

## **Dangerous Goods (Amendment) Bill 2000**

**Information requested by the Bills Committee at its meeting  
held on 8 March 2001 (2<sup>nd</sup> part)**

### **Overseas regulation**

We have, through our consultants, made an effort to research into the legislation of Australia, UK, USA, Singapore and Japan with respect to dangerous goods found in consumer packs. Given the complexity of the subject and the variations of the national control regimes, the research has proved to be difficult and cannot be comprehensive within the time available. Information of the Japanese legislation is not available. Some relevant indications of the legislation of the other countries, to the best of our knowledge, are provided in the table attached.

Security Bureau

May 2001

## Summary of Legislative Control Overseas for Storage, Manufacture and Use of Dangerous Goods (DG)

Country	General legislative framework	Specific provisions for DG found in consumer packs
Australia	<ul style="list-style-type: none"> <li>• The manufacture, storage and use of DG is regulated by Dangerous Goods (General) Regulations (DGGR) 1999. Its DG classification scheme is the same as the IMDG Code's.</li> <li>• The legislative framework of Australia is quite similar to that of Hong Kong, in that control is exercised by licensing. Pursuant to DGGR, any person who manufactures, stores or uses DG exceeding the exempted quantities is required to apply for a licence from the licensing authority. Before the licence is issued, the applicant is required to satisfy the licensing authority that the requirements contained in DGGR as well as the Australian Standards (AS) have been complied with. These include AS 4332 (gases), 1940 (flammable liquids), 4326 (oxidising agents), 2714 (peroxides), 4452 (toxics), 3780 (corrosives) and 3833 (mixed goods). The requirements in these Australian Standards are similar to the standard fire safety requirements specified in the DG storage licences issued by FSD.</li> <li>• The way the exempted quantities is set out in DGGR is also similar to that to be proposed in our amendment to the subsidiary legislation after passage of the DG (Amendment) Bill 2000 of Hong Kong, in that the</li> </ul>	<ul style="list-style-type: none"> <li>• For aerosol products (i.e. Class 2 DG), DGGR provides for the following exempted quantities:- <ul style="list-style-type: none"> <li>➤ Aerosols containing flammable gas : 5,000 kg</li> <li>➤ Aerosols containing toxic gas : 50 kg</li> <li>➤ Aerosols containing non-flammable &amp; non-toxic gas : no licence required</li> </ul> </li> <li>• Apart from aerosol products, DGGR also provides for higher exempted quantities for less hazardous Classes 2 and 3 DG based on the size of the individual package. They are:- <ul style="list-style-type: none"> <li>➤ Class 2 DG (Compressed Gases) <ul style="list-style-type: none"> <li>◆ liquefied flammable gas (other than aerosols) in disposable containers</li> </ul> </li> <li>➤ Class 3 DG (Flammable Liquids) <ul style="list-style-type: none"> <li>◆ For Packaging Group I or II Substances : individual package size not exceeding 5 litres</li> <li>◆ For Packaging Group III : individual package size not exceeding 25 litres</li> </ul> </li> </ul> </li> </ul>

Country	General legislative framework	Specific provisions for DG found in consumer packs
	<p>exempted quantities are, as appropriate, divided into three levels according to the Packaging Group* to which the substance belongs. Some examples of the exempted quantities are as follows –</p> <ul style="list-style-type: none"> <li>➤ Class 2 DG (Compressed Gases) <ul style="list-style-type: none"> <li>◆ flammable (liquefied gas) : 150 kg</li> <li>◆ flammable (other than a liquefied gas) : 60m<sup>3</sup></li> <li>◆ toxic (liquefied gas) : 50 kg;</li> <li>◆ toxic (other than a liquefied gas) : 20 m<sup>3</sup></li> <li>◆ Non-flammable &amp; non-toxic : 600 m<sup>3</sup> if cryogenic liquid, otherwise unlimited</li> </ul> </li> <li>➤ Class 3 DG (Flammable Liquids) <ul style="list-style-type: none"> <li>◆ in Packaging Group I or II : 100 litres</li> <li>◆ in Packaging Group III : 1,000 litres</li> </ul> </li> <li>➤ Class 4 DG (Flammable, Spontaneous &amp; Dangerous When Wet Substances) and Class 5.1 DG (Oxidizing Substances) <ul style="list-style-type: none"> <li>◆ Packaging Group I : 25 kg</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Storage within exempted quantities still requires compliance with the Australian Standards.</li> </ul>

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\* In brief, in respect of certain classes of dangerous goods, the IMDG Code's packaging regime would subject the dangerous substances caught to prescribed scientific tests and then classify each of the dangerous substances under one of the three 'Packaging Groups' according to the relative degree of danger displayed by it. 'Packaging Group I' substances pose a great danger and are therefore subject to the most stringent packaging requirements, while 'Packaging Group II' and 'Group III' substances pose a medium and minor danger respectively and are therefore subject to relatively less stringent packaging requirements.

Country	General legislative framework	Specific provisions for DG found in consumer packs
	<ul style="list-style-type: none"> <li>◆ Packaging Group II : 50 kg</li> <li>◆ Packaging Group III : 1,000 kg</li> <li>➤ Class 5.2 DG (Organic Peroxides) <ul style="list-style-type: none"> <li>◆ 20 kg (there is no Packaging Group)</li> </ul> </li> <li>➤ Class 6.1 DG (Toxic Substances) <ul style="list-style-type: none"> <li>◆ Packaging Group I : 10 kg</li> <li>◆ Packaging Group II : 100 kg</li> <li>◆ Packaging Group III : 1,000 kg</li> </ul> </li> <li>➤ Class 8 DG (Corrosive Substances) <ul style="list-style-type: none"> <li>◆ Packaging Group I : 50 kg</li> <li>◆ Packaging Group II : 500 kg</li> <li>◆ Packaging Group III : 1,000 kg</li> </ul> </li> <li>➤ Class 9 DG (Miscellaneous Substances) <ul style="list-style-type: none"> <li>◆ The licensing control does not apply to these substances except for elevated temperature liquid (UN no. 3257, 1,000 litres)</li> </ul> </li> </ul>	

Country	General legislative framework	Specific provisions for DG found in consumer packs
UK	<ul style="list-style-type: none"> <li>• The legislative framework of UK is quite different from that of Australia or Hong Kong. As regards the manufacture, storage and use of DG in general, the safety controls are provided for in the general legislation, namely the Health and Safety at Work Act (HSWA) which stipulates the requirements by regulations.</li> <li>• Apart from providing for safety regulations on the health, safety and welfare of people at work, HSWA also places a general duty on the operators of workplaces to adopt appropriate safety measures to prevent members of the public from any undue risk posed by DG. If the quantities of the DG concerned exceed the respective ‘notification limits’, he is further required to submit safety plans to the local fire brigade, the Health and Safety Executive and the local authority for approval and imposition of appropriate requirements.</li> <li>• There is no exempted quantity under this regulatory system. In other words, the operator concerned is required to fulfil his general duties irrespective of the quantities of the DG involved.</li> <li>• The Health and Safety Executive (HSE) has issued various sets of guidance notes on the manufacture, storage and use of different classes of DG. Failure to comply with these guidance notes is not an offence in itself. However, the compliance or non-compliance with such guidance notes may tend to negate or establish the liability of the operator concerned in the enforcement of legislation.</li> </ul>	<ul style="list-style-type: none"> <li>• HSWA also applies to retail outlets and general warehouses for DG found in consumer packs.</li> </ul>

Country	General legislative framework	Specific provisions for DG found in consumer packs
	<ul style="list-style-type: none"> <li>• The HSE guidance notes currently cover, inter alia, the following subjects:- <ul style="list-style-type: none"> <li>➤ Storage and handling of organic peroxides</li> <li>➤ Storage and handling of ammonium nitrate</li> <li>➤ Storage of flammable liquids in containers</li> <li>➤ Keeping of liquefied petroleum gas in cylinders and similar containers</li> <li>➤ Storage of packaged dangerous substances</li> <li>➤ Formula for health &amp; safety – guidance for small and medium sized firms in the chemical industry</li> </ul> </li> <li>• UK has also enacted specific planning legislation to regulate the manufacture, storage and use of very hazardous DG which present major hazards to the public. There is provision for exempted quantities which are of the order of several tonnes for flammables and a few hundred kg for highly toxic chemicals.</li> </ul>	

Country	General legislative framework	Specific provisions for DG found in consumer packs
USA	<ul style="list-style-type: none"> <li>• The legislative framework of USA is similar to that of UK. Safety controls on the storage, manufacture and use of DG are provided for in the general legislation, which stipulates the requirements by regulations.</li> <li>• To comply with such general legislation, the operators concerned are required to meet the relevant industry standards issued by the competent authority. These industry standards include National Fire Protection Association (NFPA) standards, such as - <ul style="list-style-type: none"> <li>➤ NFPA 30B : Code for the Manufacture and Storage of Aerosol Products</li> <li>➤ NFPA 30 : Flammable and Combustible Liquids Code</li> <li>➤ NFPA 43B : Storage of Organic Peroxide Formulations</li> <li>➤ NFPA 430 : Storage of Liquid and Solid Oxidisers</li> <li>➤ NFPA 55 : Compressed and Liquefied Gases</li> </ul> </li> <li>• The US has also enacted specific planning legislation to regulate the manufacture, storage and use of very hazardous DG which present major hazards to the public. There is provision for exempted quantities which are of the order of several tonnes for flammables and a few hundred kilogrammes for highly toxic chemicals.</li> </ul>	<ul style="list-style-type: none"> <li>• The general legislation is also applicable to DG found in consumer packs.</li> </ul>

Country	General legislative framework	Specific provisions for DG found in consumer packs
Singapore	<ul style="list-style-type: none"> <li>• The legislative control on DG is provided under the Environmental Pollution Control Act. The provisions in this legislation are similar to those of Hong Kong's DGO, in that a permit is required for storage of DG.</li>   <li>• However, this legislation only applies to about 100 specified substances which are mostly toxics but include some corrosives as well. The scope of DG subject to control in Singapore is much smaller than that in Hong Kong.</li>   <li>• Another major difference from Hong Kong is that Singapore's DG legislation does not provide for any exempted quantities. That is to say, the licensing control will apply to storage of any quantity of the specified substances.</li> </ul>	<ul style="list-style-type: none"> <li>• There is no special legislative provision to stipulate separate controls of DG found in consumer packs.</li> </ul>

## Summary of Legislative Control Overseas for Transport of Dangerous Goods (DG)

Country	DG transport legislative framework	Relevance to DG in consumer pack form
Australia	<ul style="list-style-type: none"> <li>• Transport of DG in Australia is governed by the Australia DG Code and the Road Transport Regulations.</li> <li>• The Australia DG Code is modelled upon the UN's Recommendations and is very similar to the IMDG Code.</li> <li>• In addition to classification, packaging and labelling of DG, these two pieces of legislation provide for regulatory requirements regarding proper documentation, vehicle placard, proper segregation of DG, personal protective kits and emergency equipment, as well as a licensing system for tankers transporting DG in bulk (but not other vehicles used for transporting DG).</li> <li>• The above controls will not apply if the quantities of DG transported are below the specified exempted quantities. The exempted quantities are 250 kg in aggregate for Class 2.1 or Packaging Group I of any Class and 1,000 kg for others.</li> </ul>	<ul style="list-style-type: none"> <li>• Exemptions from transport rules apply if the individual package size is less than the following figures and the aggregate quantity of DG under transport is less than 2,000 kg/ litres:-               <ul style="list-style-type: none"> <li>➤ Class<sup>‡</sup> 2.1 : 50 ml</li> <li>➤ Class 2.2 : 120 ml</li> <li>➤ Class 3, Packaging Group II : 1 litre (metal); 500 ml (glass or plastics)</li> <li>➤ Class 3, Packaging Group III : 5 litres</li> <li>➤ Class 4.1, Packaging Group II : 500 g (solid)</li> <li>➤ Class 4.1, Packaging Group III : 3 kg (solid)</li> <li>➤ Class 4.3, Packaging Group II : 500 g (liquid or solid)</li> <li>➤ Class 4.3, Packaging Group III : 1 kg (liquid or solid)</li> <li>➤ Class 5.1, Packaging Group II : 500 g (liquid or solid)</li> <li>➤ Class 5.1, Packaging Group III : 1 kg (liquid or solid)</li> <li>➤ Class 6.1, Packaging Group II : 500 g (solid)</li> <li>➤ Class 6.1, Packaging Group II : 100 ml (liquid)</li> <li>➤ Class 6.1, Packaging Group III : 3 kg (solid)</li> <li>➤ Class 6.1, Packaging Group III : 1 litre (liquid)</li> </ul> </li> </ul>

Country	DG transport legislative framework	Relevance to DG in consumer pack form
		<ul style="list-style-type: none"> <li>➤ Class 8, Packaging Group II : 1 kg (solid)</li> <li>➤ Class 8, Packaging Group II : 500 ml (liquid)</li> <li>➤ Class 8, Packaging Group III : 2 kg (solid)</li> <li>➤ Class 8, Packaging Group III : 1 litre (liquid)</li>   <li>• As DG in Class 2.3 or Packaging Group I are more hazardous, there is no exemption based on package size.</li> </ul>

Country	DG transport legislative framework	Relevance to DG in consumer pack form
USA	<ul style="list-style-type: none"> <li>• Transport of DG is governed by 49 Code of Federal Regulations (CFR) Part 171 to 180 : Hazardous Materials Regulations.</li> <li>• This contains general requirements for classification, packaging and labelling.</li> <li>• In addition, it also contains requirements for:- <ul style="list-style-type: none"> <li>➤ safe carriage</li> <li>➤ proper documentation</li> <li>➤ proper emergency response information</li> <li>➤ proper vehicle placard</li> <li>➤ a driver training scheme as well as proper training for persons handling hazardous materials</li> <li>➤ proper segregation between different classes of DG</li> <li>➤ a registration scheme for persons offering or accepting hazardous materials.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• The general transport requirements will not apply if the size of the individual package does not exceed:- <ul style="list-style-type: none"> <li>➤ 30 ml or 30 g quantity per receptacle other than Class 6.1 DG in Packaging Group I</li> <li>➤ 1 g for Class 6.1 DG in Packaging Group I</li> </ul> </li> </ul>

Country	DG transport legislative framework	Relevance to DG in consumer pack form
Singapore	<ul style="list-style-type: none"> <li>• Transport of dangerous goods is governed by the Environmental Pollution Control (Hazardous Substances) Regulations 1999.</li> <li>• The legislation applies to only about 100 named substances which are mostly toxics but include some corrosives as well.</li> <li>• A permit is required to transport DG exceeding the applicable exempted quantity.</li> <li>• The exempted quantity varies from 50 kg for cyanides, 500 kg for chlorine to 1,000 kg for hydrochloric acid.</li> </ul>	<ul style="list-style-type: none"> <li>• There is no specific exemption provided for DG found in consumer packs.</li> </ul>

- ‡ Class 2.1 : Flammable gases
- Class 2.2 : Non-flammable, non-toxic gases
- Class 2.3 : Toxic gases
- Class 3 : Flammable liquid
- Class 4.1 : Flammable solids, self-reactive substances and desensitized explosives
- Class 4.3 : Substances which, in contact with water, emit flammable gases
- Class 5.1 : Oxidizing substances
- Class 6.1 : Toxic substances
- Class 8 : Corrosive substances

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## Summary of Legislative Control Overseas for Transport of Dangerous Goods (DG) (continued)

Country	General legislative framework	Specific provisions for DG found in consumer packs
UK	<ul style="list-style-type: none"> <li>• Transport of DG is governed by the Carriage of Dangerous Goods by Road Regulations 1996. The regulatory requirements include –               <ul style="list-style-type: none"> <li>➤ general requirements for safe carriage</li> <li>➤ transport document and declaration</li> <li>➤ marking of vehicles</li> <li>➤ emergency equipment</li> <li>➤ driver training</li> </ul> </li>   <li>• The above requirements (except transport document and declaration) do not apply if the individual package is less than the following size –               <ul style="list-style-type: none"> <li>➤ 20 kg for Packing Group I, toxic gases, and some others such as organic peroxides, self-reactives etc;</li> <li>➤ 200 kg for Packing Group II, flammable gases;</li> <li>➤ 500 kg for Packing Group II, non-flammable/ non-toxic gases</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Exemptions from transport legislation apply if the individual package is less than the following size –               <ul style="list-style-type: none"> <li>➤ 1 kg/litre for Packing Group I, toxic gases, and some others such as organic peroxides, self-reactives etc;</li> <li>➤ 10 kg/litre for Packing Group II, flammable gases;</li> <li>➤ 25 kg/litre for Packing Group II, non-flammable/ non-toxic gases</li> </ul> </li> </ul>