

REPUBLIC OF MAURITIUS

DEPARTMENT OF CIVIL AVIATION

Sir Seewoosagur Ramgoolam International Airport, Plaine Magnien

MAURITIUS CIVIL AVIATION REQUIREMENTS

DANGEROUS GOODS REQUIREMENTS

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DEPARTMENT OF CIVIL AVIATION
DANGEROUS GOODS REQUIREMENTS

Foreword

These Requirements are based on ICAO Annex 18 Standards and Recommended Practices and is issued by the Authority pursuant to the provisions of Regulation 135 of the Civil Aviation Regulation 2007 as amended, for the purpose of regulation 65.

This issue replaces the Dangerous Goods Requirements of 30 September 20215. All operators, handling agent, shippers, training organisation and other parties will have to demonstrate compliance with same by 30th September 2026.

Compliance to these requirements is mandatory for all operators, handling agents, shippers and other parties involved in the transport of Dangerous Goods.

Enquiries on the contents of these requirements should be addressed to:

**Director of Civil Aviation,
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DEPARTMENT OF CIVIL AVIATION
DANGEROUS GOODS REQUIREMENTS

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CHAPTER 1 PRELIMINARY

1.1 Interpretation

1.1.1 For the purpose of these Requirements:

Acceptance Check List - A document used to assist in carrying out a check on the external appearance of packages of dangerous goods and their associated documents to determine that all appropriate requirements have been met;

Approval - An authorisation granted by an appropriate national authority for:

- a) the transport of dangerous goods forbidden on passenger and/or cargo aircraft where the Technical Instructions state that such goods may be carried with an approval; or
- b) other purposes as provided for in the Technical Instructions.

Note: In the absence of a specific reference in the Technical Instructions allowing the granting of an approval, an exemption may be sought.

Additional Documents - includes a copy of the Air Waybill when one is required, a copy of the check list used by the air operator in the acceptance of dangerous goods, a copy of the form used to give written notification to the pilot-in-command, and the packaging certificate for some radioactive material packaging.

Audit - means an in depth inspection of an air operator's operation to verify conformance with current regulations.

Cargo Aircraft - Any aircraft, other than a passenger aircraft, which is carrying goods or property.

Compliance - means the state of conforming to specified requirements of a regulation.

Consignment - One or more packages of dangerous goods accepted by an operator from one shipper at one time and at one address, receipted for in one lot and moving to one consignee at one destination address.

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Crew Member - A person assigned by an operator to duty on an aircraft during a flight duty period.

Dangerous Goods - Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those instructions.

Dangerous Goods Accident - An occurrence associated with and related to the transport of dangerous goods by air which results in fatal or serious injury to a person or major property or environmental damage.

Dangerous Goods Incident - An occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in injury to a person, property or environmental damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardizes the aircraft or its occupants is also deemed to constitute a dangerous goods incident.

Dangerous Goods Transport Document - A document which is specified by the Technical Instructions and contains information about those dangerous goods;

Exception - A provision in this Annex which excludes a specific item of dangerous goods from the requirements normally applicable to that item.

Exemption - An authorization, other than an approval, granted by an appropriate national authority providing relief from the provisions of the Technical Instructions.

Flight Crew Member - A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.

Freight Container - an article of transport equipment for radioactive materials, designed to facilitate the carriage of such materials, either packaged or unpackaged, by one or more modes of transport, but does not include a unit load device;

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Foreign Operator - An aircraft operator who holds an air operator certificate issued by the competent national aviation authority of a state other than Mauritius;

Handling Agent - an agent who performs on behalf of the operator some or all of the functions of the latter including receiving, loading, unloading, transferring or other processing of passengers or cargo;

ID Number - An identification number specified in the Technical Instructions for an item of dangerous goods which has not been assigned a UN number;

Inspection - means an examination of a specific item, function, and procedure, component or part of the company's operation either routinely or for specific reason to verify compliance with regulations.

Investigation - Systematic search for and documentation of facts relevant to an occurrence or suspected violation, from which a decision to take appropriate action can be made.

Lithium Battery refers to a family of batteries with different chemistries, comprising many types of cathodes and electrolytes. For the purposes of the DGR they are separated into lithium metal batteries and lithium-ion batteries.

Lithium metal batteries are generally primary (non-rechargeable) batteries that have lithium metal or lithium compounds as an anode. Also included within lithium metal are lithium alloy batteries. Lithium metal batteries are generally used to power devices such as watches, calculators, cameras, temperature data loggers, car key fobs and defibrillators.

Note:

Lithium metal batteries packed by themselves (not contained in or packed with equipment) (Packing Instruction 968) are forbidden for transport as cargo on passenger aircraft).

- *In accordance with Special Provision A201, lithium metal cells or batteries that meet the specified quantity limits may be shipped on a passenger aircraft under an approval issued by the authority of the State of Origin, State of Destination and State of the Operator.*
- *Or in the case of urgent medical need, one consignment of lithium batteries may be transported as Class 9 (UN 3090)*

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on passenger aircraft with the prior approval of the authority of the State of Origin and with the approval of the operator, see Special Provision A201.

- *All other lithium metal cells and batteries can only be shipped on a passenger aircraft under exemption issued by all States concerned.*

Lithium-ion batteries (also abbreviated as Li-ion batteries) are secondary (rechargeable) battery where the lithium is only present in an ionic form in the electrolyte. Also included within the category of lithium-ion batteries are lithium polymer batteries. Lithium-ion batteries are generally used to power devices such as mobile telephones, laptop computers, tablets, power tools, hybrid and electric vehicles and e-bikes. Other similar sources of power (power banks, power packs, etc, designed to primarily provide power to another device) are also classified as batteries and not batteries contained in equipment.

Note:

Lithium ion batteries packed by themselves (Packing Instruction 965 - not contained in or packed with equipment):

a. must be shipped at a state of charge (SoC) not exceeding 30% of their rated capacity. Cells and/or batteries at a SoC of greater than 30% may only be shipped with the approval of the State of Origin and the State of the Operator in accordance with Special Provision A331; and

△ b. cannot be shipped on a passenger aircraft unless approved by the relevant authorities in accordance with Special Provision A201.

Sodium ion battery is a rechargeable electrochemical system where the positive and negative electrode are both intercalation or insertion compounds, constructed with no metallic sodium (or sodium alloy) in either electrode or with an organic non aqueous compound as an electrolyte.

Sodium ion cells and batteries **with organic electrolyte must** be transported as UN 3551 or UN 3552 as appropriate.

Note:

Sodium-ion batteries with aqueous alkali electrolyte must be transported as UN 2795 Batteries wet, filled with alkali.

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Mauritian Operator -An aircraft operator who holds an air operator certificate issued by the Authority;

Operator - A person, organisation or enterprise engaged in or offering to engage in an aircraft operation.

Overpack - An enclosure used by a single shipper to contain one or more packages and to form one handling unit for convenience of handling and stowage.

Note: A unit load device is not included in this definition.

Package - The complete product of the packing operation consisting of the packaging and its contents prepared for transport.

Packaging - Receptacles and any other components or materials necessary for the receptacle to perform its containment function.

Note: For radioactive material, see Part 2, paragraph 7.2 of the Technical Instructions.

Passenger aircraft - An aircraft that carries any person other than a crew member, an operator's employee in an official capacity, an authorised representative of an appropriate national authority or a person accompanying a consignment or other cargo.

Pilot-in-Command - The pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.

Procedure - means a series of steps followed in a regular order (When, Where, How, What and by whom a task shall be completed).

Proper Shipping Name - The name to be used to describe a particular article or substance in all shipping documents and notifications and, where appropriate, on packaging;

Serious Injury - An injury which is sustained by a person in an accident and which:

- a) requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or

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- b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or
- d) involves injury to any internal organ; or
- e) involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface; or
- f) involves verified exposure to infectious substances or injurious radiation.

State of Destination - The State in the territory of which the consignment is finally to be unloaded from an aircraft.

State of Origin - The State in the territory of which the consignment is first to be loaded on an aircraft.

State of the Operator - The State in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence.

Technical Instructions - The Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284), approved and issued periodically in accordance with the procedure established by the ICAO Council.

UN Number - The four-digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonised System of Classification and Labelling of Chemicals to identify an article or substance or a particular group of articles or substances.

Unit Load Device - Any type of freight container, aircraft container, aircraft pallet with a net, or aircraft pallet with a net over an igloo.

Note: An overpack is not included in this definition.

- 1.1.2 Other expressions used in these Requirements shall have the same respective meanings as in the Civil Aviation Regulations 2007 or as in MCAR-definitions.
- 1.1.3 For the avoidance of doubt any reference in the Technical Instructions or these Requirements to the taking on board, loading onto or carriage of dangerous goods in or on an aircraft shall for the purpose of these Requirements be interpreted as applying also to the placing, suspending or carriage of such goods beneath an aircraft unless the context makes it otherwise apparent.

CHAPTER 2 REQUIREMENT FOR CARRIAGE OF DANGEROUS GOODS

2.1 Requirement for approval of operator

2.1.1 An aircraft shall not carry or have loaded onto it any dangerous goods unless;

- a) the operator is approved under this requirement; and
- b) such goods are carried or loaded in accordance with:
 - i. any conditions to which such approval may be subject; &
 - ii. in accordance with the Technical Instructions.

2.1.2 The approval referred above:

- a) shall be granted by the Authority if it is satisfied the operator is competent to carry dangerous goods safely;
- b) shall be in writing; and
- c) may be subject to such conditions as the Authority thinks fit.
- d) The Operator Dangerous Goods Manual is found to be satisfactory and approved

2.2 Prohibition of carriage of dangerous goods

2.2.1 Subject to **sections 2.2.2** and **2.2.3** a person shall not:

- a) deliver or cause to be delivered for carriage in, or
- b) take or cause to be taken on board an aircraft any dangerous goods, which he knows or ought to know or suspect to be goods capable of posing a risk to health, safety, property or the environment when carried by air, unless the Technical Instructions have been complied with and the package of those goods is in a fit condition for carriage by air.

2.2.2 Subject to **section 2.1**, these Requirements shall not apply to those dangerous goods specified in the Technical Instructions as being:

- a) for the proper navigation or safety of flight;
- b) to provide, during flight, medical aid to a patient;
- c) to provide, during flight, veterinary aid or a humane killer for an animal;

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- d) to provide, during flight, aid in connection with search and rescue operations;
- e) permitted for carriage by passengers or crew members; or
- f) intended for use or sale during the flight in question.

2.2.3 The goods specified in

- a) **section 2.2.2** shall only be carried provided they comply with the following sub-paragraphs and Part 8 and the applicable provisions in paragraphs 1.1.3 and 2.2 of Part 1 of the Technical Instructions.
- b) **section 2.2.2 (a)** shall only be carried if:
 - i. they are required to be carried on an aircraft by or under the provision of the Civil Aviation Regulations or are otherwise intended for use on an aircraft for the purpose of the good order of the flight in accordance with the normal practice whether or not, in either case, such goods are required to be carried or intended to be used on that particular flight;
 - ii. when they are intended as replacements or have been removed for replacement, they comply with paragraph 2.2.2 of Part 1 of the Technical Instructions;
- c) **section 2.2.2 (b)** and **2.2.2 (c)** shall only be carried if:
 - i. they are or may be required for use during the flight;
 - ii. they are or may be required for use during a subsequent flight by the same aircraft and it will not be practicable to load the goods onto the aircraft in the intervening period before the commencement of that subsequent flight; or
 - iii. they were used or might have been required for use during a previous flight by the same aircraft and it has not been practicable to unload them from the aircraft since that flight;
- d) **section 2.2.2 (e)** shall only be carried by passengers or crew members if they comply with the provisions in Part 8 of the Technical Instructions;
- e) **section 2.2.2 (f)** shall only be carried if the Technical Instructions identify them as being items which can be carried on an aircraft for sale or use during a flight or, when they are intended as replacements for such items or have been removed for replacement, they are carried in accordance with paragraph 2.2.3 of Part 1 of the Technical Instructions Surface Transport of Dangerous Goods

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Mauritius has provisions to enable dangerous goods intended for air transport and prepared in accordance with the ICAO Technical Instructions to be accepted for surface transport to or from aerodromes. Operators should comply with the appropriate regulations issued for that purpose by the competent Authority.

CHAPTER 3 OPERATOR'S OBLIGATIONS

3.1 Provision of information by the operator to crew etc.

3.1.1 Public Transport

- a) The operator of an aircraft flying for the purposes of public transport shall ensure that all appropriate manuals, including the Operations Manual, contain information about dangerous goods so that ground staff and crew members can carry out their responsibilities in regard to the carriage of dangerous goods, including the actions to be taken in the event of emergencies involving dangerous goods.
- b) Where applicable, the operator shall ensure such information is also provided to his handling agent.

3.1.2 The operator of an aircraft in which dangerous goods are to be carried as cargo shall ensure that, before the flight begins, the commander of the aircraft is provided with:

- a) written information about the dangerous goods as specified in paragraph 4.1 of Part 7 of the Technical Instructions; and
- b) information for use in responding to an in-flight emergency as specified in paragraph 4.8 of Part 7 of the Technical Instructions.

3.1.3 The operator of an aircraft which is involved in an aircraft accident or an aircraft incident in Mauritius shall notify the authority without delay of any dangerous goods carried as cargo on the aircraft.

3.2 Acceptance of dangerous goods by the operator

3.2.1 The operator of an aircraft in which dangerous goods are to be carried shall ensure that no package, overpack or freight container which contains dangerous goods is accepted for carriage in an aircraft until such package, overpack or freight container has been inspected to determine that:

- a) insofar as it is reasonable to ascertain, the goods are not forbidden for carriage by air in any circumstances by the provisions of the Technical Instructions;
- b) insofar as it is reasonable to ascertain, the goods are classified as required by the Technical Instructions;
- c) insofar as it is reasonable to ascertain, the goods are packed as required by the Technical Instructions

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- d) the package, overpack or freight container is marked and labelled in accordance with the provisions of Chapters 2 and 3 of Part 5 of the Technical Instructions;
- e) the package, overpack or freight container is not leaking or damaged so that the contents may escape.

3.2.2 The operator of an aircraft in which dangerous goods are to be carried shall ensure that no package, overpack or freight container which contains dangerous goods is accepted for carriage in that aircraft unless it is accompanied by a dangerous goods transport document, except where the Technical Instructions indicate that such a document is not required, and shall inspect such a document to determine that it complies with the provisions of the Technical Instructions.

3.2.3 Acceptance Check List

- a) For the purpose of each of the inspections required by **sections 3.2.1** and **3.2.2** an acceptance check list shall be used and the results of the inspection shall be recorded thereon.
- b) The acceptance check list shall be in such form and shall provide for the entry of such details as will enable the relevant inspection to be fully and accurately made by reference to the completion of that list.

3.3 Method of loading by the operator

3.3.1 The operator of an aircraft in which dangerous goods are to be carried as cargo shall ensure that dangerous goods are not carried in any compartment occupied by passengers or on the flight deck, except in circumstances permitted by the provisions in paragraph 2.1 of Part 7 of the Technical Instructions.

3.3.2 The operator of an aircraft in which dangerous goods are to be carried shall ensure that any package, overpack or freight container which contains dangerous goods, including radioactive materials are loaded, segregated, stowed and secured on an aircraft in accordance with the provisions in Chapter 2 of Part 7 of the Technical Instructions.

3.3.3 The operator of an aircraft in which dangerous goods are to be carried, including radioactive materials, shall ensure that packages, over packs or freight containers bearing an indication that they can only be carried on a cargo aircraft are loaded and stowed in accordance with the provisions in paragraph 2.4.1 of Part 7 of the Technical Instructions and are not loaded on an aircraft carrying passengers

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3.4 Inspections by the operator for damage, leakage or contamination

- 3.4.1 The operator of an aircraft in which dangerous goods are to be carried shall ensure packages, over packs or freight containers which contain dangerous goods, including radioactive materials, are inspected for evidence of damage or leakage before being loaded on an aircraft or placed in a unit load device.
- 3.4.2 The operator of an aircraft in which dangerous goods are to be carried shall ensure a unit load device containing dangerous goods is not loaded unless it has been inspected and found free from any evidence of leakage from or damage to the packages, overpacks or freight containers contained in it.
- 3.4.3 The operator of an aircraft in which dangerous goods are to be carried shall ensure that any package, overpack or freight container which contains dangerous goods which appears to be leaking or damaged is not loaded on an aircraft.
- 3.4.4 The operator of an aircraft in which dangerous goods are to be carried shall ensure that any package, overpack or freight container which contains dangerous goods which is found to be leaking or damaged on an aircraft is removed and that other cargo or baggage loaded on that aircraft is in a fit state for carriage by air and has not been contaminated.
- 3.4.5 The operator of an aircraft in which dangerous goods have been carried shall ensure after unloading that all packages, overpacks or freight containers which contain dangerous goods, including radioactive materials, are inspected for signs of damage or leakage and if there is such evidence shall ensure that any part of the aircraft where the package, overpack or freight container was stowed, or any sling or other apparatus which has been used to suspend goods beneath the aircraft is inspected for damage or contamination.

3.5 Removal of contamination by the operator

- 3.5.1 The operator of an aircraft in which dangerous goods are to be carried shall ensure that any contamination found as a result of leaking or damaged packages, overpacks or freight containers is removed without delay.
- 3.5.2 The operator of an aircraft shall ensure that an aircraft is not permitted to fly for the purpose of carrying passengers or cargo if it is known or suspected that radioactive materials have leaked in or contaminated the aircraft, unless the radiation level resulting from the fixed contamination at any accessible surface and the non-fixed contamination are not more than the values specified in paragraph 3.2 of Part 7 of the Technical Instructions.

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3.6 Separation and segregation

- 3.6.1 Packages containing dangerous goods which might react dangerously one with another shall not be stowed on an aircraft next to each other or in a position that would allow interaction between them in the event of leakage.
- 3.6.2 Packages of toxic and infectious substances shall be stowed on an aircraft in accordance with the provisions of the Technical Instructions.
- 3.6.3 Packages of radioactive materials shall be stowed on an aircraft so that they are separated from persons, live animals and undeveloped film, in accordance with the provisions in the Technical Instructions.

3.7 Securing of dangerous goods cargo loads

When dangerous goods subject to the provisions contained herein are loaded in an aircraft, the operator shall protect the dangerous goods from being damaged, and shall secure such goods in the aircraft in such a manner that will prevent any movement in flight which would change the orientation of the packages. For packages containing radioactive materials, the securing shall be adequate to ensure that the separation **requirements 3.6.3** are met at all times.

3.8 Loading on cargo aircraft

Packages of dangerous goods bearing the “Cargo aircraft only” label shall be loaded in accordance with the provisions in the Technical Instructions.

CHAPTER 4 SHIPPER'S RESPONSIBILITIES

4.1 Shipper's responsibilities

4.1.1 Before consigning any dangerous goods for carriage by air the shipper shall ensure that:

- a) the goods are not forbidden for carriage by air in any circumstances under the provisions in paragraph 2.1 of Part 1 of the Technical Instructions;
- b) if the goods are forbidden for carriage by air without approval, all such approvals have been obtained where the Technical Instructions indicate it is the responsibility of the shipper to so obtain them;
- c) the goods are classified according to the classification criteria contained in Part 2 of the Technical Instructions;
- d) the goods are packed according to paragraphs 2.2 and 2.4 of Part 1, Part 2, chapters 2 and 3 and paragraphs 4.2, 4.3 and 4.4 of Part 3 and Part 4 of the Technical Instructions and the packaging used are in accordance with such provisions of those paragraphs, chapters and Parts and Part 6 of the Technical Instructions as apply to those goods;
- e) the package is marked and labelled in English in addition to any other language required by the State of Origin as specified for those goods in paragraph 2.4 of Part 1, chapters 2 and 3 and paragraph 4.5 of Part 3, chapters 2 and 3 of Part 5 and chapter 2 of Part 6 of the Technical Instructions;
- f) the package is in a fit condition for carriage by air;
- g) when one or more packages are placed in an overpack, the overpack only contains packages of goods permitted to be carried by paragraph 1.1 of Part 5 of the Technical Instructions and the overpack is marked and labelled as required by paragraphs 2.4 and 3.2 of Part 5 of the Technical Instructions;
- h) Specification markings on packaging - Unless otherwise provided for in the Technical Instructions, each packaging manufactured to a specification contained in those Instructions shall be so marked in accordance with the appropriate provisions of those Instructions and no packaging shall be marked with a packaging specification marking unless it meets the appropriate packaging specification contained in those Instructions.

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- i) a dangerous goods transport document:
 - i. has been completed in English in addition to any other language required by the State of Origin as required by paragraph 4.1 of Part 5 of the Technical Instructions; &
 - ii. contains a declaration signed by or on behalf of the shipper stating that the Technical Instructions have been complied with in that the dangerous goods:
 - are fully and accurately described;
 - are correctly classified, packed, marked and labelled and
 - are in a proper condition for carriage by air;
- j) the operator of the aircraft has been furnished with the dangerous goods transport document required by **section 4.1.1 (h)** and such other documents in respect of dangerous goods as are required by Part 4 and paragraphs 4.3 and 4.4 of Part 5 of the Technical Instructions.

CHAPTER 5 COMMANDER'S OBLIGATIONS

5.1 Commander's duty to inform air traffic services

The commander of an aircraft carrying dangerous goods as cargo shall, in the event of an inflight emergency and as soon as the situation permits, inform the appropriate air traffic services unit of those dangerous goods in detail or as a summary or by reference to the location from where the detailed information can be obtained immediately.

CHAPTER 6 TRAINING

6.1 Provision of training

6.1.1 The shipper, and any agent thereof, shall ensure that before a consignment of dangerous goods is offered by him for carriage by air all persons involved in its preparation have received training as specified in Chapter 4 of Part 1 and paragraph 1.5 of Part 5 of the Technical Instructions, to enable them to carry out their responsibilities with regard to the carriage of dangerous goods by air.

6.1.2 Mauritius Operator

- a) A Mauritius operator, and any agent thereof, shall ensure that all relevant staff involved with the carriage of passengers or cargo by air have received training which complies with **sections 6.1.2 (c)** and **6.1.2 (d)**.
- b) The operator of an aircraft shall ensure that the staff of his handling agent have received that training.
- c) The training shall be as specified in Chapter 4 of Part 1 and paragraph 4.9 of Part 7 of the Technical Instructions.
- d) The training has been granted a training approval under **section 6.1.8**.

6.1.3 Non-Mauritius Operator

- a) The agent for a non-Mauritius operator shall ensure that all relevant staff involved with the carriage of passengers or cargo by air have received training which complies with **sections 6.1.3 (b)** and **6.1.3 (c)**.
- b) The training shall be as specified in Chapter 4 of Part 1 and paragraph 4.9 of Part 7 of the Technical Instructions.
- c) The training has been granted a training approval under **section 6.1.8**.

6.1.4 The content of training programmes shall be as specified in Chapter 4 of Part 1 of the Technical Instructions.

6.1.5 Initial and recurrent training programmes shall be established and maintained by or on behalf of the shipper and any agent thereof, the operator of an aircraft if it is a Mauritius operator and the agent of the operator whether the operator is a Mauritius operator or a non-Mauritius operator in accordance with

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paragraph 4.1 of Part 1 of the Technical Instructions and recurrent training shall take place not less than every two years

6.1.6 Records of training shall be maintained as specified in paragraph 4.2 of Part 1 of the Technical Instructions.

6.1.7 No person shall offer or provide training required by this part of these Requirements unless:

- a) Training
 - i. he has been granted a training instructor approval under **section 6.1.9**; and
 - ii. the training has been approved under **section 6.1.8**; or
- b) he is employed by a shipper or an agent thereof and the training is offered or provided to other employees of that shipper or agent; or
- c) he is employed by a Mauritius operator or by an agent of a Mauritius operator or of a non-Mauritius operator;
 - i. the training has been approved under **section 6.1.8**; and
 - ii. the training is offered or provided to other employees of that Mauritius aircraft operator or agent.

6.1.8 A training approval under this requirement shall be:

- a) granted by the Authority if it is satisfied that the form and content of the training is adequate for its purpose;
- b) in writing; and
- c) subject to such conditions as the Authority thinks fit, and may in particular include a condition requiring that the training be provided by a person who holds a training instructor approval granted by the Authority under **section 6.1.9**.

6.1.9 A training instructor approval under this requirement shall be:

- a) granted by the authority if it is satisfied that the person is competent to carry out the training specified in the approval granted under **section 6.1.8**;
- b) in writing; and
- c) subject to such conditions as the Authority thinks fit.

CHAPTER 7 PROVISION OF INFORMATION TO PASSENGERS AND IN RESPECT OF CARGO

7.1 Provision of information to passengers

7.1.1 An airport operator and the operator of an aircraft flying for the purpose of public transport of passengers or his agent shall ensure that persons who are or may become passengers on an aircraft flying for the purposes of public transport are warned as to the types of dangerous goods which they are forbidden from carrying on an aircraft as checked baggage or with them by displaying notices sufficient in number and prominence for this purpose:

- a) at each of the places at an airport where tickets are issued;
- b) at each of the areas at an airport maintained to assemble passengers to board an aircraft; and
- c) at any location where a passenger may be checked in.

7.1.2 The operator of an aircraft flying for the purpose of the public transport of passengers or his agent shall ensure that passengers are warned as to the type of dangerous goods which they are forbidden from carrying on an aircraft as checked baggage or with them either by providing information with each passenger ticket, sufficient in prominence for this purpose, or by some other appropriate means such that passengers receive a warning in addition to that required by **section 7.1.1**.

7.1.3 Any person who, in Mauritius, makes available flight accommodation shall ensure that persons who are or may become passengers on an aircraft flying for the purposes of public transport are warned as to the types of dangerous goods which they are forbidden from carrying on an aircraft as checked baggage or with them by displaying notices sufficient in number and prominence for this purpose at any place where flight accommodation is offered for sale.

7.2 Provision of information in respect of cargo

The operator of an aircraft in which cargo is to be carried and any agent thereof shall ensure that notices giving information about the carriage of dangerous goods are displayed in sufficient number and prominence for this purpose at those places where cargo is accepted for carriage.

CHAPTER 8 TRANSPORT OF LITHIUM METAL, LITHIUM POWER BANKS, ION AND SODIUM ION BATTERIES

8.1 Introduction

8.1.1 This chapter is based on the provisions set out in the 2025-2026 Edition of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions) s

8.1.2 **Lithium metal batteries** are generally primary (non-rechargeable) batteries that have lithium metal or lithium compounds as an anode. Also included within lithium metal are lithium alloy batteries. Lithium metal batteries are generally used to power devices such as watches, calculators, cameras, temperature data loggers, car key fobs and defibrillators.



Figure 1 - Example of Lithium Metal Cells and Batteries

8.1.3 **Lithium-ion batteries** (also abbreviated as Li-ion batteries) are secondary (rechargeable) battery where the lithium is only present in an ionic form in the electrolyte. Also included within the category of lithium-ion batteries are lithium polymer batteries. Lithium-ion batteries are generally used to power devices such as mobile telephones, laptop computers, tablets, power tools, hybrid and electric vehicles and e-bikes. Other similar sources of power (power banks, power packs, etc, designed to primarily provide power to another device) are also classified as batteries and not batteries contained in equipment.



Figure 2 - Example of Lithium-ion Cells and Batteries

8.1.4 **Sodium ion battery** is a rechargeable electrochemical system where the positive and negative electrode are both intercalation or insertion compounds, constructed with no metallic sodium (or sodium alloy) in either electrode or with an organic non aqueous compound as an electrolyte.

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Sodium ion cells and batteries with organic electrolyte must be transported as UN 3551 or UN 3552 as appropriate.



Figure 3 - Example of Sodium ion Cells and Batteries

8.2 Cargo-Tracking Devices, Data Loggers, Radio Frequency Identification (RFID), and Electronic Bag Tags

- 8.2.1 Many shipments of time and temperature sensitive products including food, pharmaceutical, medical devices, vaccines, and industrial chemicals such as chemical-mechanical planarization (CMP) slurries, adhesives, and sealants contain, or have attached to the package(s) and/or overpack(s) small battery-powered tracking devices and/or data loggers. Most of these devices use lithium metal or lithium-ion cells or batteries as a power source. To be permitted in transport all lithium cell and battery types must have passed the applicable tests set out in Subsection 38.3 of the UN Manual of Tests and Criteria.
- 8.2.2 When shipped as a cargo consignment, battery-powered tracking devices and data loggers that contain fully regulated lithium cells or batteries are subject to all of the provisions of the DGR, including training, packing, marking and labelling, and documentation requirements.

8.3 Exceptions (IATA DGR 1.2.7.1(i)):

- 8.3.1 Data loggers and cargo tracking devices with installed lithium batteries, attached to or placed in packages, overpacks or unit load devices are not subject to any provisions of these Regulations provided the following conditions are met:
- a) the data loggers/cargo tracking devices must be in use or intended for use during transport;
 - b) each cell or battery must meet the provisions of 3.9.2.6(a), (e), (f) (if applicable) and (g);
 - c) for a lithium-ion cell or battery, a Watt-hour rating not exceeding 20 Wh;
 - d) for a lithium metal cell, a lithium content not exceeding 1 g;

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- e) for a lithium metal battery, an aggregate lithium content not exceeding 1 g;
- f) the number of data loggers/cargo tracking devices in or on any package or overpack must be no more than the number required to track or to collect data for the specific consignment;
- g) the data loggers/cargo tracking devices must be capable of withstanding the shocks and loadings normally encountered during transport;
- h) the devices must not be capable of generating a dangerous evolution of heat;
- i) the devices must meet defined standards for electromagnetic radiation to ensure that the operation of the device does not interfere with aircraft systems.

Note:

This exception does not apply where:

- *the cells or batteries exceed the energy or lithium mass limits, or*
- *the devices are powered by sodium ion batteries.*

In both of these cases, there is provision in the relevant packing instructions to permit these devices when active and accompanying cargo that is being tracked or monitored.

Data loggers or cargo tracking devices which are not active, are to be offered for transport as a consignment in accordance with Packing Instruction 967, 970, or 978.

8.4 Classification

Lithium, and sodium ion, batteries are classified in Class 9 – Miscellaneous dangerous goods as:

- UN 3090, Lithium metal batteries; and
- UN 3480, Lithium ion batteries; and
- UN 3551, Sodium ion batteries with organic electrolyte
- UN 3556 – Vehicle, lithium-ion battery powered; and
- UN 3557 – Vehicle, lithium metal battery powered; and
- UN 3558 – Vehicle, sodium ion battery powered.

or, if inside a piece of equipment or packed separately with a piece of equipment to power that equipment as:

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- UN 3091, Lithium metal batteries contained in equipment; or
- UN 3091, Lithium metal batteries packed with equipment; and
- UN 3481, Lithium ion batteries contained in equipment; or
- UN 3481, Lithium ion batteries packed with equipment; and
- UN 3552, Sodium ion batteries contained in equipment; or
- UN 3552, Sodium ion batteries packed with equipment

Lithium, or sodium ion, cell or battery test summary

The following information shall be provided in this test summary:

- a. Name of cell, battery, or product manufacturer, as applicable;
- b. Cell, battery, or product manufacturer's contact information to include address, phone number, email address and website for more information;
- c. Name of the test laboratory to include address, phone number, email address and website for more information;
- d. A unique test report identification number;
- e. Date of test report;
- f. Description of cell or battery to include at a minimum:
 - i. Lithium ion, or lithium metal, or sodium ion, cell or battery;
 - ii. Mass;
 - iii. Watt-hour rating, or lithium content;
 - iv. Physical description of the cell/battery; and
 - v. Model numbers.
- g. List of tests conducted and results (i.e., pass/fail);
- h. Reference to assembled battery testing requirements, if applicable (i.e. 38.3.3 (f) and
 - i. 38.3.3 (g));
 - j. Reference to the revised edition of the Manual of Tests and Criteria used and to amendments thereto, if any; and
 - k. Name and title of responsible person as an indication of the validity of information provided.

8.5 Classification Flowcharts

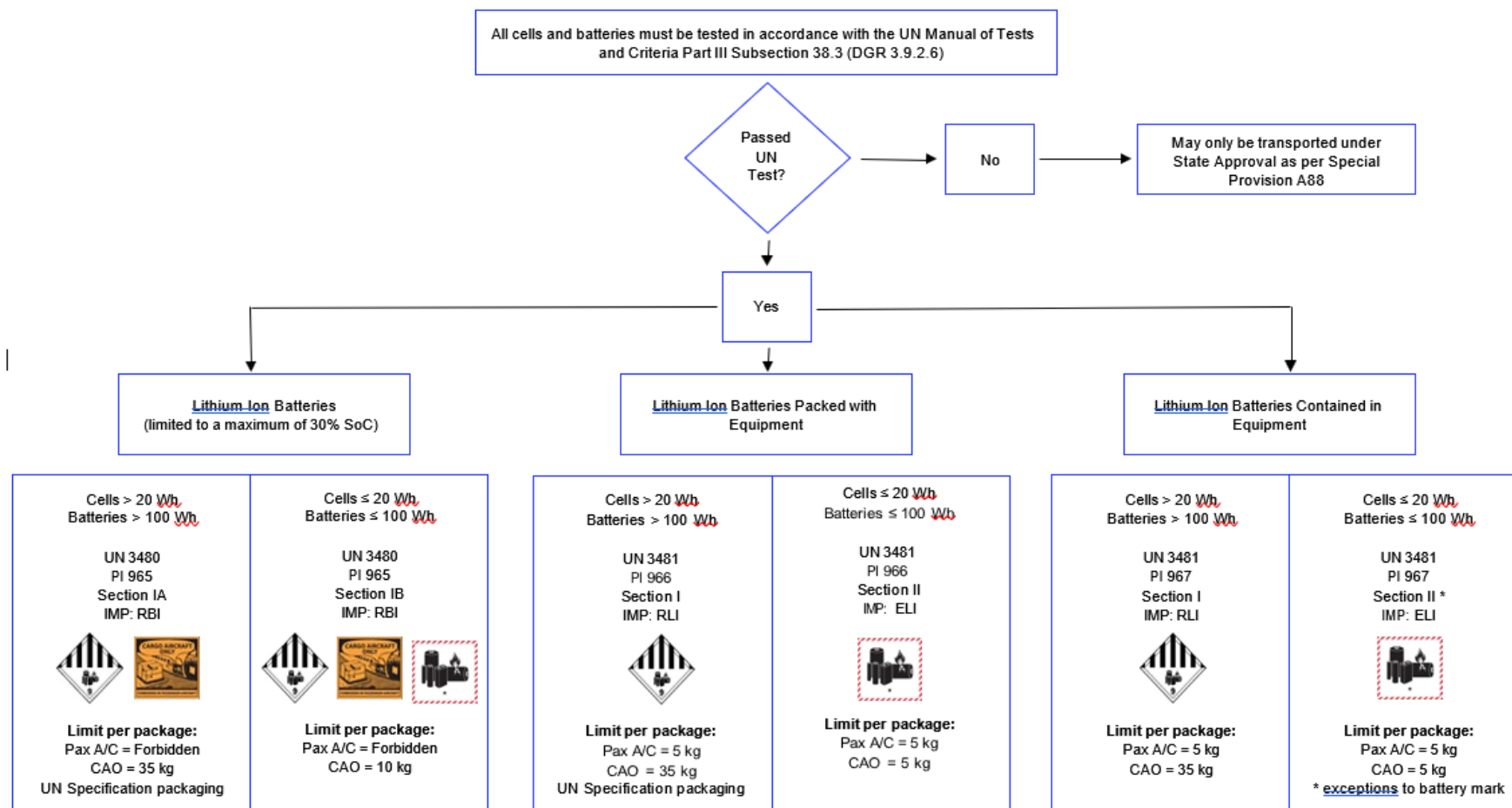
The following (3) classification flowcharts are intended to provide guidance on the classification for lithium ion, lithium metal and sodium ion batteries.

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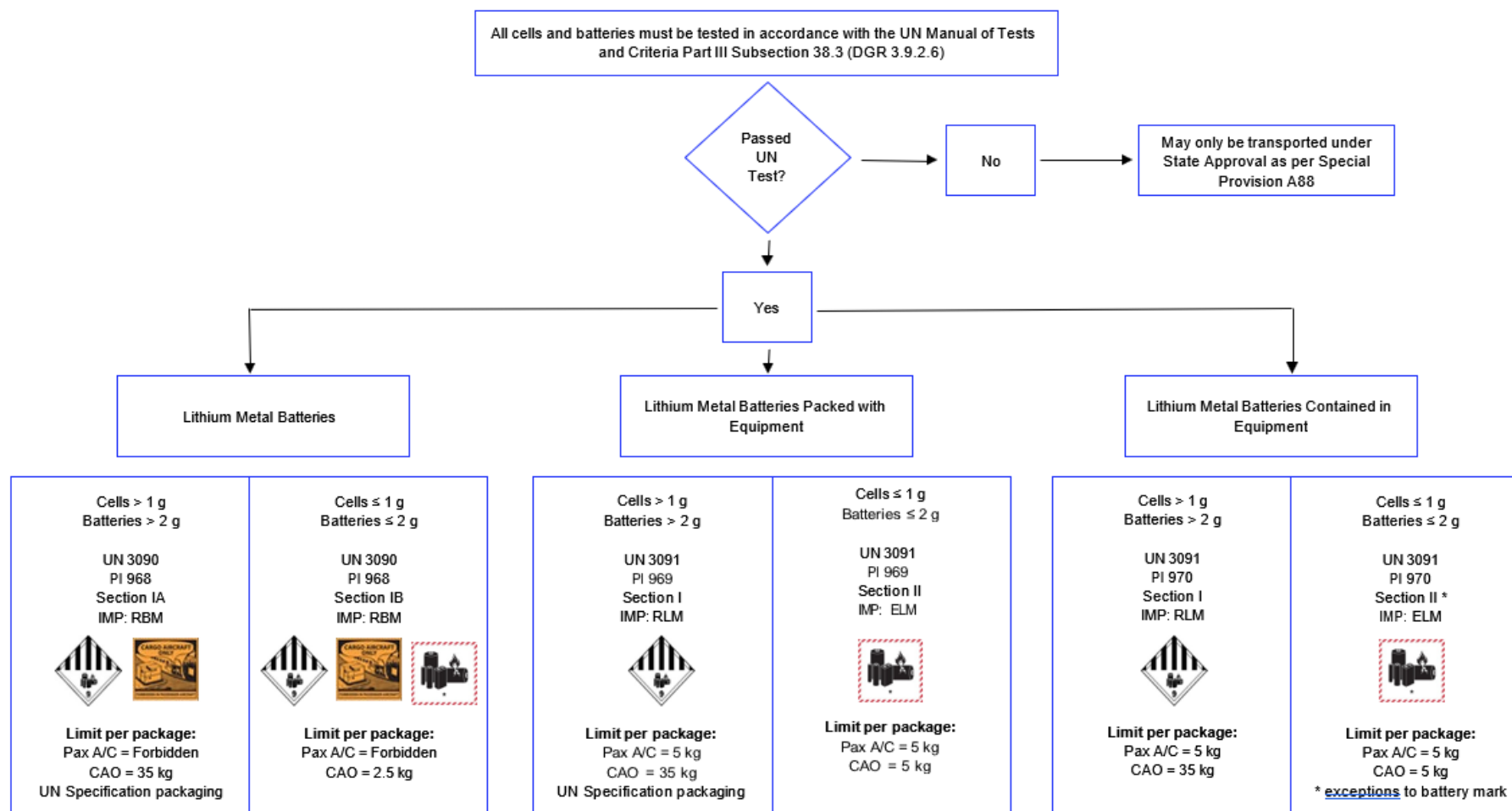
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Classification Flowchart – Lithium Ion Battery



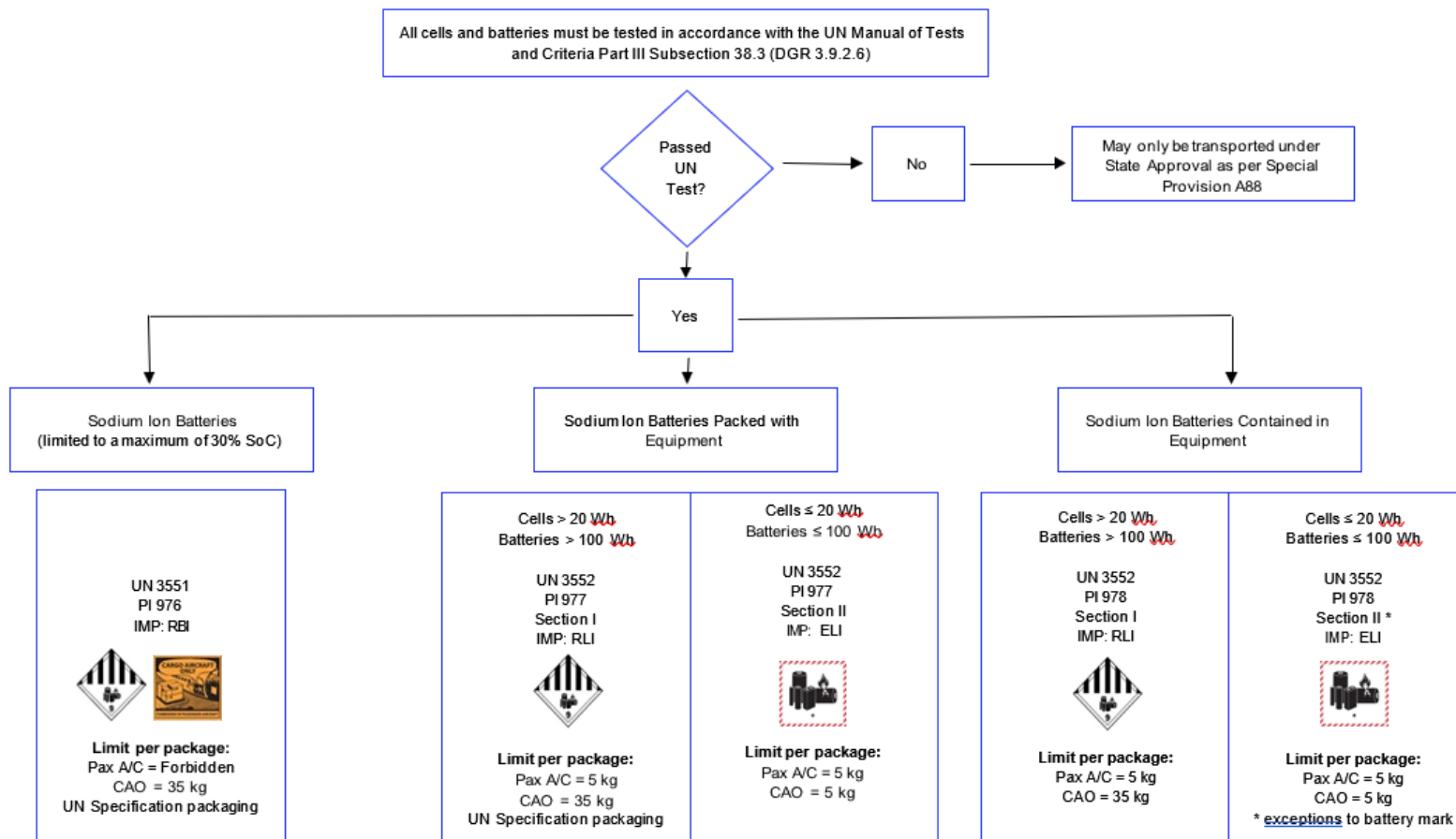
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Classification Flowchart – Lithium Metal Battery



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Classification Flowchart – Sodium Ion Battery



8.6 Recent and upcoming changes

Currently, it is strongly recommended that when offered for air transport, equipment that is packed with, or contains, lithium-ion batteries, and vehicles powered by lithium-ion batteries have the batteries at a state of charge not exceeding 30% of their rated capacity.

From 1 January 2026, lithium-ion batteries that are packed with equipment and vehicles powered by lithium ion or sodium ion batteries must be offered for air transport with the battery at a reduced state of charge, unless otherwise approved by the relevant States (A331).

These changes have been adopted by ICAO into the 2025-2026 edition of the Technical Instructions for the Safe Transport of Dangerous Goods by Air. The objective of these changes is to reduce the potential risk posed by lithium-ion and sodium ion batteries in air transport. It has been demonstrated that reducing the state of charge in a lithium-ion cell or battery, reduces the potential for a lithium-ion cell to go into thermal runaway.

The transitional period of 12 months has been provided to allow industry sufficient time to adapt production and shipping processes and recognises the time required to modify supply chains. The details of the changes adopted are as follows:

8.7 Lithium-ion batteries packed with equipment (PI 966) Section I and Section II

1 January – 31 December 2025

It is recommended that lithium-ion cells and batteries (Section I & II) are offered for transport at a state of charge not exceeding 30% of their rated capacity.

From 1 January 2026 Section I

Lithium-ion cells and batteries must be offered for transport at a state of charge not exceeding 30% of their rated capacity. This becomes a mandatory requirement on 1 January 2026. Cells and/or batteries at a state of charge greater than 30% of their rated capacity may only be shipped with the approval of the State of Origin and the State of the Operator under the written conditions established by those authorities.

Section II

Lithium-ion cells and batteries with a Watt-hour rating in excess of 2.7 Wh must be offered for transport at a state of charge not exceeding 30% of their rated capacity. This becomes a mandatory requirement on 1 January 2026/ Cells and/or batteries at a state of charge greater than 30% of their rated capacity must be offered for transport in accordance with the provisions of Section I of PI 966 with the approval

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of the State of Origin and the State of the Operator under the written conditions established by those authorities.

Note:

Guidance and methodology for determining the rated capacity can be found in sub-section 38.3.2.3 of the UN Manual of Tests and Criteria. Cells and batteries shipped at a reduced state of charge are less prone to thermal runaway.

8.8 Lithium-ion batteries contained in equipment (PI 967) Section I and Section II

Effective from 1 January 2025, it is recommended that, for lithium-ion cells and batteries which are contained in equipment, those cells and batteries are offered for transport:

- at a state of charge not exceeding 30% of their rated capacity; or
- with an indicated battery capacity not exceeding 25%.

This recommendation will continue in 2026 and does not become a mandatory requirement.

8.9 Sodium-ion batteries packed with equipment (PI 977) and contained in equipment (PI 978) Section I and Section II

Currently, the ICAO Technical Instructions are silent regarding the state of charge in these two packing instructions. Sodium ion batteries are an emerging technology and additional regulations can be expected if there appears to be an unexpected risk that can be easily mitigated.

In the interests of maintaining a cautious approach towards aviation safety, it is recommended that shippers consider consigning these shipments with the batteries at a state of charge not exceeding 30%.

8.10 Vehicles powered by batteries (PI 952)

From 1 January 2025

The following new UN numbers and proper shipping names apply to battery powered vehicles:

- UN 3556 – **Vehicle, lithium-ion battery powered**; and
- UN 3557 – **Vehicle, lithium metal battery powered**; and
- UN 3558 – **Vehicle, sodium ion battery powered**.

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There is a transitional period until 31 March 2025, during which time these vehicles may still be shipped as UN 3171, **Battery-powered vehicle**.

It is recommended that these vehicles are offered for transport with:

- the battery(ies) at a state of charge not exceeding 30% of their rated capacity; or
- an indicated battery capacity not exceeding 25%.

From 1 January 2026

- a) Vehicles powered by batteries with a watt-hour rating exceeding 100 Wh **must** be offered for transport with:
 - the battery(ies) at a state of charge not exceeding 30% of their rated capacity; or
 - an indicated battery capacity not exceeding 25%.
- b) Vehicles powered by batteries with a Watt-hour rating exceeding 100 Wh and at a state of charge greater than 30% of their rated capacity may only be shipped with the approval of the State of Origin and the State of the Operator under the written conditions established by those authorities.
- c) Whilst not mandatory, it is strongly recommended that vehicles powered by batteries with a watt- hour rating not exceeding 100 Wh are offered for transport with:
 - the battery(ies) at a state of charge not exceeding 30% of their rated capacity; or
 - an indicated battery capacity not exceeding 25%.

8.11 Prohibitions

Lithium-ion batteries

All lithium-ion cells and batteries shipped by themselves (UN 3480) are forbidden for transport as cargo on passenger aircraft. All packages prepared in accordance with Packing Instruction 965, Section IA and IB, must bear a Cargo Aircraft Only label, in addition to other required marks and/or labels.

Lithium metal batteries

All lithium metal cells and batteries shipped by themselves (UN 3090) are forbidden for transport as cargo on passenger aircraft. All packages prepared in accordance with Packing Instruction 968, Section IA and IB, must bear a Cargo Aircraft Only label, in addition to other required marks and/or labels.

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Sodium ion batteries

All sodium ion cells and batteries shipped by themselves (UN 3551) are forbidden for transport as cargo on passenger aircraft. All packages prepared in accordance with Packing Instruction 976, must bear a Cargo Aircraft Only label, in addition to other required marks and/or labels.

8.12 Restrictions

Lithium ion and sodium ion batteries

All lithium ion cells and batteries (UN 3480) and sodium ion cells and batteries (UN 3551) must be shipped at a state of charge (SoC) not exceeding 30% of their rated capacity. Cells and/or batteries at a SoC of greater than 30% may only be shipped with the approval of the State of Origin and the State of the Operator under the written conditions established by those authorities, see Special Provision A331.

Packing with other dangerous goods:

- UN 3090, lithium metal batteries prepared in accordance with PI 968,
- UN 3480, lithium-ion batteries prepared in accordance with PI 965 and
- UN 3551 sodium ion batteries prepared in accordance with PI 976,

must not be packed in the same outer packaging with dangerous goods classified in:

- Class 1 (explosives) other than Division 1.4S,
- Division 2.1 (flammable gases),
- Class 3 (flammable liquids),
- Division 4.1 (flammable solids) or
- Division 5.1 (oxidizers).

Packages containing cells or batteries must not be placed in an overpack with packages containing dangerous goods classified in Class 1 other than Division 1.4S, Division 2.1, Class 3, Division 4.1 or Division 5.1.

CHAPTER 9 DANGEROUS GOODS CLASS 7: RADIOACTIVE MATERIALS

9.1 Dangerous goods class 7: Definition

Dangerous goods class 7 are all objects and substances with radioactive components and/or materials. Since radioactivity can neither be tasted nor smelled, these substances pose a particular danger. For example, they can alter human and animal DNA and cause serious damage to health if accidents occur during handling and use.

As a result, these substances differ from, for example, dangerous goods class 2 or dangerous goods class 3 in terms of their storage, transport regulations and packaging requirements.

Typical representatives of the 7th dangerous goods class are primarily uranium and plutonium, which can occur in several instruments and objects. These include, for example, medical instruments and technical testing equipment used in production control.

9.2 Subclasses of radioactive substances

Especially in the storage and transport of radioactive materials, it is important to be able to make an assessment of the possible radiation. For this purpose, the objects and substances are divided into subclasses, the assignment and labeling of which are defined in the "UN Regulations for the Safe Transport of Radioactive Material" of the IAEA. The classification is based on the transport index (TI), which is determined from the respective dose rate of the substance.

9.2.1 Subclass 7: Category I White (7A)

This subclass includes the radioactive substances of category I, which are also known as "7A". They are characterized by the fact that the highest surface dose rate is below 0.005 mSv/h (millisievert per hour). This must be indicated on the outside of the packaging for packages. A transport code does not have to be indicated, but the following hazard label must be visible and filled in when shipping:

9.2.2 Subclass 7: Category II Yellow (7B)

Dangerous goods class 7B, includes category II radioactive substances that expose persons to external radiation and therefore pose a great danger, especially to people who work with them. For these substances, the exposure time must be limited in accordance with ADR instruction 5.4.3 in order to reduce a risk to persons. The surface dose rate for Group 7B is between 0.005 mSv/h and 0.5 mSv/h.

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In contrast to dangerous goods category 7A, the transport index must also be specified, which must not be higher than 1.0. This category is also often referred to as Category II-Yellow and has a yellow hazard label.

9.2.3 Subclass 7: Category III Yellow (7C & D)

Subclasses 7C and 7D can be combined as Category III-Yellow, but entail different limits. For substances in dangerous goods class 7C, the radiation dose may be between 0.5 mSv/h and 2 mSv/h. There are restrictions with regard to exposure time and hazards during substance ingestion. The transport index must not exceed 10.

Subclass 7D goes even further: the dose rate at the outside may be greater than 2 mSv/h, but may not exceed a value of 10 mSv/h. In return, the transport index may be higher than 10. In return, the transport index may be higher than 10. If substances and objects are transported with an "exclusive use" including certain additional requirements, on the other hand, the transport index is not limited. The dangerous goods labels for the two subclasses are as follows:

- Subclass 7C
- Subclass 7D

9.2.4 Division 7: Fissile materials (7E)

Subclass 7E has a special status because representatives of this category are fissile materials. For this reason, the class is given its own white hazard label, which contains the word "Fissile" and an additional safety note. In addition, the criticality safety index (CSI) must be included on the hazard label, which differentiates category 7E from the others.

9.3 Mandatory information for transport and traffic

Since radioactive materials pose a particular danger to people, the environment and other organisms, special precautions must be taken during transport. These include comprehensive transport documents as well as suitable packaging, labeling, documentation and qualified handling.

All these requirements are laid down in several UN recommendations and binding mode-specific legislation, including ADR (road transport), RID (rail transport), ADN/ADNR (inland waterway transport), IMDG Code (maritime transport) and ICAO-TI (air transport). The transport documents must contain the following information in particular:

- Address of the consignee
- UN number
- Number of the class of dangerous goods
- name and general description of the radioactive material
- Information on the radionuclides contained in the radioactive material

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- Package category
- Package type
- Total radioactivity
- physical state and chemical formula
- Transport index (TI) and (if applicable) the criticality index.
- For packagings subject to approval: Marking of the approval authority

A pre-announcement is only necessary in international transport if the transport is a Type B package that exceeds certain maximum quantities. In this case, the packaging is marked (M) for multilateral or (U) for unilateral. Otherwise, advance notifications can also be worthwhile in the case of special agreements.

9.3.1 Details of the radioactive transport material

The safety classification for the transport of radioactive material also requires that specific information on the contents be provided. This helps to assess the hazard in Package categories in the event of damage. This includes the following information:

- Name and symbol of the radionuclides
- Designation of the substance
- Physical and chemical form
- Maximum activity and total activity
- Criticality safety index
- Amount of cargo

9.3.2 Package categories

Packages are subject to several legal regulations and are categorized into five types. These are based on activity, toxicity and physical state as well as radioactive content. They are divided into excepted packages, industrial packages, and Type A, B, and C packages. In addition, each package is assigned a UN number for precise identification:

Hazardous material class	Description	UN number
7	Excepted package, empty packaging (radioactive material)	2908
7	Radioactive material as excepted package in limited quantity of material	2910
7	Radioactive material as an excepted package as instruments or manufactures	2911
7	Type A package radioactive material	2915
7	Radioactive material of type A package in special form	3332

9.3.3 Excepted packages

Although excepted packages must meet certain requirements, they represent packaging with such small quantities of radioactive materials that they are exempt from various regulations on use and design. It is important that the contents are recognizable when opened and that they cannot be damaged by impacts, shocks and the like.

9.3.4 Industrial shipments

If radioactive materials with a low specific activity (LSA) or surface contaminated objects (SCO) are to be transported, they are marked as industrial packages. Additional regulations govern the marking on the outside of the packaging and the entry in transport documents.

9.3.5 Type A Shipment Pieces

Type A packages are used as packaging for the transport of smaller quantities of radioactive material. These are required to remain intact in the event of "minor" incidents. Since parts of the contents may be released in the event of an accident, the maximum quantity of radionuclides is limited. Typical representatives are, for example, radiopharmaceutical products.

9.3.6 Type B Shipping pieces

Larger quantities of radioactive materials are assigned to the type B package. Even the most severe accidents must not be able to harm these packages, so that they are resistant even to puncture, immersion in water and fire. In particular, irradiated fuel elements, highly radioactive waste and radioisotopes are transported in this type of package.

9.3.7 Type C shipping pieces

Type C packages refer to a transport of radioactive materials by air. Above a certain activity, this type of packaging becomes necessary.

9.3.8 Packages with fissile material

In the case of fissile material, it must be prevented that a possible chain reaction can occur - this is what the package category for fissile materials stands for. Additional checks and inspections are also carried out, so that each type must be approved by the competent authority.

9.4 Dangerous goods class 7 marking

The scope of the required markings for Class 7 dangerous goods depends primarily on how they are transported and whether domestic or non-European destinations are served. For road transport, the ADR regulation (Agreement concerning the

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International Carriage of Dangerous Goods by Road) is decisive. On this legal basis, vehicles and packaging must be marked with:

- the UN number,
- a dangerous goods label,
- information about the consignor and consignee
- and the weight (if it exceeds 50 kg).

The dangerous goods label also includes the GHS symbol (Globally Harmonized System of Classification and Labelling of Chemicals) that applies to the substances in question. However, there is no direct equivalent for substances in dangerous goods class 7, so the typical radioactive symbol is printed:



9.5 The correct handling of substances of dangerous goods class 7

To ensure that hazards from radioactive objects and substances can be contained as far as possible, attention must be paid to a number of important factors when handling them. For example, substances of dangerous goods class 7 may only be handled by qualified personnel who can ensure transport in accordance with the requirements of § 27 of the Radiation Protection Act (StrlSchG). This requires instruction for the transport of hazardous materials, covering at least the following contents:

- Legal basis for the transport of radioactive materials
- Important responsibilities
- Declaration and classification of substances
- General and special requirements for packages and package types
- Marking and identification of vehicles and packages

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- Limits
- Necessary documentation
- Vehicle equipment
- Requirements for the vehicle driver

In addition, the packaging must meet the specified criteria of the package category. This means, for example, that the transport of damaged or leaking packages is generally excluded. In addition, there is shielding during loading, working hours around the radioactive materials reduced to a minimum, and contamination checks after each shipment.

CHAPTER 10 ACCIDENTS, INCIDENTS AND EMERGENCIES INVOLVING DANGEROUS GOODS

10.1 Notification of dangerous goods following an aircraft accident or incident

10.1.1 If an accident or serious incident happens to an aircraft, it will be essential for information about any dangerous goods on board to be passed quickly to the state where the accident or serious incident occurred. This will be needed to ensure the safety of persons involved in dealing with the accident or serious incident and to minimize the hazard to persons, property, and the environment. The responsibility is on the operator or handling agent to give the information without waiting to be asked. The notification may come from the operator or handling agent, from a territory base or from an operating base outside the territory, providing the information is supplied immediately and is accurate. A point of contact should also be given when notifying so that, if further information is required, it can be obtained without delay.

10.1.2 In the first instance the information is to be given directly to the emergency services or to whoever is collating information for their use. As soon as possible the information is also to be given to the aviation authority of the state where the accident or serious incident occurred, or as directed by that state, as well as to the State of the operator. The information required is that which is on the NOTOC for the relevant flight. However, it should be realised this may mean that some dangerous goods in cargo would not be notified since they do not appear on a NOTOC (e.g., excepted radioactive materials and some lithium batteries). Sending the NOTOC details is not to be delayed whilst checks are made for the presence of excepted radioactive material; details of these should be sent as soon as possible. If there are copies available of the Dangerous Goods Transport Documents, these may be useful at a second stage, when it may be necessary to identify more precisely what is in a particular package. Since it is important to ensure that any dangerous goods on an aircraft involved in an accident or serious incident are notified without delay, there should be procedures in place and reference made to them in the contingency plan for responding to accidents and serious incidents.

10.1.3 If there is an aircraft incident (i.e. not an accident nor serious incident), information only needs to be provided if it is requested; but depending on the seriousness of the incident and what is being carried, giving the information without waiting to be asked may assist in the early stages of dealing with it. Any information needs to be given as soon as possible; initially, it is given to the emergency services or to whoever is seeking it on their behalf and, subsequently, to the aviation authority of the state where the incident occurred, or as directed by that state.

10.2 Dangerous goods emergencies

10.2.1 An emergency situation concerning dangerous goods could arise at any time whilst they are in air transport. Such emergencies can range from the discovery of leaking or damaged packages during their preparation for transport, to a major incident (e.g., a fire) on an aircraft. Also, passengers may deliberately or inadvertently take into the cabin dangerous goods which they are not entitled to have. The ability to respond correctly and efficiently to an incident involving dangerous goods should not rely on an instinctive reaction to a situation, but on having established procedures and training.

10.2.2 An emergency involving dangerous goods can occur not only to declared dangerous goods; it might also arise on the ground with undeclared dangerous goods and on an aircraft through the actions of a passenger. Therefore, some of the information in this Chapter is appropriate irrespective of whether or not the operator holds an approval to carry dangerous goods.

10.3 Information requirements

10.3.1 An operator must provide information in manuals on the actions to be taken in emergencies; this information is applicable to all staff, whether they are crew members or ground staff. Instructions need to be given on the actions to be taken in dealing with an incident occurring in an aircraft in flight and on the ground.

10.3.2 Information must be immediately available to the Pilot in Command (PIC) for use in the response to an emergency occurring in flight when dangerous goods are being carried as cargo. As a minimum, this information should give guidance on the hazards associated with the dangerous goods on the aircraft. In practice the requirement is often met by having on board a copy of the *Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods* (Doc 9481-AN/928), published by ICAO. However, it can be met by providing any other document which gives similar information concerning the dangerous goods on board.

10.3.3 If an in-flight emergency occurs and the situation permits, the PIC is required to inform the appropriate air traffic services unit of any dangerous goods on board an aircraft. Whenever possible this information should include:

- a) the proper shipping name and/or UN/ID number;
- b) the class/division, any identified subsidiary hazard(s) and, for explosives, the Compatibility Group;
- c) the quantity and location on board the aircraft.

10.3.4 This information is for the use of the airport authorities, primarily to warn the emergency services what to expect when they approach the aircraft after it has

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landed; in this respect the PIC has a duty of care not only to the passengers and other crew on board but also to those on the ground. The emergency information should, wherever practicable, include sufficient details to identify fully the dangerous goods and where they are located. If the situation does not allow for full details to be given, the PIC should decide what it would be appropriate to give in the circumstances; for instance, if a telephone number has been provided as a point of contact from where the information on the NOTOC can be obtained, this may be given in lieu of any details or, if a summary of all the dangerous goods on the aircraft has been provided, the nature of the hazard(s) on board might be conveyed adequately by giving the class, quantity and location, rather than individual UN/ID numbers.

10.4 Training

- 10.4.1 It is not only the crew on an aircraft who may become involved in dealing with an incident, ground staff at airports as well as shippers, freight forwarders and designated postal operator personnel might also do so in the course of handling dangerous goods during their preparation for transport or through coming into contact with them inadvertently. Training for all these persons should include guidance on what to do if there is an incident involving dangerous goods.
- 10.4.2 The persons who should receive training are all of those referred to in Chapter 6.1. The operator may also decide that there are additional members of staff who may benefit from dangerous goods training, such as those involved in carrying out the contingency plan in the event of an accident or serious incident.
- 10.4.3 The benefits of providing training for persons employed on cargo related and flight crew duties is clear. However, experience has shown that, as passengers cause many incidents, training is also required for persons handling passengers and their baggage and battery powered mobility aids (including cabin crew). The aim of training for flight and cabin crew is to ensure a correct and adequate response to any incidents occurring in the cabin during flight. Emergency procedures training is appropriate even if dangerous goods are not carried as cargo.
- 10.4.4 Training should be relevant to the responsibilities of the person concerned. The essential element for everyone is what action should be taken in an emergency. Such training should include:
- a) for ground staff:
 - i. dealing with damaged or leaking packages;
 - ii. other actions in the event of ground emergencies.
 - b) for flight crew:
 - i. action in the event of emergencies in flight, both in the cabin and in cargo compartments;
 - ii. notification to air traffic control.

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- c) for other crew members, such as loadmasters, dealing with damaged or leaking packages in flight.
- d) for cabin crew, dealing with incidents caused by dangerous goods in the possession of passengers.

10.4.5 Training for emergencies should be to a depth sufficient to ensure that the hazards associated with dangerous goods are appreciated and that the procedures for dealing with emergencies can be applied.

10.5 Procedures for dealing with emergencies

10.5.1 It is a requirement that operator's manuals contain information on actions in the event of emergencies. This should cover emergencies occurring on the ground as well as in flight. To ensure there is an accurate and efficient response to an incident, it is necessary for an operator to have established procedures for dealing with emergencies and these should be incorporated into manuals, written instructions etc.

10.5.2 Most incidents which involve damaged or leaking packages of dangerous goods are discovered on the ground. The established procedures should ensure that all ground staff are aware of what is expected of them in the event of an incident; these procedures should aim to implement a system which will:

- a) identify the dangerous goods involved;
- b) identify, from labels or documents, the hazards (e.g., toxicity, flammability) associated with the dangerous goods;
- c) assess the potential level of hazard to persons;
- d) seek to contain the situation e.g., prevent spread of contamination;
- e) seek assistance, if necessary;
- f) ensure the safe removal or disposal of the dangerous goods, if necessary.

10.5.3 In the absence of evidence to the contrary (or a suspicion that the truth is being withheld) it should be assumed that information on documents, packages etc., is accurate. There may be a greater risk in regarding the goods as unidentified than in accepting the described nature and level of hazard.

10.5.4 Procedures should be tested periodically and updated if found inadequate or inaccurate. In order for staff to be able to deal effectively with a ground incident, they should be trained in the procedures. Personal protective equipment should be available, such as gloves, goggles, and face masks and, depending on the type and quantity of dangerous goods likely to be encountered, overalls and

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portable breathing equipment. Training should be given in the use and limitations of the equipment, and it must be maintained in a fully functional state.

10.5.5 Incidents in flight may occur through dangerous goods either in cargo or carried by passengers. On a cargo aircraft, the dangerous goods may be either in inaccessible cargo compartments or on the main deck. There should be established procedures for dealing with incidents occurring in flight and these should cover all circumstances.

10.5.6 Guidance material for dealing with incidents involving dangerous goods which occur in flight has been produced by the International Civil Aviation Organization; it is contained in *Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods* (Doc 9481-AN/928).

10.6 Other considerations

10.6.1 There may be legal or other requirements, which are not the responsibility of the DCA, which pertain to the action to be taken in emergencies when dangerous goods are in air transport. Some airport authorities have requirements for the action to be taken if dangerous goods are found leaking or damaged in transit sheds, warehouses, or other premises.

10.6.2 For some types of radioactive materials carried under exclusive use, legislation requires the shipper to produce a contingency plan to cater for an unexpected situation. This is intended to ensure the continued safety of the consignment at all times. When such radioactive material is in air transport, the shipper will require the operator to have instructions on what should be done if an in-flight emergency occurs, or the aircraft diverts for some other reason.

CHAPTER 11 MUNITIONS OF WAR

11.1 General

- 11.1.1 Under the Convention on International Civil Aviation, member states have the right to control the air transport of munitions of war through their territory. However, unlike the transport of dangerous goods, there are currently no internationally agreed standards, and it has been left to each individual state to develop its own requirements depending on circumstances and national needs.
- 11.1.2 The Technical Instructions For The Safe Transport of Dangerous Goods by Air (Doc 9284) as amended, contains the requirements for munitions of war; it applies to aircraft registered in a territory, no matter where they are operating, and to aircraft registered in a country other than a territory when they are operating in territory airspace. This is unless, under the law of the country in which the aircraft is registered, the munitions of war may be lawfully carried aboard for the purposes of ensuring the safety of the aircraft or those on board. In addition, there is other, non-aviation, legislation and aviation security legislation that may apply to munitions of war during their processing for air transport and after their carriage by air. the responsibility is on the operator or handling agent to ensure all relevant legislation is met when dealing with munitions of war for carriage by air.
- 11.1.3 Technical Instructions for The Safe Transport of Dangerous Goods by Air (Doc 9284), as amended, defines munitions of war. "Weapons and ammunition" include component parts and accessories. Where there is doubt as to whether or not a weapon, ammunition etc. is a munition of war, the ICAO Doc 9284 should be consulted.
- 11.1.4 If a firearm is not a munition of war, it should be treated as a sporting weapon for the purposes of its carriage on an aircraft (see Chapter 13).
- 11.1.5 A police officer, or a person authorised by the Governor to act as flight security officer, may carry munitions of war whilst acting in the course of their duties. Where a police officer, with munitions of war, is carried on board an aircraft operating under a police Air Operator's certificate the pilot in command must be informed of the type, weight or quantity and location of the munitions of war.

11.2 Approval to transport

Munitions of war may only be carried on aircraft with the approval of all the states concerned.

These may be the States of origin, transit, overflight, and destination of the consignment and that of the operator. In the territories each aviation authority is responsible for considering applications for the grant of an approval.

11.3 Conditions for transport

11.3.1 Once an approval has been granted, munitions of war may only be carried on an aircraft when they are stowed in a place which is inaccessible to passengers during flight and, in the case of firearms, when they are unloaded. In exceptional circumstances they may be carried under different conditions providing an appropriate approval has been granted.

11.3.2 No matter how it is intended that munitions of war be carried on an aircraft; the PIC must be informed before a flight of what are to be carried and where they are located.

11.4 Munitions of war which are also dangerous goods

Some munitions of war are also dangerous goods by definition e.g., ammunition, bombs, torpedoes etc. In such circumstances the requirements for the transport of dangerous goods will also apply and where these indicate that an exemption or specific approval is needed, this is separate to that applicable to them as munitions of war.

11.5 Reporting of incidents

Incidents which arise from the transport of munitions of war should be reported, no matter whether they are contained in cargo, mail, passengers' baggage, or crew baggage. An initial report must be submitted as soon as is practicable after the event, but not later than 72 hours after the occurrence unless exceptional circumstances prevent this. The initial report may be made by any means, but a written report should be made as soon as possible. The report should be comprehensive and contain all data known at the time it is compiled; if all relevant information is not available at first, the initial report should be sent stating what is known, and a follow-up report sent when the full details are available.

CHAPTER 12 SPORTING WEAPONS

12.1 General

12.1.1 There are no internationally agreed standards for the carriage of sporting weapons on aircraft but there are security requirements which will apply to them.

12.1.2 Technical Instructions for The Safe Transport of Dangerous Goods by Air (Doc 9284) as amended, contains the requirements applicable to sporting weapons.

12.1.3 Sporting weapons include hunting knives, bows and other similar articles. A firearm is any gun, rifle or pistol which fires a projectile. The following firearms are generally regarded as being sporting weapons:

- a) those designed for shooting game, birds and other animals;
- b) those used for target shooting, clay pigeon shooting and competition shooting, providing the weapons are not those on standard issue to military forces;
- c) air guns, dart guns, starting pistols, etc.

Any firearm which is not a munition of war is treated as a sporting weapon for the purposes of its carriage on an aircraft.

12.1.4 Although a weapon may be defined as sporting in the Air Navigation Order, this does not mean it would be excluded from other legislation that may prohibit its carriage. The aims of this MCAR and other national legislation for firearms will differ. Also, there may be other non-aviation legislation or aviation security legislation that may or will apply to sporting weapons during their processing for air transport and after their carriage by air. This responsibility is on the operator or handling agent to ensure all relevant legislation is met when dealing with sporting weapons for carriage by air.

12.1.5 A sporting weapon may be carried on an aircraft where, other than a territory, the law of the country in which the aircraft is registered, the sporting weapon may be lawfully carried aboard for the purposes of ensuring the safety of the aircraft or those on board.

12.2 Conditions for transport

No specific approval is required for the transport of sporting weapons providing certain conditions are met. These are:

- a) the Operator takes all reasonable measures to ensure they are informed of the intended carriage of the weapons;

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- b) the weapons are stowed in a place which is inaccessible to passengers during flight;
- c) for firearms or other weapons that can contain ammunition, they are unloaded;
- d) handled in compliance with local laws and regulation.

12.3 Ammunition for sporting weapons

Ammunition for a sporting weapon is dangerous goods by definition and as such it is covered by the requirements of the Technical Instructions. Where the ammunition is in a passenger's baggage, it may be carried, subject to the agreement of the operator, provided that:

- a) it is in checked baggage;
- b) it is for the person's own use;
- c) it is securely boxed;
- d) the quantity does not exceed 5 kg gross weight; and
- e) it does not contain any explosive or incendiary projectiles.

NOTE:

Division 1.4S is a classification assigned to an explosive. It refers to cartridges which are packed or designed so that any dangerous effects from the accidental functioning of one or more cartridges in a package are confined within the package unless it has been degraded by fire, when the dangerous effects are limited to the extent that they do not hinder firefighting to other emergency response efforts in the immediate vicinity of the package. Cartridges for sporting use are likely to be within Division 1.4S.

CHAPTER 13 DOCUMENTS AND RECORDS, ENFORCEMENT POWERS AND GENERAL

13.1 Keeping of documents and records

- 13.1.1 The operator of an aircraft carrying dangerous goods as cargo shall ensure that a copy of the dangerous goods transport document required by **requirement 3.2.2** and the written information to the commander required by **requirement 3.1.2 (a)** are retained at a readily accessible location until after the full period of the flight on which the goods were carried.
- 13.1.2 The operator of an aircraft in which dangerous goods are carried shall preserve for not less than three months:
- a) any dangerous goods transport document or other document in respect of dangerous goods which has been furnished to him by the shipper in accordance with **requirement 3.2.2**;
 - b) the record of any acceptance check list completed in accordance with **requirement 3.2.3**; and
 - c) the written information to the commander as required by **requirement 3.1.2 (a)**.
- 13.1.3 The record referred to in **section 8.1.2 (b)** may be in a legible or a non-legible form so long as the recording is capable of being reproduced in a legible form.

13.2 Production of documents and records

- 13.2.1 The operator of an aircraft on which dangerous goods are to be or have been carried and any agent thereof shall, within a reasonable time after being requested so to do by an authorised person, cause to be produced to that person such of the following documents as may have been requested by that person:
- a) the written approval referred to in **requirement 2.1.1**;
 - b) the dangerous goods transport document or other document in respect of any dangerous goods, referred to in **requirement 3.2.2**;
 - c) the completed acceptance check list in a legible form in respect of any dangerous goods, referred to in **requirement 3.2.3**; and

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- d) a copy of the written information provided to the commander of the aircraft in respect of any dangerous goods, referred to in **requirement 3.1.2 (a)**.

13.2.2 The aircraft operator, shipper and any agent of either of them shall, within a reasonable time after being requested so to do by an authorised person, cause to be produced to that person any document which relates to goods which the authorised person has reasonable grounds to suspect may be dangerous goods in respect of which the provisions of these Requirements have not been complied with.

13.3 Enforcement of the Requirements

13.3.1 An authorised person may examine, take samples of and seize any goods which the authorised person has reasonable grounds to suspect may be dangerous goods in respect of which the provisions of these Requirements have not been complied with.

13.3.2 An authorised person may open or require to be opened any baggage or package which the authorised person has reasonable grounds to suspect may contain dangerous goods in respect of which the provisions of these Requirements have not been complied with.

13.3.3 Goods Seized

- a) Subject to **section 3.1**, any sample taken or goods seized by an authorised person under this requirement shall be retained or detained respectively for so long as the Authority considers necessary in all the circumstances and shall be disposed of in such manner as the Authority considers appropriate in all the circumstances.
- b) Without prejudice to the generality of **section 8.3.3 (a)** any sample taken or goods seized under this requirement may be retained or detained respectively:
- i. for use as evidence at a trial for an offence; or
 - ii. for forensic examination or for investigation in connection with an offence.

13.3.4 Goods Seized

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- a) The person from whom any goods have been seized by an authorised person under this requirement may apply to the Authority for the item to be released to him.
- b) An application under this section shall be made in writing and shall be accompanied by evidence of ownership by the applicant
- c) The function of deciding a case where such an application as is referred to in **section 8.3.4 (a)** has been made is hereby prescribed for the purposes of regulation 116 of the Civil Aviation Regulations 2007: and for the purpose of making any decision in such a case a by the Authority.
- d) Where the Authority is satisfied that the applicant is the owner of the item concerned and that further retention of the item is not necessary for the purposes of any criminal proceedings it shall arrange for the goods concerned to be returned to the applicant.

13.3.5 Where further retention of goods is, in the opinion of the Authority no longer necessary and no application has been made under **section 8.3.4** or any such application has been unsuccessful the goods shall be destroyed or otherwise disposed of in accordance with the directions of the Authority.

13.4 Occurrence reporting

13.4.1 A Mauritius operator shall ensure that any dangerous goods accident, dangerous goods incident or the finding of undeclared or mis-declared dangerous goods in cargo or passenger's baggage, wherever it occurs, is reported to the Authority.

13.4.2 A non-Mauritius operator shall ensure that any dangerous goods accident, dangerous goods incident or the finding of undeclared or mis-declared dangerous goods in cargo or passenger's baggage which occurred in Mauritius is reported to the Authority.

13.4.3 A report required under **section 8.4.1** or **8.4.2** shall contain such of the following information as is appropriate to the occurrence:

- a) date of the occurrence;
- b) location of the occurrence, flight number and flight date;
- c) description of the goods and the reference number of the air waybill, pouch, baggage tag and ticket;

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- d) proper shipping name (including the technical name, if applicable);
- e) UN/ID number;
- f) class or division in accordance with the Technical Instructions and any subsidiary risk(s);
- g) type of packaging and the packaging specification marking;
- h) quantity of dangerous goods;
- i) name and address of the shipper or passenger
- j) suspected cause of the occurrence;
- k) action taken;
- l) any other reporting action taken;
- m) name, title, address and contact number of the reporter;
- n) any other relevant details.

13.4.4 Information

- a) Subject to **section 8.4.4 (b)** a report containing as much of the information referred to above as is in his possession shall be dispatched in writing, or in such other form as the Authority may approve, and by the quickest available means to the Authority within 72 hours of the occurrence coming to the knowledge of the person making the report.
- b) If at that time any of the said information is not in the possession of that person, he shall despatch the information to the Authority in writing, or in such other form as the Authority may approve, and by the quickest available means within 72 hours of the information coming into his possession.

13.4.5 Nothing in this requirement shall require a person to report any occurrence which he has reported under regulation 128 of the Civil Aviation Regulations 2007 or which he has reason to believe has been or will be reported by another person to the Authority in accordance with that article.

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13.5 Dropping articles for agricultural, horticultural, forestry or pollution control purposes

13.5.1 Subject to the provisions of **requirement 2.1.1 (a)** nothing in these Requirements shall apply to any aircraft flying solely for the purpose of dropping articles for the purpose of agriculture, horticulture, forestry or pollution control.

13.6 Police aircraft

13.6.1 Nothing in these Requirements other than **requirement 2.1.1 (a)** shall apply to the carriage of dangerous goods by an aircraft flying under and in accordance with the terms of a police Air Operator Certificate.

CHAPTER 14 INFORMATION SPECIFIC TO DESIGNATED POSTAL OPERATORS

14.1 General

14.1.1 Whilst the Technical Instructions is produced and updated by ICAO, it is the Universal Postal Union (UPU) that is responsible for the requirements concerning what is permitted to be sent by post, for all modes of transport. Since post is normally handled differently from other air cargo in that small parcels in the post are often placed into mail bags, thereby obscuring any hazard information that would be otherwise be on the packages, historically the UPU has prohibited the sending of dangerous goods by post, with the exception of the following very specific low-hazard items, subject to particular conditions:

- a) Patient specimens;
- b) Infectious substances assigned to Category B – UN3373 only, as well as related dry ice; and
- c) Excepted packages of radioactive materials.

14.1.2 As the use of lithium batteries in small consumer devices such as cell phones, laptops and tablets became more common, companies and members of the public started to want to send these devices by post. As a result, the UPU proposed to ICAO that the requirements concerning which dangerous goods are permitted in the post that are reflected in Part 1; Chapter 2.3 of the Technical Instructions be amended to include such devices. This was agreed and therefore the following were also permitted in the post from 2013, provided the Designated Postal Operator (DPO) has received specific approval for them:

- a) Lithium ion batteries contained in equipment (UN3481), meeting the provisions of Section II of Packing Instruction 967, provided that no more than 4 cells or 2 batteries are mailed in any single package; and
- b) Lithium metal batteries contained in equipment (UN3091), meeting the provisions of Section II of Packing Instruction 970, provided that no more than 4 cells or 2 batteries are mailed in any single package

14.1.3 At the same time, it was noted that in some states, large volumes of undeclared dangerous goods were being found in air mail, and it was agreed with the UPU that there should be some oversight of DPOs by the aviation regulators. Therefore, requirements were introduced in the Technical Instructions in 2013 for the procedures of DPOs for controlling the introduction of dangerous goods in mail be subject to review and approval by the DCA where the mail is accepted. This applies whether or not the DPO actually allows any of the above permitted items in the post since the purpose is to ensure that there is a process

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in place to detect and remove non-permitted items from the post before being carried by air.

- 14.1.4 In order for postal staff to be able to detect forbidden dangerous goods in the post, they need to be able to recognise the various indications (such as customer descriptions, marks, and labels, or through visual inspection) that an item of post may contain dangerous goods. This requires a level of training and therefore the Technical Instructions also introduced a requirement from 2013 that staff of DPOs must receive dangerous goods training and that the DPO's dangerous goods training programs must be subject to review and approval by the DCA where the mail was accepted by the DPO. Again, this is irrespective of whether or not the DPO actually allows any of the above items of dangerous goods in the post.

14.2 DPO procedures

- 14.2.1 As indicated in paragraph 1.3 above, the DPO must have procedures in place to control the introduction of dangerous goods in the post and these procedures need to be reviewed and approved by the DCA
- 14.2.2 The ways DPOs accept parcels in the post varies greatly and ranges from allowing customers to hand over sealed parcels at the counter and relying on x-ray screening to detect prohibited items, including dangerous goods, to requiring the customer to hand the package over unsealed so it can be inspected by the counter staff before being sealed and accepted in the post. Any system is acceptable provided it achieves the aim of preventing prohibited dangerous goods from entering the postal system.
- 14.2.3 It is expected that DPOs also do what they can to warn customers as to what is and what is not permitted in the post. Again, this can be done in many ways, from mailshots, to posters at counters and post boxes, leaflets, and advertising etc. The responsibility is on the DPO to demonstrate to the DCA that the system is appropriate and effective for their situation.

14.3 Training

- 14.3.1 The Technical Instructions requires DPOs to train their staff commensurate with their responsibilities. The way this is done, the level of training and the types of staff that need training will vary from one DPO to another since it needs to reflect which types of dangerous goods the DPO permits or prohibits in the post and the procedures in place to prevent prohibited dangerous goods from getting into the post. The UPU has produced an example training package that can (and should) be adapted by DPOs to take account of their individual circumstances. Contact details can be found in Appendix 1. DPOs can of course create their own training material, but it should cover the subject to a similar depth.

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14.3.2 Table 1-4 in the Technical Instructions indicates 3 categories of staff that should receive training:

Category A - Staff involved in accepting mail containing permitted dangerous goods;

Category B - Staff involved in processing mail other than dangerous goods; and

Category C – Staff involved in the handling, storage and loading of mail.

Clearly, if the DPO has a policy (and consequently a procedure) for not permitting any dangerous goods in the post, then Category A will not apply, but Categories B and C will apply to all DPOs.

14.3.3 Table 1-4 in the Technical Instructions also indicates subject areas in which the various categories of staff should receive training.

14.4 Approval process

14.4.1 In summary, the following aspects must be approved by the DCA:

- a) The DPO's procedures for controlling the introduction of dangerous goods in mail, irrespective of what the DPO allows in the post;
- b) The acceptance of lithium batteries contained in equipment (if the DPO wishes to allow this); and
- c) The DPO's dangerous goods training program, irrespective of what the DPO allows in the post.

14.4.2 When developing and/or amending procedures and training programs, it is recommended that DPOs work closely with the DCA to ensure that time, effort, and expense is not wasted.

CHAPTER 15 Other requirements

15.1 General

- 15.1.1 Operator, ground handling agent, cargo sales agent, shipper and shipper's agent involved in the transport of dangerous goods by air, shall implement necessary measures to minimise theft or misuse of dangerous goods that may endanger persons or property.
- 15.1.2 Shipper and Operator involved in the transport of high consequence dangerous goods shall adopt a security plan. The security plan shall be updated to maintain practicability and validity.
- 15.1.3 High consequence dangerous goods are those which have the potential for misuse in a terrorist event and which may, as a result, produce serious consequences such as mass casualties or mass destruction.

APPENDIX 1 Contact details of relevant organisations

ICAO (International Civil Aviation Organization)

999 Robert-Bourassa Boulevard Montréal, Quebec
Canada H3C 5H7

Tel: +1 (514) 954-8219

Fax: +1 (514) 954-6077

E-mail: icao@icao.int

www.icao.int

IATA (International Air Transport Association) The Editor, Dangerous Goods Regulations
International Air Transport Association
Cargo Department

Route de l'Aéroport 33 PO Box 416
1215 Geneva Airport Switzerland

Tel no: + 1 (514) 390 6726

E-mail: dangood@iata.org

IAEA (International Atomic Energy Agency)

P.O. Box 100

Wagramer Strasse 5

A-1400 Vienna, Austria Tel: (+431) 2600-0

Fax: (+431) 2600-7

www.iaea.org

HSE (UK Health & Safety Executive)

Redgrave Court Merton Road Bootle Merseyside L20 7HS
United Kingdom

Tel: +44 (0) 300 003 1647

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www.hse.gov.uk

Universal Postal Union (UPU)

International Bureau Weltpoststrasse 4

3015 Berne Switzerland

www.upu.int/en/Universal-Postal-Union/Outreach-Campaigns/Dangerous-Goods

WHO

Avenue Appia 20

1211 Geneva Switzerland www.who.int/publications

(search: transport of infectious substances) Tel +41 22 791 21 11

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APPENDIX 2 Suggested checklist for flight crew in dealing with an in-flight emergency involving dangerous goods

Initial actions

- Follow appropriate aircraft emergency procedures for fire/smoke removal
- No smoking signs on
- If smoke/fumes detectable
 - don goggles and oxygen masks, with oxygen at 100%
 - set air conditioning to maximum flow, no recirculation
- If incident in passenger cabin
 - detail cabin crew to take initial action, using cabin crew checklist
 - establish co-ordinated action between cabin and flight crew
- If fire/smoke in inaccessible hold, check for dangerous goods using NOTOC
- Identify item, if possible, by
 - consulting NOTOC, making visual check, asking passenger
- If goods not accessible, consider likely involvement in incident
- If identified, check for name or number in *Emergency Response Guidance*
- If listed in *Emergency Response Guidance*, determine drill code
- Use drill code to decide on suitable action

Subsequent actions

- If item on fire or producing visible smoke
 - break open package, if necessary and safe to do, for effectiveness of fire-fighting agent
 - use fire extinguisher (but do not use water unless this is known to be safe)
 - check fire is out, but be prepared for re-ignition
- If item is leaking (*if using Emergency Response Kit – see appropriate Checklist*)
 - avoid contact; always use personal protective equipment – e.g., gloves, goggles, overalls
 - stop leak, if possible, by plugging hold and/or inverting package
 - if possible, place package in polyethylene bag and close securely
 - place package in safe location, e.g., a toilet, or isolate from other cargo; and restrain
 - remove or contain leakage (but see Notes)
- If risk of explosion
 - maximum altitude – 10,000 ft or MEA, whichever is the higher
 - reduce cabin pressure differential to 1 psi maximum

Further considerations

- Landing as soon as possible
- Turning off non-essential electrical power
- Use NOTOC to notify ATC of dangerous goods on board in cargo

After landing

- Disembark passengers and crew
 - for hold incident – before opening any cargo hold doors

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- for cabin incident – so affected area not traversed
- Inform ground personnel/emergency services of nature of item and where stowed
- Make appropriate entry in maintenance log

NOTES:

- 1) *For a limited period, polyethylene (plastic) should not react with any dangerous goods.*
- 2) *Powders may be better left in situ if not causing damage; if removal is needed, they can be picked up using safety cards of stiffened polyethylene/plastic-based material.*
- 3) *Use extreme caution with unknown liquids; they may be better left in situ and covered with polyethylene/plastic-based material. Do not use paper or cloth to mop up spillage unless certain there will be no reaction.*
- 4) *There may be visible or invisible fumes. If there is smoke, SMOKE warnings may be triggered.*
- 5) *If contamination within the air conditioning system AVIONICS SMOKE, MIN EQT BAY SMOKE or BAT SMOKE warnings may be triggered simultaneously. Apply AIR COND SMOKE procedure only if visible smoke or strong fumes present.*
- 6) *Ensure crew communication established. Avoid use of interphone position to minimise interference from oxygen mask breathing noise.*
- 7) *It is recommended to set the EMERGENCY pressure selector to overpressure position.*
- 8) *It is recommended to switch CAB FANS to OFF, to prevent recirculation of contaminated cabin air.*

APPENDIX 3 Suggested checklist for cabin crew in dealing with an in-flight emergency involving dangerous goods (other than lithium batteries)

Initial actions

- Notify PIC
- Ask passenger to identify or potential hazard
- If identified by name or number, ask flight crew if they have information on item
- If smoke/fumes detectable don goggles and oxygen mask, with oxygen at 100%
- Collect items of possible use
 - polyethylene bags – e.g., waste bin bags, bags for duty-free sales
 - rubber gloves, oven gloves or fire-resistant gloves
 - airsickness bags (opened out or turned inside out)
 - plasticised passenger in-flight safety cards

Subsequent actions

- Seek assistance
 - from another cabin crew member, or
 - with agreement of PIC, from a passenger
- Don gloves; have available other personal protective equipment – e.g., goggles, overalls
- If item on fire or producing visible smoke
 - use standard procedure
 - break open package, if necessary and safe to do, for effectiveness of fire-fighting agent
 - use fire extinguisher **(but do not use water unless this is known to be safe)**
 - check fire is out, but be prepared for re-ignition
- If item is leaking (*if using Emergency Response Kit – see appropriate Checklist*)
 - avoid contact; always use personal protective equipment – e.g., gloves, goggles, overalls
 - stop leak, if possible, by plugging hold and/or inverting item
 - if possible, place item in polyethylene bag and close securely
 - place item in safe location, e.g., a toilet, or isolate from passengers; and restrain
 - remove or contain leakage **(but see Notes)**
 - cover affected area with polyethylene bag(s), airsickness bag(s), safety cards
 - regularly inspect item for further signs of leakage

Further considerations

- Keep PIC informed
- Move passengers away from affected area
- Give first aid to affected passengers
- If smoke/fumes likely to incapacitate passengers - distribute wet towels or cloths (but do not deploy drop-out oxygen system)

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After landing

- Disembark passengers
 - so affected area not traversed
 - so, no need to pass close to where item is stowed
- Inform ground personnel/emergency services of nature of item and where stowed
- Make appropriate entry in maintenance log

NOTES:

- 1) *For a limited period polyethylene (plastic) should not react with any dangerous goods.*
- 2) *Powders may be better left in situ if not causing damage; if removal needed, they can be picked up using safety cards of stiffened polyethylene/plastic-based material.*
- 3) *Use extreme caution with unknown liquids; they may be better left in situ and covered with polyethylene/plastic-based material. Do not use paper or cloth to mop up spillage unless certain there will be no reaction.*

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APPENDIX 4 Suggested checklist for dealing with an in-flight emergency involving dangerous goods, using an emergency response kit

(Note – the kit is only intended to be of use in dealing with spillages and leakages)

Initial actions

- Check kit contains
 - large and small polyethylene bags
 - bag ties
 - several pairs of flexible rubber gloves
 - sand (but do not use on anything identified as containing Hydrofluoric acid)
 - sodium bicarbonate (**can be used with all acids**)
- Collect other items of possible use
 - oven gloves or fire-resistant gloves
 - airsickness bags (opened out or turned inside out)
 - plasticised passenger in-flight safety cards
 - personal protective equipment – e.g., PBE, goggles, overalls

Actions to remove item from vicinity of passengers and crew

- Don rubber gloves or put hands in polyethylene bags; or use other gloves and protect in same way as hands
- Stop leak if possible, by plugging hole and/or inverting item
- Prepare polyethylene bag of sufficient size by opening out to fullest extent
- Place item in bag with closure or point of leakage uppermost
- Tie bag tightly and securely around item, but allow for pressure equalisation
- Remove gloves, etc., taking care to avoid skin contact with any contamination
- Place bag containing item, gloves etc., into another bag; tie this tightly and securely as before
- Take bag away from passengers and crew; avoid smoking section
- Stow bag in safe location, e.g., a toilet, or isolate from passengers; and restrain
- If sand available and usable, contain spillage by covering/surrounding with sand
- For acids, cover spillage with sodium bicarbonate, to neutralise
- Use safety cards or stiffened polyethylene bags to pick up powders or contaminated sand/sodium bicarbonate; place in polyethylene bag and secure
- Place in another bag all used items and bag containing contaminated sand/sodium bicarbonate
- Secure this bag and stow as before
- Cover any residue of spillage with polyethylene bag(s), airsickness bag(s), safety cards
- If furnishings (e.g., seat covers) contaminated, remove, if possible, place in polyethylene bag; secure and stow as before; or cover with polyethylene bag(s), airsickness bag(s), safety cards
- If carpet contaminated, cover with polyethylene bag(s), airsickness bag(s), safety cards; or remove, if possible, place in polyethylene bag, secure, stow away from passengers and crew

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Subsequent actions

- Keep PIC informed
- Regularly inspect bag containing item for further signs of leakage or reaction
- Ensure no one touches or interferes with any of the bags
- Move passengers away from affected area; give first aid to affected passengers
- If smoke/fumes likely to incapacitate passengers- distribute wet towels or cloths **(but do not deploy drop-out oxygen system)**
- After landing – as on Cabin Crew Checklist

NOTES:

- 1) *For a limited period polyethylene (plastic) should not react with any dangerous goods.*
- 2) *Powders may be better left in situ if not causing annoyance to passengers or damage. Use extreme caution with unknown liquids; if spread on carpet or furnishings they may be better left in situ and covered.*
- 3) *Do not use water. Do not use paper or cloth to mop up spillage unless certain there will be no reaction.*
- 4) *Sand is inert with all substances other than those containing Hydrofluoric acid (UN nos. 1786 and 1790).*
- 5) *Use of sodium bicarbonate on acids is safe but there may be bubbling and evolution of carbon dioxide.*