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## **Sustainable Human Resource Development in logistics services for ASEAN Member States**



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*The Training Material on “Dangerous Goods Handling (All modes)” has been produced under Project Sustainable Human Resource Development in Logistic Services for ASEAN Member States with the support from Japan-ASEAN Integration Fund (JAIF). Copyright Association of Southeast Asian Nations (ASEAN) 2014. All rights reserved.*

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## Sustainable Human Resource Development in logistics services for ASEAN Member States



# Dangerous Goods Handling

## IATA Dangerous Goods Regulations (IATA DGR)

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## Sustainable Human Resource Development in logistics services for ASEAN Member States

# IATA Dangerous Goods Regulations

### Objectives:

- ❖ This chapter will cover the basic understanding on the applicable transport regulation by **Air (IATA Dangerous Goods Regulations : IATA DGR)**
- ❖ The **Background, Development and Principles** of IATA DGR will be explained.
- ❖ **Sections of IATA DGR** will be briefly elaborated.
- ❖ It covers **Basic Hazard Classification and Hazard Communication** under IATA DGR.



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# IATA Dangerous Goods Regulations

### Objectives:

- ❖ The core element of the IATA DGR will be explained on how to read the information in **Blue Pages (4.2 DG List)**
- ❖ The **Training Requirements** under IATA DGR will be explained.
- ❖ The example of how to **use IATA DGR** will also be demonstrated.



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# IATA Dangerous Goods Regulations

## Presentation Outline

- ❖ IATA Dangerous Goods Regulations
- ❖ Background of IATA DGR
- ❖ Development of IATA DGR
- ❖ Principles of IATA DGR
- ❖ Identification of Dangerous Goods by Air
- ❖ Packaging as Essential Component of DG Transport
- ❖ Sections and Layout of Sections in IATA DGR
- ❖ IATA DG Classification
- ❖ IATA DG Hazard and Handling Labels
- ❖ Understanding the Blue Pages (4.2 DG List)



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## Sustainable Human Resource Development in logistics services for ASEAN Member States

# IATA Dangerous Goods Regulations

## Presentation Outline

- ❖ How to use IATA DGR
- ❖ Shipper's Declaration for Dangerous Goods (DGD)
- ❖ Training Requirements
- ❖ Using IATA DGR



## Sustainable Human Resource Development in logistics services for ASEAN Member States

# IATA Dangerous Goods Regulations

IATA Dangerous Goods  
Regulations

**IATA DGR**

“The Guide Recognized by  
the World’s Airlines”

55th Edition

Issued year: 2014





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### Background of IATA DGR

- ❖ To provide **procedures for the shipper and operator** by which the articles and substances with hazardous properties can be safely transported by air on all air commercial transport.
- ❖ In 1953, the Member airlines of **IATA recognized the growing need to transport by air, article and substances having hazardous properties** which, if uncontrolled, could adversely affect the safety of the passengers, crew and/or aircraft on which they are carried.
- ❖ Most such **articles and substances could be carried safely** provided that they were **properly packed and the quantities** in each packages were **properly limited**.



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### Development of IATA DGR

- ❖ The first version was published in 1956 as the **IATA Restricted Articles Regulations**
- ❖ A Manual of Industry Carrier Regulations to be followed by all IATA member airlines
- ❖ Latest edition is **55<sup>th</sup> Edition** with effective **1st January – 31st December 2014**
- ❖ Published by the IATA Dangerous Goods Boards





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### Principles of IATA DGR

The IATA DGR is an easy-to-use manual based on the **International Civil Aviation Organization (ICAO) Technical Instructions** for the Safe Transport of Dangerous Goods by Air

- ❖ Incorporates **additional operational requirements**, which provide harmonized system for operators to accept and transport dangerous goods safely and efficiently
- ❖ Includes a detailed list of individual articles and substances specifying the United Nations classification of each article or substance and their **acceptability** as well as the **conditions** for air transport.



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### Identification of Dangerous Goods by Air

- ❖ Forbidden under any circumstances
- ❖ Forbidden under normal circumstances but may be carried with specific approvals from the States concerned.
- ❖ Restricted to carriage on all cargo aircraft (CAO)
- ❖ Can be carried on passenger aircraft provided certain requirements are met.



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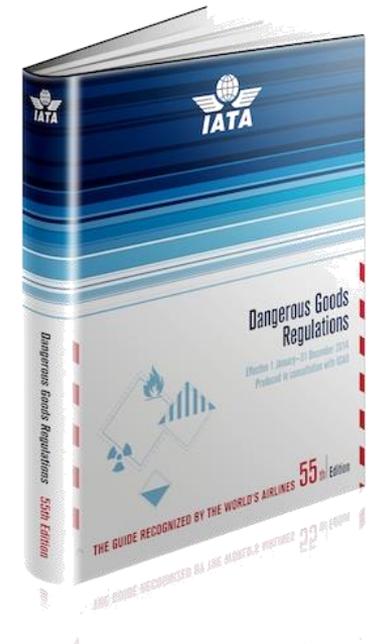
### Packaging as Essential Component of DG Transport

- ❖ **Packing Instructions (PI)** are provided with a wide range of options (inner, outer, single packagings)
- ❖ Normally requires the use of **UN performance-tested specification packagings** except when shipped in **Limited Quantity (“Y” Packing Instructions)**
- ❖ The **quantity of dangerous goods permitted within these packaging is strictly limited** as to minimize the risk should an accident occur.

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### Sections in IATA DGR

- ❖ **Section 1:** Applicability
- ❖ **Section 2:** Limitations
- ❖ **Section 3:** Classification
- ❖ **Section 4:** Identification (Blue pages)
- ❖ **Section 5:** Packing
- ❖ **Section 6:** Packing Specifications and Performance Tests
- ❖ **Section 7:** Marking and Labelling
- ❖ **Section 8:** Documentation
- ❖ **Section 9:** Handling





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### Sections in IATA DGR

- ❖ **Section 10:** Radioactive Materials
- ❖ **Appendices A:** Glossary
- ❖ **Appendices B:** Nomenclature (symbols, units & conversion tables)
- ❖ **Appendices C:** Currently assigned Substances (Div 4.1& 5.2)
- ❖ **Appendices D:** IATA Members, Associate Members and other Airlines
- ❖ **Appendices E:** Competent Authorities
- ❖ **Appendices G:** Related Services
- ❖ **Appendices H:** IATA Safety Standard Programmes
- ❖ **Index**



# Sustainable Human Resource Development in logistics services for ASEAN Member States

## Layout of Sections in IATA DGR

Each Section is further divided into numbered Subsections and paragraphs.

<b>1.3.3.2.1 =</b>	Section	1	(1)
	Subsection	3	(1.3)
	Paragraph	3	(1.3.3)
	Subparagraph	2	(1.3.3.2)
	Sub-subparagraph	1	(1.3.3.2.1)
<b>Table 3.3A</b>	Section	3	(3)
	Subsection	3	(3.3)
	1st Table	A	(3.3A)

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### IATA DG Classification

- ❖ **Class 1** - Explosives
- ❖ **Class 2** - Gases
- ❖ **Class 3** - Flammable liquids
- ❖ **Class 4** - Flammable solids
- ❖ **Class 5** - Oxidizing substances and organic peroxides
- ❖ **Class 6** - Toxic and infectious substances
- ❖ **Class 7** - Radioactive material
- ❖ **Class 8** - Corrosive substances
- ❖ **Class 9** - Miscellaneous dangerous substances and articles

# Sustainable Human Resource Development in logistics services for ASEAN Member States

## IATA DG Hazard and Handling Labels

### Dangerous Goods Hazard and Handling Labels

#### Hazard Labels



\*Articles bearing the Explosive labels shown above and falling into Divisions 1.1, 1.2, 1.4, 1.5 and 1.6 are normally forbidden.



#### Handling Labels and Markings



Minimum size for hazard labels 100 x 100 mm. For full information on hazard and handling labels for dangerous goods refer to the current edition of the IATA Dangerous Goods Regulations.

For further information on Dangerous Goods, contact us at [dangerous@iata.org](mailto:dangerous@iata.org) or visit [www.iata.org](http://www.iata.org).

[www.iata.org/labels](http://www.iata.org/labels)

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### Understanding the Blue Pages (4.2 DG List)

- Column A UN No.** - contains the serial number assigned to the article or substance under United Nations Classification System. When this number is used, it must be prefixed by the letters “UN”.
- Column B Proper Shipping Name (PSN)/Description** - contains alphabetical listing of dangerous goods articles and substances identified by their proper shipping names together with qualifying descriptive text. The proper shipping name is shown in bold (dark) type whereas the descriptive text is shown in light type.
- Column C Class or division** - contains the class or division number assigned to the article or substance according to the classification system described in Section 3. In the case of Class 1 Explosives, the compatibility group is also shown.



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### Understanding the Blue Pages (4.2 DG List)

- Column D** **Subsidiary Risks** - contains the class or division number of any important subsidiary risks. All subsidiary risks are listed in numerical order.
- Column E** **Labels** - contains the hazard label(s) to be applied to the outside of each package and overpack for the commodity shown in Column B. The primary hazard label is listed first followed by any subsidiary risk label(s)
- Column F** **Packing Group** - contains the UN Packing Group (I, II, III) where assigned to the article or substance.



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### Understanding the Blue Pages (4.2 DG List)

- Column G**      **Passenger and Cargo Aircraft Limited Quantity – Packing Instructions** – refers to the relevant Limited Quantity (Y) Packing Instructions listed in Section 5 for transport of the article or substance on a passenger or on a cargo aircraft. If no packing instruction is shown, the article or substance cannot be carried under Limited Quantity provisions.
- Column H**      **Passenger and Cargo Aircraft Limited Quantity – Maximum Net Quantity per Package** – shows the maximum net quantity (weight or volume) of the article or substance allowed in each package for transport on a passenger or cargo aircraft. The weight quoted is net weight, unless otherwise indicated by a letter G which refers to the gross weight of the package.



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### Understanding the Blue Pages (4.2 DG List)

- Column I**      **Passenger and Cargo– Packing Instructions** – refers to the relevant Packing Instructions listed in Section 5 for transport of the article or substance on a passenger or on a cargo aircraft.
- Column J**      **Passenger and Cargo Aircraft – Maximum Net Quantity per Package** – shows the maximum net quantity (weight or volume) of the article or substance allowed in each package for transport on a passenger or cargo aircraft. The weight quoted is net weight, unless otherwise indicated by a letter G which refers to the gross weight of the package.
- If the word “Forbidden” is shown, the article cannot be carried on a passenger aircraft.



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### Understanding the Blue Pages (4.2 DG List)

- Column K**      **Cargo Aircraft Only– Packing Instructions** – refers to the relevant Packing Instructions listed in Section 5 for transport of the article or substance on a cargo aircraft ONLY.
- Column L**      **Cargo Aircraft Only – Maximum Net Quantity per Package** – shows the maximum net quantity (weight or volume) of the article or substance allowed in each package for transport on a cargo aircraft ONLY. The weight quoted is net weight, unless otherwise indicated by a letter G which refers to the gross weight of the package. If the word “Forbidden” is shown, the article cannot be carried on any aircraft unless exempted by States under the provisions of 2.6.1.



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### Understanding the Blue Pages (4.2 DG List)

**Column M**      **Special Provisions** – may show a single, double or triple digit number preceded by the letter “A”, against appropriate entries in the List of Dangerous Goods. This alpha-numeric indicator relates to Subsection 4.4 and applies to all the packing groups permitted for the entry concerned, unless the wording of the special provision makes it otherwise apparent.

**Column N**      **ERG Code** – Emergency Response Drill Code as found in the International Civil Aviation Organization (ICAO) document “The Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods”. The code consists of a combination of letters and numbers, which represents suggested responses to incidents involving the specific dangerous good entry to which the drill code is assigned.



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### States and Operators Variation

**States and Operators Variations** – entries in the List of Dangerous Goods are subject to State and/or operator variations which must always be consulted.

Variations are indicated in the appropriate locations in these Regulations and described in Subsection 2.9.

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### How to use IATA DGR

<b>Step 1</b>	Determine the <b>correct technical names</b> and check if forbidden.	2.1 and 4.2
<b>Step 2</b>	Check if it is listed in <b>Blue Pages (4.2)</b> and identify <b>PSN</b>	4.2
<b>Step 3</b>	If not listed, <b>determine class or division</b> by its known properties	3
<b>Step 4</b>	If <b>properties are not known</b> , test should be carried out	
<b>Step 5</b>	If it has <b>multiple hazards, refer to Subsection 3.10</b> and check if forbidden.	3.10, 2.1, 4.2

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### How to use IATA DGR

<b>Step 6</b>	Determine the most <b>appropriate PSN of N.O.S. entries</b>	4.1
<b>Step 7</b>	If small quantities, check <b>DG in excepted quantities</b>	2.7
<b>Step 8</b>	Desire to ship on <b>passenger or cargo aircraft</b>	
<b>Step 9</b>	Determine the <b>Packing Instructions Number (PI)</b> and check applicable <b>States &amp; Operators Variations</b> <ul style="list-style-type: none"><li>• Passenger aircraft (Column G &amp; I)</li><li>• Cargo aircraft (Column K &amp; L)</li></ul>	4.2 and 2.9



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## How to use IATA DGR

<b>Step 10</b>	Determine the <b>packing details</b> in Section 5 and <b>special requirements</b> in Section 1 & 4.	4.1
<b>Step 11</b>	Select <b>method of packing from PI</b> . Ascertain all <b>criteria</b> are met.	5.0 and 6
<b>Step 12</b>	Ascertain all <b>States and Operators Variations</b> are fully complied.	2.9
<b>Step 13</b>	Ensure all <b>appropriate markings and labellings</b> are affixed on the packages	7



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### How to use IATA DGR

<b>Step 14</b>	Complete and sign <b>Shipper's Declaration for Dangerous Goods (DGD)</b> and prepare Air Waybill	8
<b>Step 15</b>	Use <b>checklist</b> to recheck	
<b>Step 16</b>	Offer the <b>complete consignment</b> for transport by air	



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# Sustainable Human Resource Development in logistics services for ASEAN Member States

## Shipper's Declaration for Dangerous Goods (DGD)

**SHIPPER'S DECLARATION FOR DANGEROUS GOODS** (Provide at least three copies to the airline.)

Shipper		Air Waybill No.	
Page of Pages		Shipper's Reference Number (optional)	
Consignee		<b>FedEx Express</b>	
Two completed and signed copies of this Declaration must be handed to the operator		<b>WARNING</b> Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
<b>TRANSPORT DETAILS</b> This shipment is within the limitations prescribed by: (select non applicable)		Airport of Departure	
PASSENGER AND CARGO AIRCRAFT	LAPSE AIRCRAFT ONLY	Shipment Type: <input type="checkbox"/> NON-HAZARDOUS <input type="checkbox"/> RADIOACTIVE	
Airport of Destination:		NATURE AND QUANTITY OF DANGEROUS GOODS UN Number or Identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.	
Additional Handling Information			
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 Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory	
Emergency Telephone Number		Place and Date	
		Signature (see warning above)	
<small>FOR RADIOACTIVE MATERIAL: SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT. THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL. INTENDED FOR USE IN OR ACCIDENT TO RESEARCH, MEDICAL/DIAGNOSIS, OR TREATMENT. ADDRESS/PHONE TRANSPORT STATEMENT. GARRAGE IN ACCORDANCE WITH ICAO 1.1.1.1.</small>			



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### Training Requirements

- ❖ **Training must be provided** or verified upon the employment of personnel identified in the categories specified in Table 1.5A
- ❖ **Recurrent training must take place within 24 months** of previous training to ensure knowledge is current, unless a competent authority has defined a shorter period.
- ❖ **A test must be undertaken following dangerous goods training** to verify understanding of the regulations. Confirmation is required of successful completion of the test.

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## Training Requirements

Aspects of transport of dangerous goods by air with which they should be familiar, as a minimum	Shippers and packers		Freight forwarders			Operators and ground handling agents					Security screeners	
	Category											
	1	2	3	4	5	6	7	8	9	10	11	12
General philosophy	X	X	X	X	X	X	X	X	X	X	X	X
Limitations	X		X	X	X	X	X	X	X	X	X	X
General requirements for shippers	X		X			X						
Classification	X	X	X			X						X
List of dangerous goods	X	X	X			X				X		
General packing requirements	X	X	X			X						
Packing instructions	X	X	X			X						
Labelling and marking	X	X	X	X	X	X	X	X	X	X	X	X
Shipper's Declaration and other relevant documentation	X		X	X		X	X					
Acceptance procedures						X						
Recognition of undeclared dangerous goods	X	X	X	X	X	X	X	X	X	X	X	X
Storage and loading procedures					X	X		X		X		
Pilots' notification						X		X		X		
Provisions for passengers and crew	X	X	X	X	X	X	X	X	X	X	X	X
Emergency procedures	X	X	X	X	X	X	X	X	X	X	X	X



## Sustainable Human Resource Development in logistics services for ASEAN Member States

# Training Requirements

### CATEGORY

1. *Shippers and persons undertaking the responsibilities of shippers', including operator's staff acting as shippers, operator's staff preparing dangerous goods as Company Materials (COMAT)*
2. *Packers*
3. *Staff of freight forwarders involved in processing dangerous goods*
4. *Staff of freight forwarders involved in processing cargo or mail (other than dangerous goods)*
5. *Staff of freight forwarders involved in the handling, storage and loading of cargo or mail*
6. *Operator's and ground handling agent's staff accepting dangerous goods*
7. *Operator's and ground handling agent's staff accepting cargo or mail (other than dangerous goods)*
8. *Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo or mail and baggage*
9. *Passenger handling staff*
10. *Flight crew members, loadmasters, load planners and flight operations officers/flight dispatchers*
11. *Crew members (other than flight crew members)*
12. *Security staff who deal with the screening of passengers and their baggage and cargo or mail, e.g. security screeners, their supervisors and staff involved in implementing security procedures.*

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## Using IATA DGR – The Blue Pages (4.2)

Dangerous Goods Regulations 55th Edition (2014) (AM2) - Identification

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UN/ID no.	Proper Shipping Name/Description	Class or Div. (Subrisk)	Hazard Labels	PG	Passenger and Cargo Aircraft						Cargo Aircraft Only		Spec. Prov. see 4.4	ERG Code	
					EQ (see 2.6)	Ltd Qty		Pkg Inst	Max Net Qty/Pkg	Pkg Inst	Max Net Qty/Pkg	Pack. Inst			Max Net Qty/Pkg
						F	G								
1090	Acetone	3	Flammable Liquid	II	E2	Y341	1 L	353	5 L	364	60 L		3H		

**Dangerous Goods Regulations**  
Effective 1 January–31 December 2014

55th | Edition

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## Using IATA DGR – Packing Instruction

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      - 5.8 Packing Instructions—Class 8—Corrosives
      - 5.9 Packing Instructions—Class 9—Miscellane...

**Packing Instructions — Class 3 — Flammable Liquids**

**PACKING INSTRUCTION Y341**

STATE VARIATIONS: BEG-03 SAG-01

OPERATOR VARIATIONS: 5X-02 AA-01 AM-03 AS-02 BW-01 CX-02 DE-01 FX-02 FX-17 GA-03 GF-04 HA-01 IJ-12 IR-06 JJ-07 KA-02 KE-07 KQ-08 LD-02 LH-01 LX-02 LY-04 MH-14 OM-04 OS-03 OU-04 PX-10 SW-02 TN-04 UX-02 VO-03 VT-01 WY-04 XG-01 XK-03 XQ-01

This instruction applies to Limited Quantities of flammable liquids with no subsidiary risk or a subsidiary risk of Division 6.1 in Packing Group II.

The General Packing Requirements of Subsections 2.7.5, 5.0.2 to 5.0.4 (with the exception of 5.0.2.3, 5.0.2.5, 5.0.2.11 and 5.0.2.14.2) must be met except that the packagings do not have to meet the marking and testing requirements of 6.0.4 and Subsection 6.3. Packagings must meet the construction criteria specified in Subsections 6.1 and 6.2 and the test criteria specified in Subsection 6.6.

**Compatibility Requirements**

- substances must be compatible with their packagings as required by 5.0.2.6.

**Closure Requirements**

- closures must meet the requirements of 5.0.2.7.

**Limited Quantity Requirements**

The requirements of Subsection 2.7 must be met including:

- the capability of the package to pass a drop test of 1.2 m;
- a 24 hour stacking test;
- inner packagings for liquids must be capable of passing a pressure differential test (5.0.2.9);
- the gross weight of the completed package must not exceed 30 kg.

Single packagings are not permitted.

COMBINATION PACKAGINGS						
Inner Packaging (see 6.1)		Net quantity per inner packaging		Total net quantity per package		
Class		0.5 L		1.0 L		
Metal		0.5 L				
Plastic		0.5 L				

**OUTER PACKAGINGS**

Type	Drums						Jerricans			Boxes							
	Steel	Alumin-ium	Plywood	Fibre	Plastic	Other metal	Steel	Alumin-ium	Plastic	Steel	Alumin-ium	Wood	Plywood	Reconstituted wood	Fibreboard	Plastic	Other metal
Desc.	Steel	Alumin-ium	Plywood	Fibre	Plastic	Other metal	Steel	Alumin-ium	Plastic	Steel	Alumin-ium	Wood	Plywood	Reconstituted wood	Fibreboard	Plastic	Other metal

# Sustainable Human Resource Development in logistics services for ASEAN Member States

## Using IATA DGR – Packing Instruction

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### Packing Instructions — Class 3 — Flammable Liquids

#### PACKING INSTRUCTION 353

STATE VARIATIONS: BEG-03

OPERATOR VARIATIONS: AM-03 CX-02 FX-17 GA-06 IR-06 JJ-07 KA-02 KZ-07 LD-02 LY-04

This instruction applies to flammable liquids without a subsidiary risk in Packing Group II on passenger aircraft.

The General Packing Requirements of 5.0.2 must be met.

#### Compatibility Requirements

- substances must be compatible with their packagings as required by 5.0.2.6.

#### Closure Requirements

- closures must meet the requirements of 5.0.2.7.

Single packagings are not permitted.

#### COMBINATION PACKAGINGS

Inner Packaging (see 5.1)	Net quantity per inner packaging	Total net quantity per package
Glass	1.0 L	5.0 L
Metal	5.0 L	
Plastic	5.0 L	

#### OUTER PACKAGINGS

Type	Drums					Jerricans			Boxes								
Desc.	Steel	Aluminum	Plywood	Fibre	Plastic	Other metal	Steel	Aluminum	Plastic	Steel	Aluminum	Wood	Plywood	Reconstituted wood	Fibreboard	Plastic	Other metal
Spec.	1A1 1A2	1B1 1B2	1D	1G	1H1 1H2	1N1 1N2	3A1 3A2	3B1 3B2	3H1 3H2	4A	4B	4C1 4C2	4D	4F	4G	4H1 4H2	4N

# Sustainable Human Resource Development in logistics services for ASEAN Member States

## Using IATA DGR – Packing Instruction

Dangerous Goods Regulations 55th Edition (2014) (AM2) - Packing Instructions

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    - 5.4 Packing Instructions—Class 4—Flammable...
    - 5.5 Packing Instructions—Class 5—Oxidizing ...
    - 5.6 Packing Instructions—Class 6—Toxic and ...
    - 5.7 Packing Instructions—Class 7—Radioactiv...
    - 5.8 Packing Instructions—Class 8—Corrosives
    - 5.9 Packing Instructions—Class 9—Miscellane...

**Packing Instructions — Class 3 — Flammable Liquids**

**PACKING INSTRUCTION 364**

STATE VARIATIONS: BEG-03

OPERATOR VARIATIONS: SX-02 AY-04 BA-01 CA-10 CX-02 EY-03 FX-02 FX-17 IR-06 JL-09 KA-02 KE-07 KZ-07 LD-02 MK-12 NH-06 OZ-08 TG-02

This instruction applies to flammable liquids with no subsidiary risk or a subsidiary risk of Division 6.1 in Packing Group II on Cargo Aircraft Only. The General Packing Requirements of 5.0.2 must be met.

**Compatibility Requirements**

- substances must be compatible with their packagings as required by 5.0.2.6;

**Closure Requirements**

- closures must meet the requirements of 5.0.2.7.

*Combination and single packagings are permitted.*

COMBINATION PACKAGINGS		
Inner Packaging (see 6.1)	Net quantity per inner packaging	Total net quantity per package
Glass	2.5 L	60.0 L
Metal	10.0 L	
Plastic	5.0 L	

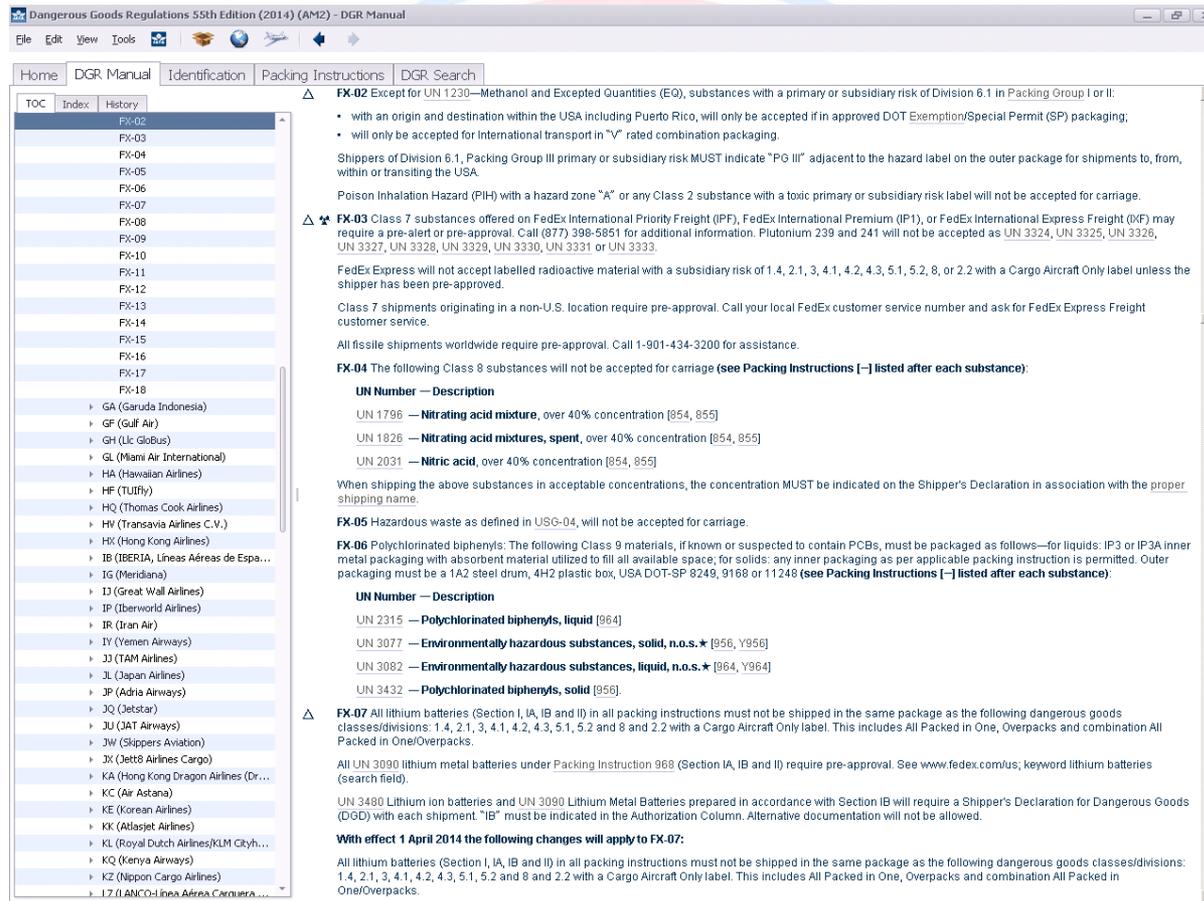
OUTER PACKAGINGS																	
Type	Drums						Jerricans			Boxes							
Desc.	Steel	Aluminium	Plywood	Fibre	Plastic	Other metal	Steel	Aluminium	Plastic	Steel	Aluminium	Wood	Plywood	Reconstituted wood	Fibreboard	Plastic	Other metal
Spec.	1A1 1A2	1B1 1B2	1D	1G	1H1 1H2	1N1 1N2	3A1 3A2	3B1 3B2	3H1 3H2	4A	4B	4C1 4C2	4D	4F	4G	4H1 4H2	4N

SINGLE PACKAGINGS								
Type	Drums			Jerricans			Composites	Cylinders
Desc.	Steel	Aluminium	Plastic	Other metal	Steel	Aluminium	Plastic	Plastic
Spec.	1A1	1B1	1H1	1N1	3A1	3B1	3H1	All

As permitted in 5.0.6.6

# Sustainable Human Resource Development in logistics services for ASEAN Member States

## Using IATA DGR – States & Operators Variations



**FX-02** Except for UN 1230—Methanol and Excepted Quantities (EQ), substances with a primary or subsidiary risk of Division 6.1 in Packing Group I or II:

- with an origin and destination within the USA including Puerto Rico, will only be accepted if in approved DOT Exemption/Special Permit (SP) packaging;
- will only be accepted for international transport in "V" rated combination packaging.

Shippers of Division 6.1, Packing Group III primary or subsidiary risk MUST indicate "PG III" adjacent to the hazard label on the outer package for shipments to, from, within or transiting the USA.

Poison Inhalation Hazard (PIH) with a hazard zone "A" or any Class 2 substance with a toxic primary or subsidiary risk label will not be accepted for carriage.

**FX-03** Class 7 substances offered on FedEx International Priority Freight (IPF), FedEx International Premium (IP1), or FedEx International Express Freight (IXF) may require a pre-alert or pre-approval. Call (877) 398-5851 for additional information. Plutonium 239 and 241 will not be accepted as UN 3324, UN 3325, UN 3326, UN 3327, UN 3328, UN 3329, UN 3330, UN 3331 or UN 3333.

FedEx Express will not accept labelled radioactive material with a subsidiary risk of 1.4, 2.1, 3, 4.1, 4.2, 4.3, 5.1, 5.2, 8, or 2.2 with a Cargo Aircraft Only label unless the shipper has been pre-approved.

Class 7 shipments originating in a non-U.S. location require pre-approval. Call your local FedEx customer service number and ask for FedEx Express Freight customer service.

All fissile shipments worldwide require pre-approval. Call 1-901-434-3200 for assistance.

**FX-04** The following Class 8 substances will not be accepted for carriage (see Packing Instructions [-] listed after each substance):

**UN Number — Description**

UN 1796 — **Nitrating acid mixture**, over 40% concentration [854, 855]

UN 1826 — **Nitrating acid mixtures, spent**, over 40% concentration [854, 855]

UN 2031 — **Nitric acid**, over 40% concentration [854, 855]

When shipping the above substances in acceptable concentrations, the concentration MUST be indicated on the Shipper's Declaration in association with the proper shipping name.

**FX-05** Hazardous waste as defined in USG-04, will not be accepted for carriage.

**FX-06** Polychlorinated biphenyls: The following Class 9 materials, if known or suspected to contain PCBs, must be packaged as follows—for liquids: IP3 or IP3A inner metal packaging with absorbent material utilized to fill all available space; for solids: any inner packaging as per applicable packing instruction is permitted. Outer packaging must be a 1A2 steel drum, 4H2 plastic box, USA DOT-SP 8249, 9168 or 11248 (see Packing Instructions [-] listed after each substance):

**UN Number — Description**

UN 2315 — **Polychlorinated biphenyls, liquid** [954]

UN 3077 — **Environmentally hazardous substances, solid, n.o.s.\*** [956, Y956]

UN 3082 — **Environmentally hazardous substances, liquid, n.o.s.\*** [964, Y964]

UN 3432 — **Polychlorinated biphenyls, solid** [956].

**FX-07** All lithium batteries (Section I, IA, IB and II) in all packing instructions must not be shipped in the same package as the following dangerous goods classes/divisions: 1.4, 2.1, 3, 4.1, 4.2, 4.3, 5.1, 5.2 and 8 and 2.2 with a Cargo Aircraft Only label. This includes All Packed in One, Overpacks and combination All Packed in One/Overpacks.

All UN 3090 lithium metal batteries under Packing Instruction 968 (Section IA, IB and II) require pre-approval. See www.fedex.com/us; keyword lithium batteries (search field).

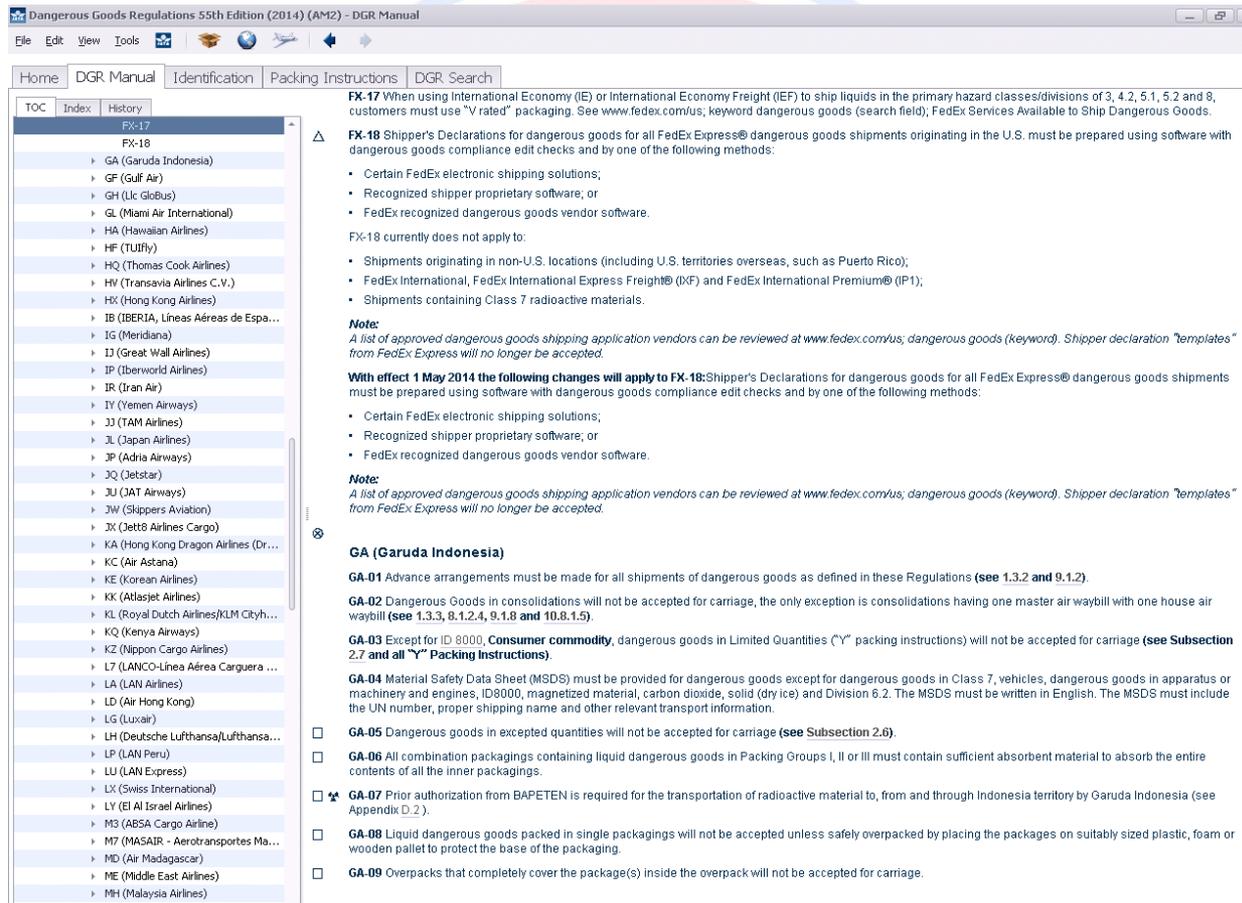
UN 3480 Lithium ion batteries and UN 3090 Lithium Metal Batteries prepared in accordance with Section IB will require a Shipper's Declaration for Dangerous Goods (DGD) with each shipment. "IB" must be indicated in the Authorization Column. Alternative documentation will not be allowed.

**With effect 1 April 2014 the following changes will apply to FX-07:**

All lithium batteries (Section I, IA, IB and II) in all packing instructions must not be shipped in the same package as the following dangerous goods classes/divisions: 1.4, 2.1, 3, 4.1, 4.2, 4.3, 5.1, 5.2 and 8 and 2.2 with a Cargo Aircraft Only label. This includes All Packed in One, Overpacks and combination All Packed in One/Overpacks.

# Sustainable Human Resource Development in logistics services for ASEAN Member States

## Using IATA DGR – States & Operators Variations





Japan-ASEAN Cooperation



## Sustainable Human Resource Development in logistics services for ASEAN Member States



# Dangerous Goods Handling

## IATA Dangerous Goods Regulations (IATA DGR)

**Mr. Chalernsak Karnchanawarin**