



## IATA Dangerous Goods Regulations

54<sup>th</sup> Edition (English)  
Effective 1 January 2013

**ADDENDUM Rev. 1**  
Posted 23 December 2012

Users of the IATA Dangerous Goods Regulations are asked to note the following amendments and corrections to the 54<sup>th</sup> Edition, effective from 1 January 2013.

Where appropriate, changes or amendments to existing text have been highlighted (in yellow - PDF or grey - hardcopy) to help identify the change or amendment.

### **New or Amended State Variations (Section 2.8.2)**

#### **Amend FRG (France)**

**FRG-06** ~~Dangerous goods as described in these Regulations are not permitted for transport in air mail to, from or transiting through French territory.~~

~~This provision also applies to the items referred to in 2.4.2.~~

Dangerous goods as listed in 2.4.2(a), (b) and (c) are not permitted in mail to, from, or in transit into France.

The transport of radioactive material appearing in 2.4.2(c) by national air mail, is conditional to the shipper obtaining an approval from the competent authority ASN (see FRG-03).

#### **Amend USG (United States)**

**USG-01** Transport of dangerous goods by air must be in accordance with United States Regulations (49 CFR Parts 171–180) or the ICAO Technical Instructions as limited by 49 CFR Part 171 Subpart C. The requirements of 49 CFR 175 apply to the offering, acceptance, and transportation of dangerous goods in commerce by aircraft to, from, or within the United States, and to any aircraft of United States' registry anywhere in air commerce. Part 175 contains additional requirements applicable to any person who performs, attempts to perform, or is required to perform a function subject to 49 CFR and is also applicable to air passengers and crew.

When the ICAO Technical Instructions are used for consignments of dangerous goods, failure to comply with the ICAO Technical Instructions and all relevant US variations is a violation of the United States' Regulations.

#### ***Editorial Note:***

*The IATA Dangerous Goods Regulations are fully in compliance with ICAO Annex 18 and its associated Technical Instructions.*

The appropriate national authority for the United States is:

Associate Administrator for Hazardous Materials Safety  
US Department of Transportation  
Pipeline and Hazardous Materials Safety Administration  
Washington  
DC  
USA  
20590-0001

English must be used for all required package markings and for the Shipper's Declaration for Dangerous Goods. Abbreviations may not be used unless they are specifically authorized by these Regulations or by Subpart **C and** D of 49 CFR 172 (see 7.1 and 8.1).

A copy of the transport document, or an electronic image thereof, must be retained by the shipper for not less than two years after the dangerous goods are accepted by the initial operator. Each shipping paper copy must include the date of acceptance by the initial operator, except that the date on the air waybill or bill of lading

may be used in place of the date of acceptance by the initial carrier. For hazardous waste, the transport document must be retained for three years after the waste material is accepted by the initial operator.

**Note:**

*The United States' Regulations, as well as interpretations regarding their use, are available via the internet at <http://hazmat.dot.gov/regs/rules.htm> <http://www.phmsa.dot.gov/hazmat/regs>. Questions regarding the regulations may be directed to the Office of Hazardous Materials Safety Information Center at +1 (800) 467 4922, +1 (202) 366 4488, or by e-mail to [infocntr@dot.gov](mailto:infocntr@dot.gov).*

**USG-02** In addition to the dangerous goods included in Subsection 4.2 (List of Dangerous Goods) with the word “Forbidden” shown in columns G/H, I/J and K/L and with no A1 or A2 Special Provision indicated, any material forbidden for transport by the United States' Regulations is also forbidden for transport under any circumstances to, from or within the United States (see 49 CFR 173.21 and the Hazardous Materials Table in 49 CFR 172.101).

Unless specifically authorized by the Hazardous Material Table in 49 CFR 172.101, the transport of a liquid with a vapour inhalation toxicity meeting the criteria of Division 6.1, Packing Group I or a gas meeting the criteria of Division 2.3 is forbidden for transport aboard passenger and cargo aircraft to, from or within the United States.

Primary (non-rechargeable) lithium metal batteries and cells, (UN 3090), are forbidden for transportation aboard passenger-carrying aircraft. Such batteries transported in accordance with Section **IA or IB** of Packing Instruction 968 must be labelled with the CARGO AIRCRAFT ONLY label. Such batteries transported in accordance with Section II of Packing Instruction 968 must be marked “PRIMARY LITHIUM BATTERIES—FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT” or “LITHIUM METAL BATTERIES—FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT”.

Primary (non-rechargeable) lithium metal batteries and cells contained in or packed with equipment (UN 3091) are forbidden for transportation aboard passenger-carrying aircraft unless:

1. the equipment and the batteries and cells are transported in accordance with Packing Instruction 969 or 970, as appropriate;
2. the package contains no more than the number of lithium metal batteries or cells necessary to power the intended piece of equipment;
3. the lithium content of each cell, when fully charged, is not more than 5 grams;
4. the aggregate lithium content of the anode of each battery, when fully charged, is not more than 25 grams; and
5. the net weight of lithium batteries does not exceed 5 kg (11 lb).

Primary (non-rechargeable) lithium metal batteries and cells contained in or packed with equipment (UN 3091) and transported in accordance with Section I of Packing Instruction 969 or 970 that do not conform to the above provisions are forbidden for transportation aboard passenger-carrying aircraft and must be labelled with the CARGO AIRCRAFT ONLY label.

Primary (non-rechargeable) lithium metal batteries and cells contained in or packed with equipment (UN 3091) and transported in accordance with Section II of Packing Instruction 969 or 970 that do not conform to the above provisions are forbidden for transportation aboard passenger-carrying aircraft and must be marked “PRIMARY LITHIUM BATTERIES—FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT” or “LITHIUM METAL BATTERIES—FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT”.

**Notes:**

1. Dangerous goods that are forbidden on passenger aircraft by 49 CFR 172.101 (Column 9A) are also forbidden on passenger aircraft even when these Regulations permit such carriage. Dangerous goods that are forbidden on cargo aircraft by 49 CFR 172.101 (Column 9B) are also forbidden on cargo aircraft even when these Regulations permit such carriage.
2. Dangerous goods not permitted for carriage by passengers or crew in checked or carry-on baggage by 49 CFR 175.10 are not permitted for such carriage even when authorized by 2.3 of these Regulations. For

example, the carriage of avalanche rescue backpacks by passenger or crew (see [2.3.4.42.3.4.3](#) is not authorized

**USG-04** Substances subject to additional requirements for air transport to, from, or within the United States are described below. The additional requirements in III also apply to US carriers operating outside the US (see 1.3.1):

(I) **Hazardous substances:** When a substance, including its mixtures and solutions, listed in the Appendix A to 49 CFR 172.101 is offered for transport in a package in which the net quantity of the substance equals or exceeds the reportable quantity (RQ) indicated for the substance in the Appendix A, the substance, mixture or solution is considered a hazardous substance unless:

- it is a petroleum product that is a lubricant or fuel; or
- it is in a concentration less than that shown in the following table based on the RQ specified for the material:

RQ Kilograms	Concentration by Weight	
	Percent	PPM
45.4	0.2	2,000.0
4.54	0.02	200.0
0.45	0.002	20.0

For mixtures of radionuclides see Note 7 to Appendix A to 49 CFR 172.101.

Hazardous substances, except for those that are hazardous wastes as defined in Section II below, must comply with the following requirements:

- (a) For a hazardous substance that is a dangerous good according to these Regulations other than under the proper shipping names “**Environmentally hazardous substance, liquid, n.o.s.**” or “**Environmentally hazardous substance, solid, n.o.s.**”:
  1. unless already included in the required shipping name, and except for radioactive materials in Class 7, the name of the hazardous substance shall be shown in parentheses, in association with the dangerous goods description on the Shipper's Declaration and in association with the proper shipping name on package marking; and
  2. the letters “RQ” shall be entered on the Shipper's Declaration either before or after the basic description and in association with the proper shipping name required to be marked on the package.
- (b) For hazardous substances that do not meet any other definition of dangerous goods according to these Regulations:
  1. the hazardous substance shall be shipped under the basic dangerous goods description “**Environmentally hazardous substance, liquid, n.o.s., Class 9, UN 3082, III**” or “**Environmentally hazardous substance, solid, n.o.s., Class 9, UN 3077, III**”, as appropriate, and in accordance with the requirements of these Regulations applying to the shipment of goods under this description;
  2. [except for 5.0.2.9](#) the package must meet all applicable General Packing Requirements of Subsection 5.0 of these Regulations that would apply to dangerous goods of Packing Group III;
  3. the letters “RQ” shall be entered on the Shipper's Declaration either before or after the basic description and in association with the proper shipping name required to be marked on the package; and
  4. the name of the hazardous substance shall be shown in parentheses, in association with the dangerous goods description on the Shipper's Declaration and in association with the proper shipping name on package marking. If the material contains more than two hazardous

substances, only the two hazardous substances having the lowest reportable quantities must be identified.

**Note:**

The list of Hazardous Substances and the applicable RQ as shown in Appendix A to 49 CFR 172.101 is available via the internet at: <http://hazmat.dot.gov/regs/intl/icaovar.htm>  
<http://www.phmsa.dot.gov/hazmat/regs/international/icao>

(II) **Hazardous waste.** A hazardous waste is any material that is subject to the hazardous waste manifest requirements of the United States Environmental Protection Agency (EPA) specified in 40 CFR Part 262. The following requirements apply to the transport of hazardous wastes:

(a) For a hazardous waste that is a dangerous good according to these Regulations other than under the proper shipping names **Environmentally hazardous substance, liquid, n.o.s.** or **Environmentally hazardous substance, solid, n.o.s.:**

1. the word "Waste" must precede the proper shipping name in the Shipper's Declaration and package markings; and
2. the requirements of 49 CFR 172.205, with respect to the hazardous waste manifest apply.

(b) For hazardous wastes that do not meet any other definition of dangerous goods according to these Regulations:

1. the hazardous waste shall be shipped under the basic dangerous goods description "**Waste Environmentally hazardous substance, liquid, n.o.s.**, Class 9, UN 3082, III" or "**Waste Environmentally hazardous substance, solid, n.o.s.**, Class 9, UN 3077, III", as appropriate, and in accordance with the requirements of these Regulations applying to the shipment of goods under this description;
2. the package must meet all applicable General Packing Requirements of Subsection 5.0 of these Regulations that would apply to dangerous goods of Packing Group III;
3. the requirements of 49 CFR 172.205 with respect to the hazardous waste manifest apply; and
4. for those hazardous wastes that meet the definition of a hazardous substance, the letters "RQ" and the name of the hazardous substance in parentheses shall be shown in association with the basic description on the Shipper's Declarations and package markings.

**Notes:**

1. Hazardous waste can only be transported within the United States by carriers who have obtained a Waste Transporter Identification Number from the Environmental Protection Agency (EPA).
2. The assignment of substances described in I and II above to UN 3077 and UN 3082 is in accordance with Special Provision A97 of these Regulations.
3. A list of Hazardous Wastes and the applicable RQ as shown in Appendix A to 49 CFR 172.101 is available via the internet at <http://hazmat.dot.gov/regs/intl/icaovar.htm>  
<http://www.phmsa.dot.gov/hazmat/regs/international/icao>

(III) **Other materials.** Materials which are not subject to the requirements of these Regulations but meet the definition of a hazard class in 49 CFR Parts 171–180, must be transported in accordance with those regulations.

**USG-05** An explosive article or substance may not be transported to, from, through or within the United States without prior approval by the appropriate authority of the US (see USG-01 Attention: **Office of Hazardous Materials Special Permits and Approvals Approvals and Permits Division** (PHH-30)). Such approval remains valid for subsequent transport of the article or substance provided there is no change in its composition, design or packaging.

Except as otherwise provided in US regulations 49 CFR 172.320, each package containing an explosive article or substance must be marked with the EX number assigned in the approval for each article, substance or device contained in the package. The EX-number may also be provided in association with the description

of dangerous goods on the transport document (Shipper's Declaration) rather than marked on the package as provided in 49 CFR 172.320(d). ~~Cartridges, small arms~~ **Articles** of the kind ~~listed described~~ in 49 CFR 173.56(h) do not require prior approval or an EX-number.

**USG-06** Cylinders transported to, from or within the United States must be manufactured, inspected and tested in accordance with the applicable specifications given in 49 CFR 178, except that foreign cylinders received in the United States for charging may be transported for purposes of export from the United States in accordance with 49 CFR 171.23(a)(4) (see Packing Instruction 200).

Portable tanks other than UN portable tanks manufactured outside of the United States that meet the applicable requirements of the UN Model Regulations must be designed and approved in accordance with the requirements of 49 CFR 178.270 through 178.277.

Except as provided in 49 CFR 173.306, aerosol containers larger than 120 mL capacity (4 fl oz) must be non-refillable metal ~~receptacles or plastic aerosols~~. Aerosols must consist of a gas compressed, liquefied or dissolved under pressure, with the sole purpose of expelling a non-toxic (other than a Division 6.1 Packing Group III material) liquid, paste or powder and fitted with a self-closing release device allowing contents to be ejected by the gas.

**USG-07** Lighters (cigarettes) or other similar devices containing flammable gas (e.g. lighters for fireplaces and torches) may not be transported to, from or within the United States unless the design of the device has been examined and tested by a person authorized by an approved testing agency and approved by the appropriate authority of the US (see USG-01). For design samples being submitted for examination and testing see 49 CFR 173.308.

~~Until 1 January 2012, approval~~ **Approval** numbers issued by the appropriate authority of the United States (see USG-01) prior to 1 January 2007 ~~may continue to be marked on packages and annotated on the transport document where applicable. After that time, previously issued approvals (i.e. T-\*\*\*)~~ **will be** no longer ~~be~~ valid and each lighter design currently in production must be re-examined and tested under the provisions of 49 CFR 173.308.

**USG-12** On shipments to, from, within or transiting through the US, emergency response information as described below must be provided for all dangerous goods other than magnetized material (UN 2807), dangerous goods for which no Shipper's Declaration for Dangerous Goods is required ~~and Other Regulated Material as defined in 49 CFR 173.144~~.

**Telephone Number:** The Shipper's Declaration for Dangerous Goods required by these Regulations must include an emergency response telephone number (including area codes and for international numbers for locations outside the US, country and city codes needed to complete the call from within the US) for use in the event of an incident involving the dangerous good(s). The number must be monitored at all times while the dangerous good is in transportation, including storage incident to transportation by a person who:

1. is knowledgeable of the hazards and characteristics of the dangerous good(s) being transported;
2. has comprehensive emergency response and accident mitigation information for the dangerous good(s);  
or
3. has immediate access to a person who possesses such knowledge and information.

An emergency response telephone number is not required for dangerous goods in Limited Quantities as described in 2.7 and materials properly described under the proper shipping names **Battery powered equipment, Battery powered vehicle, Carbon dioxide, solid, Consumer commodity, Castor beans, flakes, meal or pomace, Dry ice, Engine, internal combustion, flammable gas powered, Engine, internal combustion, flammable liquid powered, Refrigerating Machines, Vehicle, flammable gas powered and Vehicle, flammable liquid powered.**

**Means of Compliance:** The telephone number must be the number of the person offering the dangerous goods for transportation or the number of an agency or organization capable of, and accepting responsibility for, providing the detailed information concerning the dangerous good. A person offering a dangerous good for transportation who lists the telephone number of an agency or organization must ensure that agency or organization has received current information on the material before it is offered for transportation.

**Documentation Requirements:** The telephone number must be entered on the Shipper's Declaration for Dangerous Goods and its purpose clearly identified, e.g. "EMERGENCY CONTACT: . . .", either:

1. immediately following the description of the dangerous goods listed on the Shipper's Declaration; or
2. if only one number applies to each dangerous good listed on the Shipper's Declaration, the information may be entered in a single prominent location, provided that the number is identified as the emergency response telephone number.

**Emergency Response Information:** Emergency response information relative to the dangerous goods being transported must be immediately available at all times the dangerous good is present. This information should be appropriate for use in emergency and accident response to an incident, including an incident occurring during ground operations and must include as a minimum:

1. the description of the dangerous goods listed in accordance with 8.1.6.9.1, First sequence of these Regulations;
2. immediate hazards to health;
3. risks of fire or explosion;
4. immediate precautions to be taken in the event of an accident or incident;
5. immediate methods for handling fires;
6. initial methods for handling spills or leaks in the absence of a fire; and
7. preliminary first aid measures.

**Language:** The information must be printed in English, available away from the package containing the dangerous goods and immediately accessible in the event of an incident. Methods of compliance include, but are not limited to:

1. including the information on the Shipper's Declaration for Dangerous Goods;
2. locating the information in a separate document such as a material safety data sheet which includes at least all of the information listed above; or
3. providing the information for use in conjunction with the Shipper's Declaration for Dangerous Goods (or aboard aircraft, in conjunction with the Information to Pilot-in-Command as required in 9.5 of these Regulations), in a separate document, such as the ICAO Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods (Doc. 9481).

**USG-13** Operators must comply with all requirements of 49 CFR, Part 175 (see USG-01). These requirements include, but are not limited to, the following:

- (a) A package prepared in accordance with these Regulations for transport to, from or within the United States must not be accepted unless the operator also ensures that the shipper has complied with all applicable United States variations indicated in these Regulations (see 9.1.2).
- (b) A copy of the transport document or an electronic image thereof, must be retained by the initial operator for not less than one year after the dangerous goods are accepted by the initial operator. Each shipping paper copy must include the date of acceptance by the initial operator. The date on the shipping paper may be the date a shipper notifies the air carrier that a shipment is ready for transportation, as indicated on the air waybill or bill of lading, as an alternative to the date the shipment is picked up or accepted by the carrier. For a hazardous waste, the transport document must be retained for three years after the waste material is accepted by the initial operator (see 9.8).
- (c) The notification to pilot-in-command must list, and provide the required information for, those additional materials considered to be dangerous goods under United States' regulations as indicated through United States variations (see 9.5.1.1).
- (d) Except for "Other Regulated Materials" as defined in 49 CFR 173.144, dangerous goods in limited or excepted quantities substances of Class 9, radioactive material, aircraft batteries transported as items of

replacement (49 CFR 175.8), and those articles and substances considered to be dangerous goods under these Regulations but which are not subject to 49 CFR Parts 171–180, the following limitations apply:

1. No more than 25 kg net weight of dangerous goods, and in addition thereto, 75 kg net weight of non-flammable gas, that are permitted to be carried aboard a passenger aircraft may be carried-loaded aboard an aircraft in an inaccessible manner:
  1. in an inaccessible cargo compartment;
  2. in any freight container within an accessible cargo compartment; or
  3. in any accessible cargo compartment of a cargo aircraft if the dangerous goods are loaded so as to be inaccessible unless in a freight container.
2. For transport by cargo aircraft the following additional substances are also excepted from this variation the above requirement:
  - (i) Division 6.1 (poisonous) materials (except those labelled FLAMMABLE) Class 3 (flammable liquid), Packing Group III (unless the substance is also labelled Corrosive);
  - (ii) Division 6.1 (poisonoustoxic) materials (except those unless the substance is also labelled FLAMMABLE) (PG II and III only);
  - (iii) Materials in Division 6.2 (etiologic or infectious substances);
  - (iiiiv) Class 3 (flammable liquid) materials with a flashpoint above 23°C (73°F) that do not meet the definition of another hazard class Class 7 (radioactive) material that does not meet the definition of another hazard class.

**Notes:**

1. Accessible means, on passenger-carrying or cargo-only aircraft that each package is loaded where a crew member or other authorized person can access, handle, and, when size and weight permit, separate such packages from other cargo during flight, including a freight container in an accessible cargo compartment when packages are loaded in an accessible manner. Additionally, a package is considered accessible when transported on a cargo-only aircraft if it is:
  - In a cargo compartment certified by FAA as a Class C aircraft cargo compartment as defined in 14 CFR 25.857(c); or
  - In an FAA-certified freight container that has an approved fire or smoke detection system and fire suppression system equivalent to that required by the certification requirements for a Class C aircraft cargo compartment.
2. Inaccessible means all other configurations to include packages loaded where a crew member or other authorized person cannot access, handle, and, when size and weight permit, separate such packages from other cargo during flight, including a freight container in an accessible cargo compartment when packages are loaded in an inaccessible manner.

The following tables provides the limits imposed by this variation:

**Editorial Note:**

Replace existing Tables USG-13.A, USG-13.B and USG-13.C with the following Table USG-13.A.

**TABLE USG-13.A**  
**Quantity and Loading Table**

Applicability	Forbidden	Quantity limitation: 25 kg net weight of dangerous goods plus 75 kg of Div. 2.2 per cargo compartment	No limit
Passenger aircraft	Packages bearing a CAO label	Inaccessible	Accessible
Cargo aircraft – packages permitted on a passenger aircraft	Not applicable	Inaccessible (Note 1)	Accessible (Note 2)
Cargo aircraft – packages bearing a CAO label	Inaccessible (Note 1)	Not applicable	Accessible (Note 2)

**Notes:**

1. The following additional substances are not subject to this loading restriction:

- (i) Class 3 (flammable liquid), Packing Group III (unless the substance is also labelled Corrosive);
- (ii) Division 6.1 (toxic) (unless the substance is also labelled FLAMMABLE) (PG II and III only);
- (iii) Division 6.2 (infectious substances);
- (iv) Class 7 (radioactive) material that does not meet the definition of another hazard class
- (v) Class 9 and limited quantity or excepted quantity dangerous goods.

2. On a cargo aircraft, packages required to be loaded in a position that is considered to be accessible include those loaded in a Class C cargo compartment

(e) Operators must comply with the incident reporting requirements of 49 CFR 171.15, 171.16 and discrepancy reporting under 175.31.

**Note:**

Copies of the incident reporting form and guidance for completing it may be downloaded at: <http://hazmat.dot.gov/enforce/spills/spills.htm> <http://www.phmsa.dot.gov/hazmat/incident-reports>

**USG-16** Air bag inflators, air bag modules and seat belt pretensioners may not be transported to, from or within the United States without prior approval by the appropriate national authority of the US (see USG-01), Attention: Office of Hazardous Materials Special Permits and Approvals Approvals and Permits Division (PHH-30). Such approval remains valid for subsequent transport provided there is no change in its composition, design or packaging. For domestic transport, air bag inflators, modules and pretensioners that meet the criteria for a Division 1.4G explosive must be transported using the description Articles, pyrotechnic for technical purposes UN 0431. The dangerous goods transport document (Shipper's Declaration) must contain the EX number or product code for each approved inflator, module or pretensioner in association with the basic description required in 8.1.6.9.1. If product codes are used they must be traceable to the specific EX number assigned to the inflator, module or pretensioner, as applicable, by the appropriate authority of the United States. The EX number or product code is not required to be marked on the outer package.



## **New or Amended Operator Variations (Section 2.8.4)**

In 2.8.3.4 List add:

- After Virgin Atlantic: Virgin Australia VA

### **AB (Air Berlin)**

Add new:

**AB-03** Dangerous goods in limited quantities (“Y” packing instructions) will not be accepted for carriage Exception: Consumer commodity (ID 8000) will be accepted (see Subsection 2.7 and all “Y” Packing Instructions).

**AB-04** Camping stoves and fuel containers that have contained a flammable liquid fuel will not be accepted for carriage in baggage. This variation applies also to used camping stoves which have been thoroughly cleaned (see 2.3.2.5).

### **Amend AY (Finnair)**

**AY-03** In case of shipments transported under state exemptions or approvals (e.g. required by Special Provision A1, A2, A88, A99 or A106), ~~Finnair Cargo Control Centre~~ **Smart Cargo Hub Centre (SCH)** must be contacted and copies of the DGD and approval or exemption, as applicable, must be provided by fax or other means. Shipments will not be accepted unless approval is granted by ~~Cargo Control Center(SCH)~~:

Finnair Smart Cargo Hub (SCH) HEL-FL-AY  
Tel: +358-9-818 5450  
Fax: +358-9-818 3927  
email: sch@finnair.com.

### **Amend CX (Cathay Pacific)**

**CX-05** Liquid substances single packagings of drums and jerricans of any material must be prepared as follows:

1. the steel drums/plastic drums/plastic jerricans must be protected by other strong outer packaging, for example fibreboard box; or
2. if prepared as an open overpack, a suitably sized plastic, ~~or~~ **foam or wooden** pallet must be used to protect at least the top and bottom of the packaging.

**CX-07** ~~Not used~~ **UN 3090 Lithium metal batteries. Lithium metal cells and batteries are prohibited from carriage as cargo on Cathay Pacific Airways passenger carrying aircraft. This applies to Section IA, IB and Section II of Packing Instruction 968.**

**This prohibition does not apply to:**

- **lithium metal cells and batteries packed with or contained in equipment (UN 3091) in accordance with PI 969 and PI 970 and lithium ion cells and batteries (UN 3480 and UN 3481) in accordance with PI 965 to PI 967; or**
- **lithium batteries (rechargeable and non-rechargeable) covered by the Provisions for Dangerous Goods Carried by Passengers or Crew (see 2.3.2 to 2.3.5 and Table 2.3.A).**

### **Add new DL (Delta Airlines)**

**DL-06** UN3480, Lithium Ion Batteries, Packing Instruction 965, Sections 1A and 1B will not be accepted for transport. UN 3480, lithium ion batteries offered under Section II provisions will be accepted.

### **Amend FX (Federal Express)**

**FX-07** Lithium batteries (Section I, Section IB and Section II) 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.

Lithium metal batteries, (primary non-rechargeable) UN 3090 which are shipped either fully regulated or in accordance with Section I, Section IB and Section II of Packing Instruction 968 require pre-approval. See [www.fedex.com/us](http://www.fedex.com/us); keyword lithium batteries (search field).

Effective January 1, 2013, 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 or the Additional Handling Information. Alternative documentation will not be allowed.

**FX-11** Dangerous goods packages that cannot accommodate all of the required Federal Express and regulatory documentation as well as all required regulatory markings and labeling on the top or sides of the outer package, will not be accepted for carriage. Any required documentation, marking and labeling will not be permitted on the bottom of the package. FedEx branded packaging including brown boxes may not be used to ship dangerous goods or dry ice. Exceptions: UN 3373, Biological Substance Category B may be shipped in the FedEx UN 3373 Pak. FedEx Express white and brown boxes and tubes may be used for FedEx Express Section II lithium battery shipments. UN 3373, Biological Substance Category B may be shipped in the FedEx UN 3373 Pak and the FedEx Clinical Box.

#### Amend **KA (Hong Kong Dragon Airlines (Dragonair))**

**KA-05** Liquid substances single packagings of drums and jerricans of any material must be prepared as follows:

1. the steel drums/plastic drums/plastic jerricans must be protected by other strong outer packaging, for example fibreboard box; or
2. if prepared as an open overpack, a suitably sized plastic, or foam or wooden pallet must be used to protect at least the top and bottom of the packaging.

**KA-07** ~~Not used~~ UN 3090 Lithium metal batteries. Lithium metal cells and batteries are prohibited from carriage as cargo on Cathay Pacific Airways passenger carrying aircraft. This applies to Section IA, IB and Section II of Packing Instruction 968.

This prohibition does not apply to:

- lithium metal cells and batteries packed with or contained in equipment (UN 3091) in accordance with PI 969 and PI 970 and lithium ion cells and batteries (UN 3480 and UN 3481) in accordance with PI 965 to PI 967; or
- lithium batteries (rechargeable and non-rechargeable) covered by the Provisions for Dangerous Goods Carried by Passengers or Crew (see 2.3.2 to 2.3.5 and Table 2.3.A).

#### Amend **LD (Air Hong Kong)**

**LD-05** Liquid substances single packagings of drums and jerricans of any material must be prepared as follows:

1. the steel drums/plastic drums/plastic jerricans must be protected by other strong outer packaging, for example fibreboard box; or
2. if prepared as an open overpack, a suitably sized plastic, or foam or wooden pallet must be used to protect at least the top and bottom of the packaging.

Add new

**LD-08** UN 3090 Lithium metal batteries. Lithium metal cells and batteries are prohibited from carriage as cargo on Cathay Pacific Airways passenger carrying aircraft. This applies to Section IA, IB and Section II of Packing Instruction 968.

This prohibition does not apply to:

- lithium metal cells and batteries packed with or contained in equipment (UN 3091) in accordance with PI 969 and PI 970 and lithium ion cells and batteries (UN 3480 and UN 3481) in accordance with PI 965 to PI 967; or

- lithium batteries (rechargeable and non-rechargeable) covered by the Provisions for Dangerous Goods Carried by Passengers or Crew (see 2.3.2 to 2.3.5 and Table 2.3.A).

#### Amend **OS (Austrian Airlines)**

**OS-01** ~~Booking and confirmation is required for all dangerous goods shipments as defined in these Regulations (see 1.3.2 and 9.1.2).~~ **UN3481 Lithium ion batteries contained in equipment, PI 967 Section I (battery/pack more than 100 Wh) will not be accepted for carriage as cargo.**

**OS-04** **Infectious substances, UN 2814, UN 2900 and Biological substance, Category B (UN 3373)** will not be accepted in air mail (see 2.4).

#### Amend **RJ (Royal Jordanian)**

**RJ-02** ~~“Cargo Aircraft Only” dangerous goods are not permitted in consolidations (see 1.3.3, 8.1.2.4, 9.1.8 and 10.8.1.5).~~ Dangerous goods in consolidations are accepted provided:

- Consolidations with only one House Airway Bill; or
- Consolidations with more than one House Airway Bill, only in case of an identical shipper; and
- Consolidations containing UN 1845, Carbon dioxide solid (Dry ice) when used as refrigerant.

#### Amend **SK (SAS—Scandinavian Airline System)**

**SK-01** UN 3090 Lithium **metal** batteries. Primary (non-rechargeable) lithium (metal) batteries and cells are prohibited from carriage as cargo ~~unless permitted in Packing Instruction 968 Section II.~~

This prohibition does not apply to:

- **UN 3091, UN 3480, UN 3481** Those permitted in compliance with packing instruction 968 Section II;
- **Those permitted in compliance with packing instruction 968 Section IB;**
- Lithium batteries (rechargeable and non-rechargeable) covered by the Provisions for Dangerous Goods Carried by Passengers or Crew (see Table 2.3.A).

#### Amend **US (US Airways)**

**US-01** US Airways will not accept shipments for carriage which contain articles and substances listed in these Regulations and/or DOT Hazardous Materials Regulations and revisions thereto, except for the following on mainline aircraft:

- Articles ~~and substances~~ listed as not restricted or non-regulated in said regulations;
- Carbon dioxide, solid (dry ice) in individual packages cooling non-restricted contents;
- Envirotainer–unit load device equipment with dry ice cooling non-restricted contents;
- Class 9 Dangerous Goods, with the exception of the following which will not be accepted for transportation UN 2807, Magnetized Material; UN 2211, Polymeric beads, expandable; UN 3082, **Waste** Environmentally hazardous substance, liquid, n.o.s.; UN 3077, **Waste** Environmentally hazardous substance, solid, n.o.s.; UN 3480, Lithium ion batteries; UN 3481, Lithium ion batteries contained in, or packed with equipment; UN 3090, Lithium metal batteries; and UN 3091, Lithium metal batteries contained in, or packed with equipment;
- UN 3373, Biological substance, Category B;
- US Airways company material transported as aircraft replacement items.

**US-02** **US Airways will not accept any shipments of** dangerous goods **will not be accepted for carriage** on US Airways Express.

#### Add new **VA (Virgin Australia)**

**VA-01** Petrol powered equipment such as chainsaws, brush cutters, generators or the like, either new or used, are forbidden in carry-on or checked-in baggage. Such items will only be accepted as cargo if they are packaged and shipped in accordance with IATA Dangerous Goods Regulations.

Amend **VO (Tyrolean Airways)**

**VO-01** ~~Booking and confirmation is required for all dangerous goods shipments as defined in these Regulations (see 1.3.2 and 9.1.2).~~ **UN3481 Lithium ion batteries contained in equipment, PI 967 Section I (battery/pack more than 100 Wh) will not be accepted for carriage as cargo.**

**VO-04** **Infectious substances, UN 2814, UN 2900 and Biological substance, Category B** (UN 3373) will not be accepted in air mail (see 2.4).

**Section 2**

Page 25 amend Table 2.3.A as shown:

Permitted in or as carry-on baggage					
Permitted in or as checked baggage					
Permitted on one's person					
The approval of the operator(s) is required					
The pilot-in-command must be informed of the location					
NO	YES	YES <b>NO</b>	NO	NO	... <b>Internal combustion or fuel cell engines</b> , must meet A70 (see 2.3.5.15 for details). ...
YES	YES	YES	NO	NO	<b>Non-infectious specimens packed with small quantities of flammable liquid</b> , must meet A180 (see 2.3.5.14 for details).
<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>Permeation devices</b> , must meet A41 (see 2.3.5.16 for details).

Page 27 amend 2.3.5.13 as shown

**2.3.5.13 Portable Electronic Equipment **Devices** Containing Non-Spillable Batteries**

In checked or carry-on baggage, portable electronic equipment **devices** containing a non-spillable battery meeting the requirements of Special Provision A67. A maximum of two spare non-spillable batteries meeting Special Provision A67 may also be carried. The following requirements apply:

- (a) the voltage of each battery must not exceed 12 V and the watt-hour rating must not exceed 100 Wh;
- (b) the equipment **device** must either be protected from inadvertent activation, or the battery must be disconnected and the battery terminals insulated;
- (c) each spare battery must be protected from short circuit by insulation of the battery terminals

## Section 4

Table 4.2: Revise the entries as shown:

UN/ ID no.	Proper Shipping Name/Description	Class or Div. (Sub Risk)	Hazard Label(s)	PG	EQ see 2.6	Passenger and Cargo Aircraft				Cargo Aircraft Only		S.P. see 4.4	ERG Code
						Ltd Qty		Pkg Inst	Max Net Qty/Pkg g	Pkg Inst	Max Net Qty/Pkg		
						Pkg Inst	Max Net Qty/Pkg						
A	B	C	D	E	F	G	H	I	J	K	L	M	N
3487	<b>Calcium hypochlorite, hydrated, corrosive</b> with ≥ 5.5% but ≤ 16% water	5.1 (8)	Oxidizer & Corrosive	II III	E2 E1	Y544 Y545	2.5 kg 5 kg	558 559	5 kg 25 kg	562 563	25 kg 100 kg	<b>A8</b> A136 A803	5C 5C
3487	<b>Calcium hypochlorite, hydrated mixture, corrosive</b> with ≥ 5.5% but ≤ 16% water	5.1 (8)	Oxidizer & Corrosive	II III	E2 E1	Y544 Y545	2.5 kg 5 kg	558 559	5 kg 25 kg	562 563	25 kg 100 kg	<b>A8</b> A136 A803	5C 5C
3498	<b>Iodine monochloride, liquid</b>	8	Corrosive	<b>II</b>	E1	Y845	5 kg	860	25 kg	864	100 kg	A113 A803	8C
3336	<b>Mercaptan mixture, liquid, flammable, n.o.s. ★</b>	3	Flamm. liquid	I	<b>E0</b>	Forbidden		Forbidden		361	30 L	A3	3H
				II III	E2 E1	Y341 Y344	1 L 10 L	353 355	5 L 60 L	364 366	60 L 220 L		3H 3L
3209	<b>Metallic substance, water-reactive, self-heating, n.o.s. ★</b>	4.3 (4.2)	Dang. when wet & Spont. comb	I II III	E0 <b>E0</b> E1	Forbidden Forbidden Forbidden		Forbidden Forbidden 485	Forbidden Forbidden 25 kg	487 489 491	15 kg 50 kg 100 kg	A3 A803	4SW 4SW
3129	<b>Water-reactive liquid, corrosive, n.o.s. ★</b>	4.3 (8)	Dang. when wet & Corrosive	I II III	E0 <b>E0</b> E1	Forbidden Forbidden Forbidden		Forbidden Forbidden 479	Forbidden Forbidden 5 L	480 481 482	1 L 5 L 60 L	A3 A803	4CW 4CW 4CW
3130	<b>Water-reactive liquid, toxic, n.o.s. ★</b>	4.3 (6.1)	Dang. when wet & Toxic	I II III	E0 <b>E0</b> E1	Forbidden Forbidden Forbidden		Forbidden Forbidden 479	Forbidden Forbidden 5 L	480 481 482	1 L 5 L 60 L	A3 A803	4PW 4PW 4PW

Page 359 amend special provision A186 as shown

**A186** (361) This entry applies to electric double layer capacitors with an energy storage capacity greater than 0.3 Wh. Capacitors with an energy storage capacity of 0.3 Wh or less are not subject to these Regulations. Energy storage capacity means the energy held by a capacitor, as calculated using the nominal voltage and capacitance. All capacitors to which this entry applies, including capacitors containing an electrolyte that does not meet the classification criteria of any class or division of dangerous goods, must meet the following conditions:

- (a) capacitors not installed in equipment must be transported in an uncharged state. Capacitors installed in equipment must be transported either in an uncharged state or protected against short circuit;
- (b) each capacitor must be protected against a potential short circuit hazard in transport as follows:
  1. when a capacitor's energy storage capacity is less than or equal to 10 Wh or when the energy storage capacity of each capacitor in a module is less than or equal to 10 Wh, the capacitor or module must be protected against short circuit or be fitted with a metal strap connecting the terminals; and
  2. when the energy storage capacity of a capacitor or a capacitor in a module is more than 10 Wh, the capacitor or module must be fitted with a metal strap connecting the terminals.
- (c) capacitors containing dangerous goods must be designed to withstand a 95 kPa pressure differential;
- (d) capacitors must be designed and constructed to safely relieve pressure that may build up in use, through a vent or a weak point in the capacitor casing. Any liquid which is released upon venting must be contained by packaging or by equipment in which a capacitor is installed; and

(e) capacitors must be marked with the energy storage capacity in Wh. Capacitors containing an electrolyte not meeting the classification criteria of any class or division of dangerous goods, including when installed in equipment, are not subject to other provisions of these Regulations.

**Capacitors containing an electrolyte not meeting the classification criteria of any class or division of dangerous goods, including when installed in equipment, are not subject to other provisions of these Regulations.**

Capacitors containing an electrolyte meeting the classification criteria of any class or division of dangerous goods, with an energy storage capacity of 10 Wh or less are not subject to other provisions of these Regulations when they are capable of withstanding a 1.2 m drop test unpackaged on an unyielding surface without loss of contents.

Capacitors containing an electrolyte meeting the classification criteria of any class or division of dangerous goods that are not installed in equipment and with an energy storage capacity of more than 10 Wh are subject to these Regulations.

Capacitors installed in equipment and containing an electrolyte meeting the classification criteria of any class or division of dangerous goods are not subject to other provisions of these Regulations provided the equipment is packaged in a strong outer packaging constructed of suitable material and of adequate strength and design in relation to the packaging's intended use and in such a manner as to prevent accidental functioning of capacitors during transport. Large robust equipment containing capacitors may be offered for transport unpackaged or on pallets when capacitors are afforded equivalent protection by the equipment in which they are contained.

**Note:**

*Capacitors which by design maintain a terminal voltage (e.g. asymmetrical capacitors) do not belong to this entry.*

Page 360, amend SP A190 as shown

**A190** Neutron radiation detectors containing non-pressurized boron trifluoride gas in excess of 1 g and radiation detection systems containing such neutron radiation detectors as components may be transported on cargo aircraft in accordance with these Regulations irrespective of the indication of "forbidden" in Columns K/L of Table 4.2, provided:

- (a) the pressure in each neutron radiation detector must not exceed 105 kPa absolute at 20°C;
- (b) the amount of gas must not exceed 12.8 g per detector and the amount per outer packaging or per radiation detection system must not exceed 51.2 g;
- (c) each neutron radiation detector must be of welded metal construction with brazed metal to ceramic feed through assemblies. They must have a minimum burst pressure of 1,800 kPa;
- (d) each neutron radiation detector must be packed in a sealed intermediate plastic liner with sufficient absorbent material to absorb the entire gas contents. Neutron radiation detectors must be packed in strong outer packagings that are capable of withstanding a 1.8 m drop test without leakage. Radiation detector systems containing neutron radiation detectors must also include absorbent material sufficient to absorb the entire gas contents of the neutron radiation detectors. Absorbent material must be surrounded by a liner or liners, as appropriate. They must be packed in strong outer packagings unless neutron radiation detectors are afforded equivalent protection by the radiation detection system; and
- (e) transport in accordance with this special provision ~~need not~~ **must** be noted on the Shipper's Declaration and a packing instruction must not be shown on the Shipper's Declaration. The package must be labelled with "Toxic gas" and "Corrosive" hazard labels.

When transported as cargo, neutron radiation detectors containing not more than 1 g of boron trifluoride, including those with solder glass joints, and radiation detection systems containing such detectors where the neutron radiation detectors meet and are packed in accordance with the above conditions, are not subject to these Regulations irrespective of the indication of "forbidden" in Columns J/K and L/M of Table 4.2.

The words "Not Restricted" and the Special Provision number must be included in the description of the substance on the Air Waybill as required by 8.2.6, when an Air Waybill is issued.

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## **Section 5**

Page 514, amend Packing Instruction Y840 as shown

### **PACKING INSTRUCTION Y840**

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...

#### **Additional Packing Requirements**

- **glass** inner packagings must be packed with sufficient absorbent material to absorb the entire contents of the inner packagings and placed in a rigid leakproof receptacle before packing in outer packagings.

...

Pages 552 – 555, amend Packing Instruction 965 as shown

### **PACKING INSTRUCTION 965**

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OPERATOR VARIATIONS: 5X-02/**04**/07, AC-06, AM-09, CI-01, D0-03, **DL-06**, EY-04, **FX-07**, QY-03, US-01

...

#### **Additional Requirements—Section IB**

...

Each package must be marked in accordance with the requirements of 7.1.5.1(a) and (b) and in addition the gross weight as **when** required by 7.1.5.1(c) must be marked on the package

...

## **Section II**

...

#### **Additional Requirements—Section II**

Cells and batteries must be packed in inner packagings that completely enclose the cell or battery then placed in a strong **rigid** outer packaging.

...

Pages 560 – 563, amend Packing Instruction 968 as shown

### **PACKING INSTRUCTION 968**

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OPERATOR VARIATIONS: 5X-02/**04**/07, AC-06, AM-09, BA-02, CI-01, **CX-07**, CZ-08, D0-03, **DL-06**, EY-04, **FX-07**, **KA-07**, **LD-08**, QR-04, QY-03, SK-01, US-01

...

#### **Section IB**

...

Quantities of lithium ion **metal** cells or batteries that exceed the allowance permitted in Section II, Table 968-II must be assigned to Class 9 and are subject to all of the applicable provisions of these Regulations (including the General Requirements of this packing instruction), except for the following:

...

#### **Additional Requirements—Section IB**

...

Each package must be marked in accordance with the requirements of 7.1.5.1(a) and (b) and in addition the gross weight **when required by 7.1.5.1(c)** must be marked on the package

...

## Section II

...

### Additional Requirements—Section II

Cells and batteries must be packed in inner packagings that completely enclose the cell or battery then placed in a strong **rigid** outer packaging.

...

## Section 7

Page 618 – Amend 7.1.5.1(f) as shown:

- (f) for Class 2, Refrigerated Liquefied Gases, referenced to Packing Instruction 202: the upright position of each package must be indicated prominently by either the “Package Orientation” label (see Figure 7.4.D or Figure 7.4.E) or pre-printed package orientation labels meeting the same specification as either Figure 7.4.D or Figure 7.4.E or ISO Standard 780-1997. The label must be affixed to or printed on at least two opposite vertical sides of the package with the arrows points in the correct direction. The wording “KEEP UPRIGHT” must be placed at 120° intervals around the package or on each side. **The package must also be clearly marked “DO NOT DROP—HANDLE WITH CARE”. Packages must bear instructions to be followed in the event of an emergency, delay en route, or if the consignment is unclaimed at destination.**

Page 619, amend 7.1.5.1 as shown:

### 7.1.5.5 Size

**7.1.5.5.1** The marking of the UN/**ID** number and the letters “UN” **or “ID”** as specified in 7.1.5.1(a) must be at least 12 mm high, except for packagings of 30 L or 30 kg capacity or less, when they must be at least 6 mm in height and for packagings of 5 L or 5 kg or less when they must be of an appropriate size.

#### **Note:**

*The mandatory size requirements for the UN number marking become effective as from 1 January 2014.*

## Section 8

Page 646, amend 8.1.6.9.4, Step 9 (a) as shown:

**Step 9.** As applicable:

- ☞ (a) the Special Provision number if the special provision is A1, A2, A51, A81, A88, A99, **or A130, A190 or A191;**

...

## Section 10

Page 733, amend 10.7.4.2.3 as shown:

### 10.7.4.2 Label Location

**10.7.4.2.1** When the package dimensions are adequate, one set of labels (10.7.4.3.1) must be located on the same surface of the package near the proper shipping name marking.

- ☞ **10.7.4.2.2** Labels should be affixed adjacent to the shipper's or consignee's address appearing on the package.

**10.7.4.2.3** Subsidiary hazard labels, when applicable, must be affixed adjacent to the primary hazard labels, **on the same surface of the package.**



### **Appendix D.1**

Page 793, amend the contact details for Bolivia as shown:

BOLIVIA (BOL)

Dirección General de Aeronáutica Civil  
Av. Arce Nro 2631  
Edificio Multicine piso 9  
La Paz  
BOLIVIA

Tel: +591 (2) 244 4450  
Tel: +591 (2) 211 9323  
Website: [www.dgac.gob.bo](http://www.dgac.gob.bo)

Page 796, amend the contact details for Indonesia as shown

Directorate General of Air Communications - Civil Aviation  
Jalan Angkasa 1/2 Kemayoran Jalan Medan Merdeka Barat No. 8  
Karsa Building 5<sup>th</sup> Fl.  
Jakarta 10110  
INDONESIA

Tel: +62 (21) 412348 350 5137; 350 5132  
Fax: +62 (21) 350 5139 ; 350 5136  
Telex: 49482 GVAIR IA

### **Appendix F.3**

Page 863 – Amend the contact details for ANA Logistics d.b.a Kinoshita Aviation Consultants to read as shown:

KINOSHITA AVIATION CONSULTANTS  
Moto-Nakayama 4-3-3-1102/1103  
Funabashi, Chiba-Ken 273-0035  
JAPAN

Tel: +81 (0) 47 335 7924  
Fax: +81 (0) 47 335 2291  
E-mail: [benkinoshita@aol.com](mailto:benkinoshita@aol.com)  
[bentozai@aol.com](mailto:bentozai@aol.com)  
Website: [www.airtransport-tozai.com](http://www.airtransport-tozai.com)

Page 866, amend Aircargo Forwarders as shown:

### **PHILIPPINES**

Aircargo Forwarders of the Philippines, Inc. (AFPI)  
Room 225, Sky Freight Bldg B  
NAIA Ave.  
Parañaque City  
PHILIPPINES  
1700

Tel: +63 (2) 853-2724  
Fax: +63 (2) 853-1745  
email: [training\\_admin@afpi.org.ph](mailto:training_admin@afpi.org.ph) [training@afpi.org.ph](mailto:training@afpi.org.ph)  
Website: [www.afpi.org.ph](http://www.afpi.org.ph)