to use a hazard label.

#### Option 2

It was also suggested that the hazard could be communicated in all modes of transport by using a mark on packages and/or transport units. Provisions for Limited Quantities and Consumer Commodities would be combined.

The mark would be a [shape] of a single colour.

If the contents of the package or transport unit consist of mixed classes of dangerous goods in Limited Quantities then the symbol UN8000 shall appear in the [shape].

If the consignment is a mix of Limited Quantities of the same class, then additionally the class number shall appear in the bottom of the [shape].

If the consignment is a substance of a single UN No then in addition to the symbol UN8000, the appropriate UN No shall appear in the bottom of the [shape].

Segregation requirements could be eliminated.

If this information appears on the packages and transport unit, then no dangerous goods transport documentation may be needed.

Samples of the marks are shown below. Attachment 4

These options were discussed at length with concerns being expressed about:

- confusion of multiple UN Nos,
- segregation,
- threshold quantities,
- how to manage distribution runs where there were changes to the load,
- whether the placard was needed for land transport of LQs
- emergency response capability
- appropriate new terminology to designate Limited Quantities and consumer commodities in all modes to allow seamless transport.

The discussion covered the need for marking Limited Quantities loads and there were several suggestions that the marking should apply only at significant quantities, e.g. 10,000 kg, at which point documentation may be needed.

The communication was needed for emergency response, segregation and incident reporting. However, the second option was to stimulate thought as to whether or not transport documentation was still needed. It was possible that documentation other than formal dangerous goods documentation was appropriate.

The appropriate modal and industry bodies were encouraged to consider the options above and comment, preferably in time for the working group to consider at its next meeting in October 2003 so the working group may develop them to a satisfactory solution.

### **Terminology**

No clear terminology was decided.

### **Anomalies**

Several anomalies, listed in Document 03, were identified when UK reviewed the text and they drew them to the attention of the working group. These were considered and it was decided to take no further action at this time. The USA indicated that further consideration may be appropriate based on the differences identified between CFR49 and the United Nations Model Regulations. (e.g., division 6.1, PGII substances)

### **Next meeting**

The next meeting is scheduled to be held in on 22-24 October in Montreal, at ICAO headquarters.

The meeting closed at 1250.

### **List of Attachments**

1	Terms of reference
2	Organisations and people as listed
3	Thought starter document LQWG.doc.2003/03 from the UK
4	Photograph of sample shapes and marks for Limited Quantities loads.

## **UN *AD HOC* WORKING GROUP ON LIMITED QUANTITIES**

### **Attachment 1**

#### **Terms of Reference**

**(from Doc INF22, December 2002, 22nd session of the Sub-Committee)**

The working group should try to achieve the following outcomes:

1. Establish thresholds, in terms of both quantity in packages and quantities per transport unit, below which substances need not be subject to the full scope of the United Nations Model Regulations;
2. Intermodal harmonisation for classification, packaging standards, package sizes, documentation, marking and labelling (including placards), limiting modal differences to provisions concerning transport operations; and
3. Review the terminology that applies to goods that need not be subject to the full scope of the current Regulations i.e. "goods packaged for retail sale", "Limited Quantities", "Consumer Commodities".

In addressing these objectives consideration should be given to:

- the balance between trade and safety;
- the impact on industry and the public;
- cost/benefit; and
- enforcement.

Throughout the process the working group should ensure that there is wide representation and consultation with the relevant modal representatives, intergovernmental organisations and industry bodies. The chairman of the modal bodies will be invited to participate, solicit the views of their constituencies and advise accordingly.

The review should consider all classes of dangerous goods.

## UN *AD HOC* WORKING GROUP ON LIMITED QUANTITIES

### Attachment 2

#### Participants List

Claude Pfauvadel	France
Olga Pestel Le Fevre	French MOT
Nicholas Noisette	CEPE
Bob Richard	US DOT
Larry Beirlein	Association of Hazmat Shippers, USA
Linda Hume Sastre	DOT Canada
Martin Castle	PIRA
Jeff Hart	UK DfT
Alex McCulloch	International Express Carriers Conference
Sibrand Hassing	Netherlands
Patrick van Lancker	Belgium
Rob van Uffelen	International Chamber of Shipping
Claus-Dieter Helmke	FIATA
Frank Krischok	BAM
Karl-Heinz Bell	German Ministry of Transport.
Daleen Fourie	RSA
Jean Abouchaar	IATA
Friederich Kirchnawy	Austria
Lennox John	AISE
Volker Krampe	FEA
Ken Price	Riskom International Pty Ltd
Jo Letonquese	France

## **UN AD HOC WORKING GROUP ON LIMITED QUANTITIES**

### **Attachment 3**

**PARIS, 25 – 27 JUNE 2003**

THOUGHT STARTER PAPER PRESENTED BY THE EXPERT OF THE UNITED KINGDOM

#### **Introduction**

1. Following an informal meeting hosted by the expert of France, in Paris in November 2002, it was agreed that the United Kingdom would prepare a first draft of possible proposals to revise UN limited quantity provisions, taking into account the views of that meeting. Subsequently, further informal discussions were held at an informal meeting hosted by a number of trade associations, in Geneva on 5 December 2002. The UK confirmed its offer to draft such a paper, to address in addition consumer commodities and other small quantity exemptions.
2. Following discussions with British industry, a first draft paper was developed and circulated to both national and international interests to determine their reaction. This paper sets out a range of possible changes to the UN provisions having taken account of the many constructive comments received. This paper should not be seen as a UK proposal, but rather as a thought starter that might be used as a basis for more detailed discussion.
3. Each of the modes has a number of variations both of principle and detail from the UN provisions on limited quantities. This is particularly the case with the air mode where, in addition to limited quantities, excepted quantity and consumer commodity concepts are addressed. These have been taken into account in the following draft proposals, as well as 'small quantity' provisions in 49CFR. It was suggested at the Paris meeting that, ideally, new terminology should be developed that could at least incorporate the concepts of limited quantity packages and consumer commodities. Some possible suggestions are included in this paper.

#### **Principles adopted in this proposal**

The following categories of goods have been considered:

##### *Exempted substances*

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

##### **Substances partially regulated**

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

Excepted Quantity Packages;  
Limited Quantity Packages;  
Consumer Packages.

## **Limited Quantities in Column 7**

It was not part of the mandate of this group to review in detail the quantities in column 7 of the Dangerous Goods List. However, in the course of this work, a number of anomalies have been identified and should perhaps be considered by the Working Group.

The changes made in the UN Model Regulations in 1999 allowed for PGIII in classes 3, 6.1 and 8 allows 5 litres per receptacle i.e. standard across the most common classes. For PGII the limits are 1 litre per receptacle for classes 3, 5.1 and 8 but only 100 ml 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. UN 3148 water reactive solids.

### **Draft proposal**

The following text sets out a consolidated revision of Chapter 3.4 addressing the issues identified above and identifying points that need further consideration.

### **Chapter 3.4 Dangerous Goods Packed in Excepted, [Consumer Commodities/Retail Sale] and [Limited] Quantity Packages**

*NOTE major changes are underlined*

*Square brackets indicate that names/terms should be reviewed*

*Explanatory text is shown in light italic text*

### **Draft proposal**

3.4.1. This Chapter provides provisions for the transport of certain dangerous goods in:

Excepted quantity packages,  
[Consumer Packages], and  
[Limited quantity packages].

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

#### **3.4.2 Excepted Quantity Packages**

3.4.2 Excepted quantity packages of dangerous goods may only be carried in accordance with the limitations and provisions contained in this part.

3.4.2.2. Excepted quantity packages may only be transported if there is a limited quantity packaging 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 3.4.2.2.3 – 3.4.2.2.9

Class or Division	PG	Qty per inner
Division 2.1 Aerosols <50ml		<50mL
Division 2.2 Without subsidiary risk		30mL
<u>Aerosols &lt;50ml</u>		<u>&lt;50mL</u>
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/30 g
Class 9		30mL/30g

\*if subsidiary hazard label required 1mL/1g

1. *This table and the quantities per inner are taken from the ICAO Technical Instructions without any change.*

2. *The air mode, generally regarded as 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 considered for adoption by the surface modes.*

3. *Aerosols have been included here as the 2.1 and 2.2 aerosols are currently exempted under SP191. A consequential change would be to remove SP191.*

3.4.2.3 Excepted quantity packages 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] or [30kg].

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.*

3.4.2.4. 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.

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

3.4.2.6. Excepted quantity packages transported according to this Chapter need not be labelled and transport units containing excepted quantity packages need not be placarded. Any segregation provisions for dangerous goods need not apply within a vehicle or freight container.

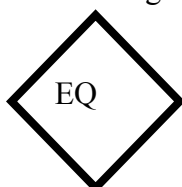
3.4.2.7. Documentation is not required except as required in 3.4.2.8.

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

3.4.2.8 Excepted quantity packages 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 [with minimum dimensions of 100x 100mm. If the size of the package so requires, the dimensions may be reduced, provided the markings remain clearly visible.] The width of line forming the diamond shall be at least 2 mm; the 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).]



Or some universally acceptable symbol e.g

*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.*

*This second label is black and orange stripes and comes from the Australian regulations and is used for mixed consignments*

[3.4.2.9. Where the total consignment of excepted quantity packages offered for transport exceeds 1000kg a transport document in accordance with 5.4.1 shall be prepared and submitted to the carrier]

OR

[3.4.2.9 No single consignment of excepted quantity packages shall exceed 100kg.]

*If certain transport unit 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, a consignment limit of say 100kg could be introduced. 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.*

The problem of mixed consignments on a transport unit will need to be considered

### **3.4.3 [Limited Quantity Packages][Small Package Limits]**

*It may be appropriate to exclude air transport from some of these provisions*

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.

*Existing text from 3.4.1.*

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.

*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 may be packed in the outer packaging of a limited quantity package provided they will not interact dangerously in the event of leakage.

*Existing text from 3.4.5*

3.4.3.6. Limited quantity packages transported according to this Chapter need not be labelled and transport units containing limited quantity packages need not be placarded. 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. Limited quantity packages 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 [with minimum dimensions of 100x 100mm. If the size of the package so requires, the dimensions may be reduced, provided the markings remain clearly visible.] 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).]



Or some universally acceptable symbol e.g

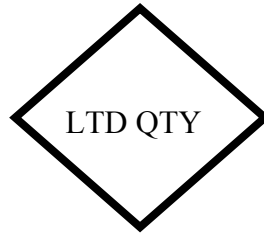
*Existing text from 3.4.8 except for the last sentence. A number of limited quantity packages have been seen where they were obscured by other package markings and this was proposed in INF51 as an editorial amendment. The sentence would align with other marked dangerous goods ??*

*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 3.4.3.8.]

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

3.4.3.9. [Unless otherwise permitted by the Competent Authority where the total load of limited quantity packages on one transport unit exceeds 10,000kg (gross mass) a transport unit shall be marked as follows:



Or some universally acceptable symbol e.g

The letters “LTD QTY” shall be placed within a diamond with minimum dimensions of 250mm x 250mm. The width of the line forming the diamond shall be at least 10mm and the text shall be at least 50mm high. The symbol and text shall be shown in black on a white background.]

*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.*

*RID/ADR does not require documentation. These are the only modes that do not 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*

### **3.4.3 [Consumer packages]**

*Are Consumer Commodities needed in international transport now?*

*The question has been raised about the need for consumer commodities in the regulations, the argument being that they are the same as limited quantities except in the air mode, where there is a single UN number for all classes covered by the provision (ID8000) and similarly in 49CFR.*

*Does the concept raise unnecessary confusion?*

*The intrinsic hazard of the substance is no different and sea and land modes have not adopted the concept. Perhaps for international transport the air mode should consider whether this is really needed.*

## **Background**

Looking back at the presentation made by Mr Bierlein and Mr Richard in December 2002 at the UN, they explained that part of the argument used to develop this concept for inclusion in US legislation was:

1. That consumer labelling would appear on such small packages and therefore another level of labelling (i.e. the transport labels) was unnecessary.

(Comment: This applies to all packages in the RID/ADR states because consumer labelling applies to all packaging including tanks which are now required to have some level of consumer labelling. Consumer labelling on smaller packages is required in most countries of the world but the systems are different. With the GHS system likely to be adopted in the next few years a worldwide consumer/transport labelling system would apply.)

2. Many consumer commodities are despatched by consignors who are not the original manufacturer and they do not have the detailed knowledge of the product.

(Comment: This applies equally to limited quantities and possibly to a number of fully regulated consignments.)

3. Many of the products are carried by individuals in the course of their day to day work e.g. 'Avon ladies', certain tradesmen, not as tools of their trade but rather to sell or distribute.

(Comment: This applies equally to limited quantities)

4. Many of the consignments are mixed in that there may be aerosols, perfumes, lighters etc in the same package. A dangerous goods note would be overly complex and offer little benefit in an emergency.

(Comment: This applies equally to limited quantities)

5. Most of these points apply to limited quantities of dangerous goods and in the IMDG Code, RID and ADR the consumer concept as set out in US regulations and the air rules do not exist.

## **Limited Quantities v Consumer commodities**

	<i>RID/ADR</i>	<i>IMDG</i>	<i>US</i>	<i>ICAO</i>
<i>Labels</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes ( Class 9)</i>
<i>Marks</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
	<i>All UN nos. or "LQ"</i>	<i>All UN nos.</i>	<i>ORMD</i>	<i>ID8000</i>
<i>Document</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>
<i>Mixed substances</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>

## **Air regulations - benefits of consumer commodities**

6. ICAO included consumer commodity provisions from the introduction of the TIs. Limited quantities only became an option in the air mode at a later date.

7. *State exception USG13 limits the amount of dangerous goods in a single aircraft hold to 25kg. One of the exceptions is consumer commodities.*

8. *A single UN number allows classes 2.1, and 2.2 (aerosols only), 3,4, 5 6.1, 8 and 9 as far as they contain consumer commodities, to be carried together in the same package under a single number.*

9. *Are Class 9 labels valuable in this case? The label is identifying no Class 9 hazard(s) but it is identifying Classes 2, 3, 4, 5, 6.1 and 8. It could be argued that the label is a confusion in an emergency. In addition the packages could contain a mixture of Classes.*

10. *There is no need to specify a precise quantity on the shipping paper - which can be a problem for many of these shipments that are "made to order"*

*(Comment: is this a real problem? Most carriers charge by volume and or weight so is it that difficult to weigh a package?)*

11. *By having a single proper shipping name, it makes a simpler declaration.*

*(Comment: Is there an argument here to say that certain small quantities of limited quantities not exceeding Xkg can be transported under a single UN number e.g.8000? Conditions would have to be developed, probably based on PI910)*

12. *UN has given separate UN numbers for liquid and solid entries to certain substances that were previously a single number for both liquid and solid. They are assigned Packing Instructions accordingly. PI910 for consumer commodities will thus be an anomaly in its present form as it encompasses liquids, solids and gases (aerosols).*

### ***Surface/air interface***

13. *Consumer commodities are not recognised in the surface modes, yet they are a very important sector of the air freight market. These goods are not generally manufactured and packed and shipped from an airport, they are transported by road from the packer/manufacturer to the airport. Technically they would be in breach of the rules because they do not align with the UN system.*

14. *The options appear to be:*

- *remove Consumer Commodities from the air mode;*
- *adopt the concept of Consumer Commodities in the other modes; or*
- *find a compromise of perhaps allowing small consignments of limited quantities to travel under a single UN number.*

3.4.4.1. Consumer packages are dangerous goods that are packaged and distributed in a form intended or suitable for retail sale for purposes of personal care, [recreational] or household use. These commodities include 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. Consumer Commodities may be transported as set out in 3.4.4.2 – 3.4.4.6 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]

*From INF51 July 2002 Sub Committee*

*It has been suggested that the ICAO definition may be preferable*

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.

*At present ICAO limit liquids 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/2kg, 5kg PGIII quantities.*

*For non-flammable aerosols there would be a 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 packages 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. Consumer packages containing consumer commodities shall bear the UN number "4000" [8000], preceded by the letters "UN", placed within a diamond [with minimum dimensions of 100x 100mm. If the size of the package so requires, the dimensions may be reduced, provided the markings remain clearly visible]. 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).

[8000] or some universally acceptable symbol

*It is suggested that these marks be 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 [8000]	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.)]

### Issues not addressed in this paper but needing further 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 the transport document only shows a UN number (see 2.7.9). Should these 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 etc. to have any exemption from the regulations. In practice, a private individual could carry more dangerous goods in their cars on a journey home from the supermarket. Should the UN address this apparent anomaly? 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 really means small packages in unlimited quantities. "Limited Quantity" would have more meaning if a load marking limit is introduced and could then be retained. However if a change is needed, perhaps "Small Package Limits", "Small Packs", "Small Quantities" might be appropriate.

**"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"

Some 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.*

This illustrates how meanings change through usage over the years. Perhaps "*Consumer*" is no longer appropriate?

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 II 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).

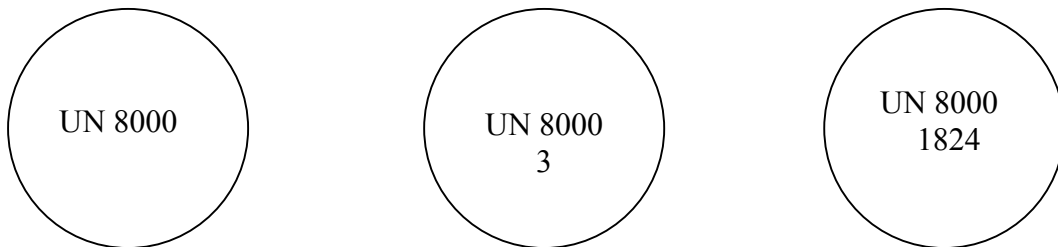
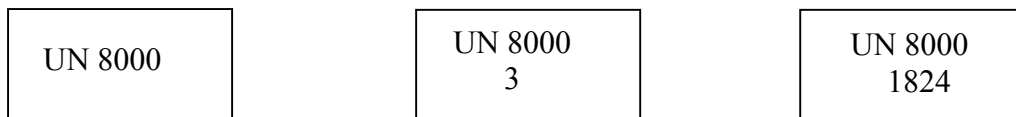
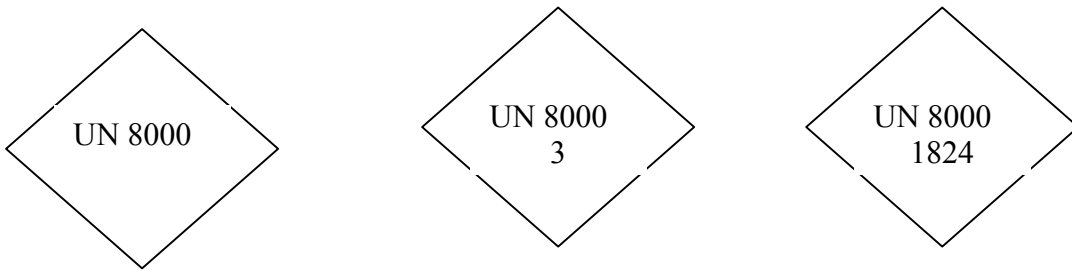
- (5) A cylinder or other pressure vessel containing a Division 2.1 or 2.2 material must conform to packaging, qualification, maintenance, and use requirements of this subchapter, except that outer packagings are not required. Manifolding of cylinders is authorized provided all valves are tightly closed.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

**UN AD HOC WORKING GROUP ON LIMITED QUANTITIES**

**Attachment 4**

**Photograph of shapes for Limited Quantities markings**

- (1) USE AS MARK ON PACKAGE
- (2) USE AS LABEL ON TRANSPORT UNITS/CTU



= MIXED LOAD  
OF LQs/CC IN  
MORE THAN  
1 CLASS

= MIXED LOAD  
OF LQs/CC IN  
ONLY  
1 CLASS

= LQs/CC OF  
ONE UN  
NUMBER

TREAT AS CLASS 9 FOR SEGREGATION

NO DOCUMENT

