



# Workshop on Dangerous goods

## 02 - Limitations



European Union Aviation Safety Agency

EU-ASEAN Sustainable Connectivity Package Aviation Partnership Project  
(EU-ASEAN SCOPE APP)

This project is funded by the European Union and implemented by  
the European Union Aviation Safety Agency (EASA)

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## 02 - Limitations

1. General limitations
2. Hidden dangerous goods
3. Dangerous goods in excepted and limited quantities
4. State and operator variations



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## 02 - Limitations

1. **General limitations**
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### 02 - Limitations

#### 01 – General limitations

#### General exceptions

T.I. part 1, chapter 1.1.5

The Regulations may not apply for certain dangerous goods transported in specific cases, e.g.

- to provide, during flight, medical or veterinary aid provided these DGs respect some provisions, e.g. to be on board with the approval of the operator;
- for dropping (agriculture, pollution control, avalanche control, etc.);
- to provide aid in connection with search and rescue operations;
- required for the propulsion of the means of transport;
- contained within items of excess baggage being sent as cargo;
- etc.

All these exceptions are allowed under certain conditions.  
See the regulation for more details.

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## 02 - Limitations

### 01 – General limitations

#### Exceptions for dangerous goods of the operator

T.I. part 1, chapter 2.2

Some exceptions are also granted to the operators to allow the smooth running of their operations. The provisions of T.I. do not apply to the following:

- articles and substances which are required to be aboard in accordance with the airworthiness requirements and operating regulations or that are authorized by the State of the Operator;
- some articles carried aboard for use or sale on the aircraft during the flight or series of flights;
- dry ice intended for use in food and beverage service;
- electronic devices (...) containing lithium cells or batteries for use on the aircraft during the flight or series of flights.

All these exceptions are allowed under certain conditions.  
See the regulation for more details.

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## 02 - Limitations

### 01 – General limitations

#### Exceptions to passengers and crew members

Chapter 1		8-1-5	
Dangerous goods	Location	Carriage	Restrictions
1. Cigarettes, lighters, small pocket or safety matches	No	(see 5)	No
2. Aerosol deodorants, containing more than 24 g per unit but not more than 12 g per unit alcohol by volume	Yes	Yes	No
3. Internal combustion engines or fuel cell engines	Yes	No	No
4. Fuel cells containing fuel	No	Yes	No
5. Spare fuel cell cartridges	Yes	Yes	No

Authorized articles

Location

Agreement from the operator?

Restrictions

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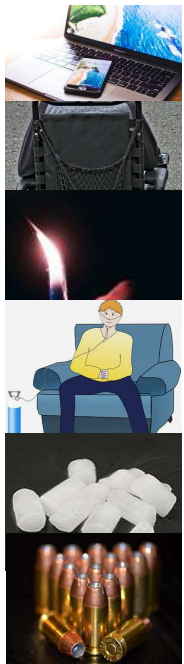
01 – General limitations

Exceptions to passengers and crew members

T.I. part 8, chapter 1

Examples:

- Devices with lithium batteries and spare batteries;
- Battery-powered mobility aids;
- Cigarette lighters and small packets of safety matches;
- Cylinders of oxygen for medical use;
- Dry ice;
- Ammunitions;
- Etc.



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01 – General limitations

Exceptions to passengers and crew members

Example: e-cigarettes

Dangerous Goods	Location		Approval of the operator(s) is required	Restrictions
	Checked baggage	Carry-on baggage		
3) Battery-powered portable electronic smoking devices (e.g. e-cigarettes, ecigs, ecigars, epipes, personal vaporizers, electronic nicotine delivery systems)	No	Yes	No	a) if powered by lithium batteries, each battery must comply with restrictions of 1) a), b) and g); b) the devices and/or batteries must not be recharged on board the aircraft; and c) measures must be taken to prevent unintentional activation of the heating element while on board the aircraft.



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### 02 - Limitations

#### 02 – Hidden dangerous goods

##### Operator's responsibility

Some goods, although having an innocent name, may have hidden dangerous characteristic



In order to prevent the loading of undeclared dangerous goods on board an aeroplane that are not authorized operators' agents who are responsible for accepting cargo and/or passenger services may need to inquire with the shipper to ensure that hidden dangerous goods are not accepted.



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## 02 - Limitations

### 02 – Hidden dangerous goods

#### Examples

“battery-powered devices/equipment” — may contain wet or lithium batteries.

“cylinders” — may contain compressed or liquefied gas.

“electrical/electronic equipment” — may contain magnetized material, mercury in switch gear, electron tubes, wet or lithium batteries or fuel cells or fuel cell cartridges that contain or have contained fuel.

“samples for testing” — may contain items meeting any of the criteria for dangerous goods, particularly infectious substances, flammable liquids, flammable solids, oxidizers, organic peroxides, toxic or corrosive substances.

“aircraft on ground (AOG) spares” — may contain explosives (flares or other pyrotechnics), chemical oxygen generators, unserviceable tire assemblies, cylinders of compressed gas (oxygen, carbon dioxide or fire extinguishers), fuel in equipment, wet or lithium batteries, matches.

etc.

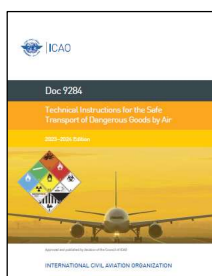
## 02 - Limitations

### 02 – Hidden dangerous goods

#### DG occurrence report

#### Part 1; Chapter 7

#### INCIDENT AND ACCIDENT REPORTING



Entities other than operators who are in possession of dangerous goods at the time a dangerous goods accident or incident occurs or at the time a dangerous goods incident is discovered to have occurred should follow the reporting requirements of Part 7.4.4. Entities other than operators who discover undeclared or misdeclared dangerous goods should follow the reporting requirements of Part 7.4.5. These entities may include, but are not limited to, freight forwarders, customs authorities and security screening providers.

#### 4.5 REPORTING OF UNDECLARED OR MISDECLARED DANGEROUS GOODS

An operator must report any occasion when undeclared or misdeclared dangerous goods are discovered in cargo or mail. Such a report must be made to the appropriate authorities of the State of the Operator and the State in which this occurred. An operator must also report any occasion when dangerous goods not permitted under 8.1.1.1 are discovered by the operator, or the operator is advised by the entity that discovers the dangerous goods, either in the baggage or on the person, of passengers or crew members. Such a report must be made to the appropriate authority of the State in which this occurred.

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### 02 – Hidden dangerous goods

#### DG occurrence report



#### CAT.GEN.MPA.200 Transport of dangerous goods

- (e) The operator shall, in accordance with the technical instructions, report without delay to the competent authority and the appropriate authority of the State of occurrence in the event of:
- (1) any dangerous goods accidents or incidents;
  - (2) the discovery of undeclared or misdeclared dangerous goods in cargo or mail; or
  - (3) the finding of dangerous goods carried by passengers or crew members, or in their baggage, when not in accordance with Part 8 of the technical instructions.

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AMC1 NCC.GEN.150(e) Transport of dangerous goods

AMC1 NCO.GEN.140(d) Transport of dangerous goods

AMC1 SPO.GEN.150(e) Transport of dangerous goods

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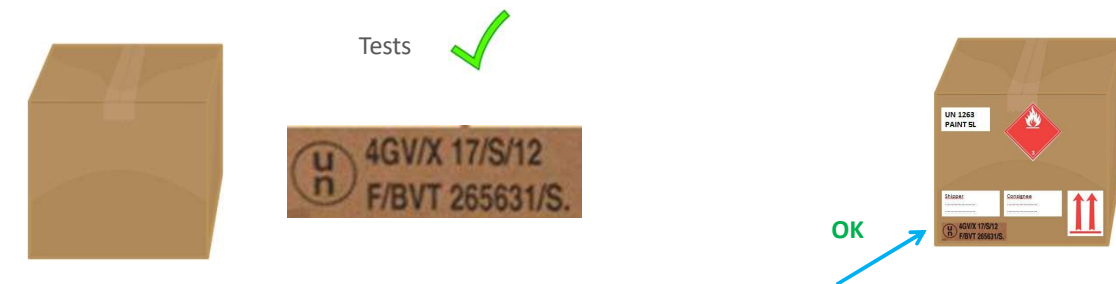




**02 - Limitations****03 – Dangerous goods in excepted and limited quantities****Notion - UN packaging**

DG have to be packed in accordance with the requirements of the technical instructions.  
(Shipper's responsibility)

When preparing a package, only the authorized types of packaging can be used.  
In most cases, these will be a packaging that has undergone specific tests and is accordingly UN certified.



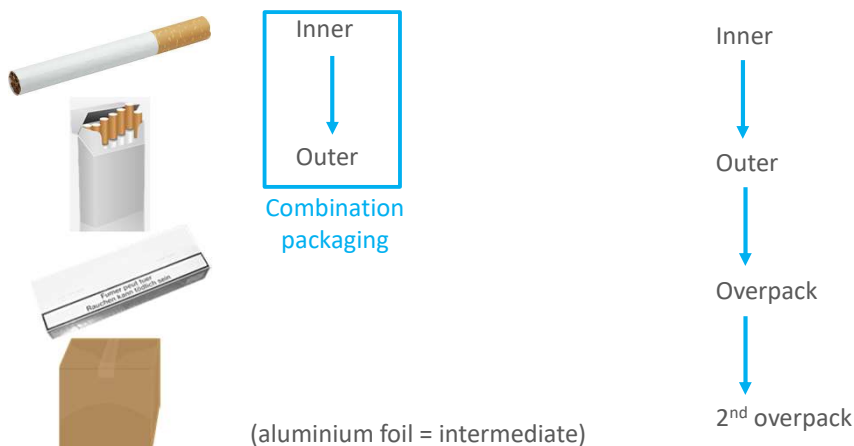
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**02 - Limitations****03 – Dangerous goods in excepted and limited quantities****Notion - Types of packaging**

If we consider the tobacco as a dangerous goods...



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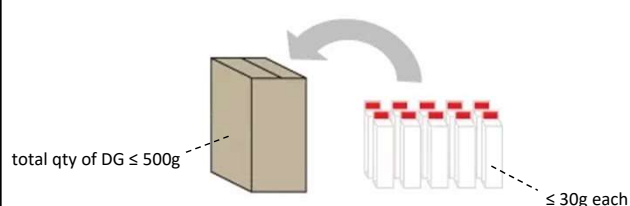
### 03 – Dangerous goods in excepted and limited quantities

TIs part3, chapter 5

Some dangerous goods may be carried in **very small volumes** under the provisions concerning dangerous goods in **excepted quantities**.



Calcium	1401	4.3		Danger if wet			II	<b>E2</b>	484 Y475	15 kg 5 kg
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Table 3-3. Excepted quantity codes for Table 3-1

Code	Maximum quantity per inner packaging	Maximum quantity per outer packaging
E0	Not permitted as Excepted Quantity	
E1	30 g/30 mL	1 kg/1 L
<b>E2</b>	<u>30 g/30 mL</u>	<u>500 g/500 mL</u>
E3	30 g/30 mL	300 g/300 mL
E4	1 g/1 mL	500 g/500 mL
E5	1 g/1 mL	300 g/300 mL

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### 03 – Dangerous goods in excepted and limited quantities



Don't have to be fully applied,  
but the following provisions are still applicable:

the prohibition in post;	1;2.3
the general definitions;	1;3
the training requirements;	1;4
the classification procedures and packing group criteria;	2
the general packaging requirements;	4;1.1
the loading restriction in flight deck and cabin;	7;2.1
the reporting requirements of accidents/incidents;	7;4
the prohibition of dangerous goods in passengers'/crews' baggage.	8;1.1

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### 03 – Dangerous goods in excepted and limited quantities

Packages must pass drop tests and stacking tests...  
...but UN-approved package is not required;

No label or mark is required but the “excepted quantities” one  
(and the orientation arrows if relevant);

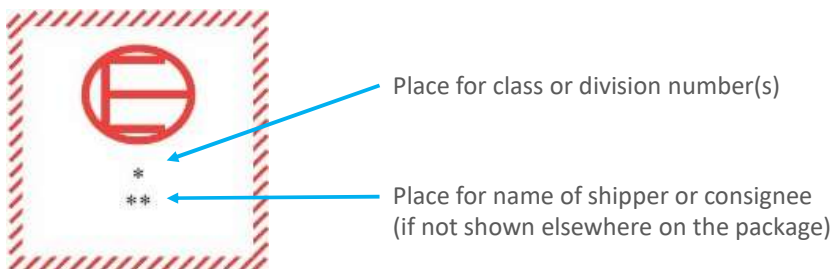
The Shipper's Declaration for Dangerous Goods is not required



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### 03 – Dangerous goods in excepted and limited quantities

Packages must be durably and legibly marked with the dedicated mark:



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### 03 – Dangerous goods in excepted and limited quantities

#### De minimis quantities

(TIs part3, chapter 5.6)

Dangerous goods assigned to codes E1, E2, E4 or E5 are not subject to the Technical Instructions when carried as cargo provided that:

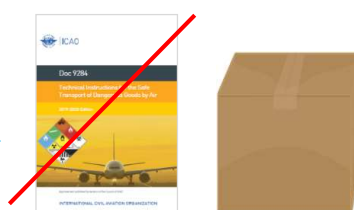
- the maximum net quantity per inner packaging is limited to 1 ml for liquids and gases and 1 g for solids;
- the maximum net quantity of dangerous goods per outer packaging does not exceed 100 g for solids or 100 ml for liquids and gases.

The requirements for packaging are the same than for a shipment in excepted quantities.

Table 3-3. Excepted quantity codes for Table 3-1

Code	Maximum quantity per inner packaging	Maximum quantity per outer packaging
E0	Not permitted as Excepted Quantity	
E1	30 g/30 mL	1 kg/1 L
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E3	30 g/30 mL	300 g/300 mL
E4	1 g/1 mL	500 g/500 mL
E5	1 g/1 mL	300 g/300 mL

Inner ≤ 1ml/1g  
Outer ≤ 100ml/100g



## 02 - Limitations

### 03 – Dangerous goods in excepted and limited quantities

TIs part3, chapter 4

Many dangerous goods when in **reasonably limited quantities** present a reduced hazard during transport.

As a consequence, they can safely be carried in good quality packaging of the types specified in the UN recommendations, but which have not been tested and marked accordingly (all other requirements must be met).

Small quantities



Calcium	1401	4.3		Danger if wet		II	E2	484 Y475	15 kg 5 kg
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## 02 - Limitations

### 03 – Dangerous goods in excepted and limited quantities

#### Example

Paint	1263	3		Liquid flammable	A72 A192	II	E2	353 Y341	5 L 1 L
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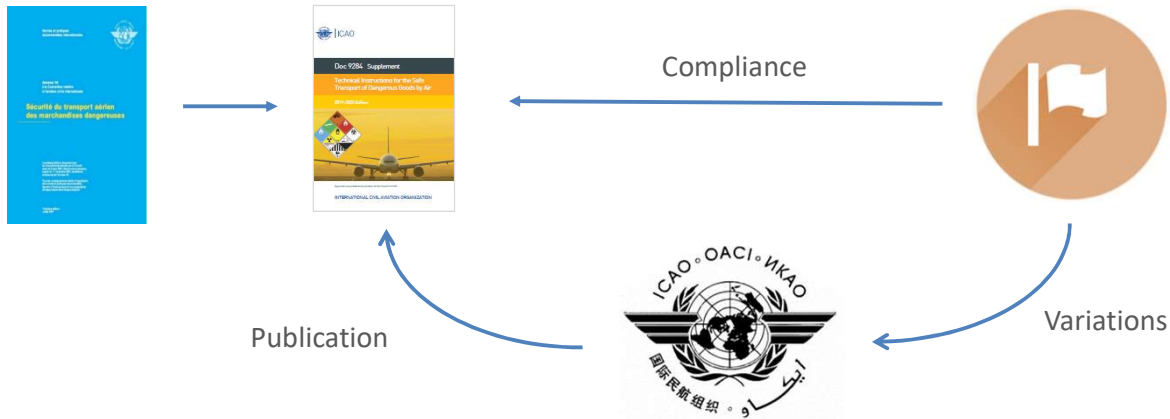
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04 – State and operator variations

State variations



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State variations

TIs Attachment 3, chapter 1

#	Australia — AU	#	Malaysia — MY
	Belgium — BE		Netherlands — NL
	Brazil — BR	#	Nepal — NP
	Brunei Darussalam — BN		Oman — OM
	Cambodia — KH		Pakistan — PK
	Canada — CA		Peru — PE
	China — CN		Poland — PL
	Hong Kong SAR, China — HK		Romania — RO
	Macao SAR, China — MO		Russian Federation — RU
#	Croatia — HR		Saudi Arabia — SA
	Democratic People's Republic of Korea — KP		Serbia — RS
	Denmark — DK		Singapore — SG
+	Eritrea — ER		South Africa — ZA
+	Fiji — FJ	#	Spain — ES
#	France — FR		Sri Lanka — VC
	Germany — DE		Sweden — SE
	Ghana — GH	+	Switzerland — CH
	India — IN		Türkiye — TR
	Iran (Islamic Republic of) — IR		Ukraine — UA
	Italy — IT		United Arab Emirates — AE
	Jamaica — JM		United Kingdom — GB
	Japan — JP		United States — US
	Kuwait — KW		Vanuatu — VU
	Kyrgyz Republic — KG		Venezuela (Bolivarian Republic of) — VE
	Luxembourg — LU	+	Yemen — YE
			Zimbabwe — ZW

Identifying code	Variation	Relevant paragraphs
FR — FRANCE		
FR 7	The emergency response information described below must appear on shipments of dangerous goods to, from, within or transiting through France. This provision does not apply to the transport of magnetized material or dangerous goods for which no transport document is required.	5.4
Telephone number		
— The transport document required under the ICAO Technical Instructions must contain a telephone number by means of which emergency response information can be obtained in case of an incident and/or accident involving the dangerous goods being transported.		
— This telephone number must be available 24 hours a day and must include the regional codes and, for international numbers outside France, the country and city codes needed to complete the call from France.		
— This telephone number must be monitored at all times by a person who:		
— is knowledgeable concerning the hazards and characteristics of the dangerous goods being transported;		
— has comprehensive emergency response and accident mitigation information for the dangerous goods; and		
— can immediately call upon a person who possesses such knowledge and information.		

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## 04 – State and operator variations

## State variations

### 5-4-1

## Chapter 4

## DOCUMENTATION

Parts of this Chapter are affected by State Variations AE 5, AE 6, AU 5, BN 2, BR 3, BR 5, BR 6, BR 8, CA 4, CA 9, DQ 4, ES 1, **FR 7**, HK 2, JM 2, JM 3, KW 5, MY 6, OM 5, OM 7, PE 3, PK 3, RU 1, US 1, US 7, US 12, VC 8, VE 7, VU 1, ZA 3; see Table A-1

Carbon, animal or vegetable origin	1361	4.2			AU 1 CA 7 IR 3 NL 1 US 3	A2 A3			FORBIDDEN	FORBIDDEN
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## 02 - Limitations

## 04 – State and operator variations

## Operator variations



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## 02 - Limitations

### 04 – State and operator variations

#### Operator variations

TIs Attachment 3, chapter 2

The operators' variations are based on data provided by the operators concerned.

They are **provided for information only** and should not be interpreted as having any regulatory status.

Further information should be obtained from the appropriate airline operator.

ABSA Cargo — M3	LAN Cargo — UC
Adria Airways — JP	LANCO — L7
Aeromexico — AM	LAN Colombia — 4C
Air Bridge Cargo Airline — RU	LAN Ecuador — XL
Air Europa — UX	LAN Express — LU
Air Europa Express — X5	LAN Peru — LP
+ Air Seychelles — HM	MASAIR — Aerotransportes Mas de carga
Air Tahiti — VT	SA. De CV. — M7
Atlasjet Ukraine — UH	Qatar Airways — QR
Brussels Airlines — SN	Swiss International — LX
+ Canaryfly — PM	≠ TAM Airlines — JJ
+ CargologicAir — P3	Transportes del Mercosul — TAM — PZ
Evelop Airlines — E9	WestJet — WS
≠ Icelandair — FI	WestJet Encore — WR
LAN Argentina — 4M	

No reference to operator variations is made under the chapter headings nor in the list of dangerous goods

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# Thank you for your attention



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