

1. General

- 1.1. Dangerous goods, including excepted packages of radioactive material, are forbidden for carriage by passengers or crew:
- as or in checked baggage;
 - as or in carry-on baggage; or
 - on their person;
- except as permitted in sections 3 to 6 for personal use.
- 1.2. Notwithstanding any additional restrictions that may be implemented by States in the interests of aviation security, except for the incident reporting requirements, the provisions of these Regulations do not apply to 1.2 to 1.5 when carried by passengers or crew members for personal use or in baggage which has been separated from its owner during transit (e.g., lost baggage or improperly routed baggage) or in excess baggage carried as cargo.
- 1.3. The entry in sections 3 to 6 that most appropriately describes the item or article must be applied. For example, electronic cigarettes must meet the requirements set out in 1.5.8 and not the provisions for portable electronic devices containing batteries in 6.8.
- 1.4. An item or article that contains more than one item of dangerous goods must meet the provisions of all applicable entries. For example, an avalanche rescue backpack containing lithium batteries and gas cartridges must meet the applicable provisions of 5.3 and 6.8.
- 1.5. Baggage intended to be carried in the cabin that is placed in the cargo compartment must only contain dangerous goods permitted in checked baggage. When baggage intended as carry-on is taken by the operator and placed into the cargo compartment for carriage, the operator must confirm with the passenger that any dangerous goods which are only permitted in carry-on baggage have been removed.
- 1.6. Sections 3 to 5 address dangerous goods that are permitted in passenger and crew baggage only when the operator(s) concerned approve such carriage. It is recommended that operators have documented procedures that identify the approval process and any company specific requirements that may apply to items that are approved for carriage.
- 1.7. Dangerous goods permitted in 3.2, 3.3, 3.4, 4.1 and 5.1 require that the operator advise the pilot-in-command when these dangerous goods are carried.
- 1.8. Dangerous goods for which there is an exception from these Regulations have not been included in the provisions of 3 to 6. The following dangerous goods are not subject to these Regulations:
- (a) radiopharmaceuticals contained within the body of a person as the result of medical treatment;
 - (b) energy efficient lamps when in retail packaging intended for personal or home use.

2. Forbidden Goods

2.1. Attaché Cases, Cash Boxes/Bags

Except as permitted in 3.6 below security-type equipment such as attaché cases, cash boxes, cash bags, etc. incorporating dangerous goods, such as lithium batteries and/or pyrotechnic material, are totally forbidden.

2.2. Disabling Devices

Disabling devices such as mace, pepper spray, etc. containing an irritant or incapacitating substance are forbidden on the person, in checked and carry-on baggage.

2.3. liquid Oxygen Devices

Personal medical oxygen devices that utilize liquid oxygen are forbidden on the person, in checked and carry-on baggage.

2.4. Electro Shock Weapons

Electro shock weapons (e.g., Tasers) containing dangerous goods such as explosives, compressed gases, lithium batteries, etc. are forbidden in carry-on baggage or checked baggage or on the person.

2.5. lithium Battery-Powered Lighters

Battery-powered lighters powered by a lithium ion or lithium metal battery (e.g., laser plasma lighters, tesla coil lighters, flux lighters, are lighters and double are lighters) without a safety cap or means of protection against unintentional activation.

3. Goods Acceptable with Operator Approval, as Checked Baggage Only

The following dangerous goods, as listed in 3.1 through 3.6, are permitted on aircraft as checked baggage only and with the approval of the operator(s).

3.1. Ammunition

Securely packaged ammunition in Division 1.4S (UN 0012 or UN 0014 only), in quantities not exceeding 5 kg (11 lb) gross weight per person for that person's own use, excluding ammunition with explosive or incendiary projectiles. Allowances for more than one person must not be combined into one or more packages.

3.2. Wheelchairs/Mobility Aids with Non-spillable Wet Batteries, Nickel- Metal Hydride Batteries or Dry Batteries

Battery-powered wheelchairs or other similar mobility aids for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg), with non-spillable wet batteries which comply with Special Provision A67 (see Special Provisions at the end of this document) or nickel-metal hydride batteries which comply with Special Provision A199 (see Special Provisions at the end of this document) or dry batteries which comply with Special Provision A123 (see Special Provisions at the end of this document). These batteries must meet the following requirements:

3.2.1. The mobility aid must be prepared for transport to prevent:

- (a) unintentional activation; and
- (b) non-spillable batteries are not permitted to contain any free or unabsorbed liquid.

3.2.2. The operator must secure, by use of straps, tie-downs or other restraint devices, a battery powered mobility aid with installed batteries. The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo.

3.2.4. The operator must verify that:

- (a) the passenger has confirmed that the battery is a non-spillable wet battery that complies with Special Provision A67, see 3.2.1, or a nickel-metal hydride battery that complies with Special Provision A199 or dry battery that complies with Special Provision A123 (see Special Provisions at the end of this document);
- (b) the battery terminals are protected from short circuits, e.g., by being enclosed within a battery container;
- (c) the battery is either:
 - securely attached to the wheelchair or mobility aid and the electrical circuits are isolated following the manufacturer's instructions; or
 - removed by the user, if the mobility aid is specifically designed to allow it to be, following the manufacturer's instructions.

3.2.5. A passenger may carry a maximum of:

- (a) one spare wet, non-spillable battery meeting Special Provision A67; or
- (b) two spare nickel-metal hydride batteries meeting Special Provision A199 or dry batteries meeting Special Provision A123 (see Special Provisions at the end of this document).

3.2.6. The operator must ensure that any battery(ies) removed from the wheelchair/mobility aid and any spare batteries are carried in strong, rigid packagings which must be carried in the cargo compartment.

3.2.7. The operator must inform the pilot-in-command of the location of mobility aids with installed batteries, removed batteries and spare batteries.

3.2.8. It is recommended that passengers make advance arrangements with each operator.

3.3. Wheelchairs/Mobility Aids with Spillable Batteries

Battery-powered wheelchairs or other similar mobility aids for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g., broken leg), with spillable batteries. These batteries must meet the following requirements:

3.3.1. The operator must secure, by use of straps, tie-downs or other restraint devices, a battery powered mobility aid with installed batteries. The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo.

3.3.2. The operator must verify that:

- (a) the battery terminals are protected from short circuits, e.g., by being enclosed within a battery container;
- (b) the battery is fitted, where feasible, with spill-resistant vent caps;
- (c) the battery is either:
 - securely attached to the wheelchair or mobility aid and the electrical circuits are isolated following the manufacturer's instructions; or
 - removed from the mobility aid following the manufacturer's instructions when the mobility aid cannot be maintained in an upright position.

3.3.3. The operator must load, stow, secure and unload a mobility aid with a spillable battery in an upright position. If the wheelchair or mobility aid cannot be loaded,

stowed, secured and unloaded always in an upright position or if the mobility aid does not adequately protect the battery, the operator must remove the battery. The removed battery must be carried in strong, rigid packagings as follows:

- (a) packagings must be leak-tight, impervious to battery fluid and be protected against upset by securing to pallets or by securing them in cargo compartments using appropriate means of securement (other than by bracing with freight or baggage) such as by use of restraining straps, brackets or holders;
- (b) batteries must be protected against short circuits, secured upright in these packagings and surrounded by compatible absorbent material sufficient to absorb their total liquid contents; and
- (c) these packagings must be marked "BATTERY, WET, WITH WHEELCHAIR" or "BATTERY, WET, WITH MOBILITY AID" and be labelled with the "Corrosive" label and with the "Package Orientation" label.

3.3.4. The operator must inform the pilot-in-command of the location of mobility aids with installed batteries and removed batteries.

3.3.5. It is recommended that passengers make advance arrangements with each operator.

3.4. Wheelchairs/Mobility Aids with Lithium Batteries

Lithium-ion battery powered wheelchairs or other similar mobility aids for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g., broken leg), subject to the following conditions:

3.4.1. The batteries must be of a type which meets the requirements of each test in the *UN Manual of Tests and Criteria*, Part 111, subsection 38.3.

3.4.2. The operator must secure, by use of straps, tie-downs or other restraint devices, a battery powered mobility aid with installed batteries. The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo.

3.4.3. The operator must verify:

- (a) the battery terminals are protected from short circuits, e.g., by being enclosed within a battery container;
- (b) the battery is either
 - securely attached to the wheelchair or mobility aid and the electrical circuits are isolated following the manufacturer's instructions; or
 - removed by the user, if the mobility aid is specifically designed to allow it to be, following the manufacturer's instructions. The battery removed from the mobility aid must not exceed 300 Wh.

3.4.4. A passenger may carry a maximum of one spare lithium-ion battery not exceeding 300 Wh or two spare batteries each not exceeding 160 Wh.

3.4.5. The operator must ensure that any battery removed from the mobility aid and any spare batteries are carried in the passenger cabin. The removed or spare batteries must be protected from damage (e.g., by placing each battery in a protective pouch).

3.4.6. The operator must inform the pilot-in-command of the location of the mobility

aid with installed batteries, removed batteries and spare batteries.

3.4.7. It is recommended that passengers make advance arrangements with each operator.

3.5. Camping Stoves and Fuel Containers that have Contained a Flammable Liquid Fuel

Camping stoves and fuel containers for camping stoves that have contained a flammable liquid fuel may be carried provided the fuel tank of the camping stove and/or fuel container has been completely drained of all liquid fuel and action has been taken to nullify the danger. To nullify the danger, the empty fuel tank and/or container must be allowed to drain for at least 1 hour, the fuel tank and/or container must then be left uncapped for a minimum of 6 hours to allow any residual fuel to evaporate. Alternative methods, such as adding cooking oil to the fuel tank and/or container to elevate the flash point of any residual liquid above the flash point of flammable liquid and then emptying the fuel tank and/or container, are equally acceptable. The fuel tank and/or container must then have the cap securely fastened and be wrapped in an absorbent material such as paper towel and placed in a polyethylene or equivalent bag. The top of the bag must then be sealed or gathered and closed with an elastic band or twine.

Note:

Provided the above cleaning method is followed in accordance with these Regulations, the fuel stove or container can be classified as non-hazardous. However, to control the carriage of these items, they are listed in Table 1.A Provisions for Dangerous Goods Carried by Passengers or Crew.

3.6. Security-Type Equipment

Security type equipment such as attaché cases, cash boxes, cash bags, etc. incorporating dangerous goods as part of this equipment for example lithium batteries or pyrotechnic material may be carried as checked baggage only if the equipment complies with the following:

- (a) the equipment must be equipped with an effective means of preventing accidental activation;
- (b) if the equipment contains an explosive or pyrotechnic substance or an explosive article, this article or substance must be excluded from Class 1 by the appropriate national authority of the State of Manufacture.
- (c) if the equipment contains lithium cells or batteries, these cells or batteries must comply with the following restrictions:
 - i. for a lithium metal cell, the lithium content is not more than 1 g;
 - ii. for a lithium metal battery, the aggregate lithium content is not more than 2 g;
 - iii. for lithium-ion cells, the Watt-hour rating is not more than 20 Wh;
 - iv. for lithium-ion batteries, the Watt-hour rating is not more than 100 Wh;
 - v. each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3.
- (d) if the equipment contains gases to expel dye or ink, only gas cartridges and receptacles, small, containing gas with a capacity not exceeding 50 ml,

containing no constituents subject to these Regulations other than a Division 2.2 gas, are allowed. The release of gas must not cause extreme annoyance or discomfort to crew members so as to prevent the correct performance of assigned duties. In case of accidental activation all hazardous effects must be confined within the equipment and must not produce extreme noise;

- (e) security type equipment that is defective or that has been damaged is forbidden for transport.

4. Goods Acceptable with Operator Approval as Carry-on Baggage Only

The following dangerous goods, as listed in 4.1 and 4.2, are permitted on aircraft as carry-on baggage only and with the approval of the operator(s).

4.1. Mercury Barometer or Thermometer

A mercurial barometer or mercurial thermometer carried by a representative of a government weather bureau or similar official agency. The barometer or thermometer must be packed in a strong outer packaging, having a sealed inner liner or a bag of strong leak-proof and puncture-resistant material impervious to mercury, which will prevent the escape of mercury from the package irrespective of its position. The pilot-in-command must be informed of the location of the barometer or thermometer.

4.2. Spare Lithium Batteries

Spare lithium batteries including articles containing lithium metal or lithium-ion cells or batteries, the primary purpose of which is to provide power to another device, e.g., power banks, are permitted in carry-on baggage as follows:

- (a) no more than 2 lithium-ion batteries with a watt-hour rating exceeding 100 Wh but not exceeding 160 Wh or 2 lithium metal batteries, with a lithium content exceeding 2 g but not exceeding 8 g. Lithium metal batteries are only permitted for portable medical electronic devices (PMED), such as automated external defibrillators (AED), portable oxygen concentrators (POC) and continuous positive airway pressure (CPAP);
- (b) spare batteries must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g., by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch);
- (c) batteries must be of a type that meet the requirements of the UN Manual of Tests and Criteria, Part 111, subsection 38.3. No more than two individually protected spare batteries per person may be carried.

5. Goods Acceptable with Operator Approval as Baggage

The following dangerous goods, as listed in 5.1 through 5.7, are permitted on aircraft as checked baggage or carry-on baggage with the approval of the operator(s).

5.1. Medical Oxygen

Gaseous oxygen or air cylinders required for medical use. Each cylinder must not exceed 5 kg gross weight. Cylinders, valves and regulators, where fitted, must be protected from damage that could cause inadvertent release of the contents. This provision also applies where the cylinders are being carried by medically trained persons. The pilot-in-command must be informed of the number of oxygen or air cylinders loaded on board the aircraft and their loading location(s).

Note:

Personal medical oxygen devices that utilise liquid oxygen are forbidden on the person, in checked and carry-on baggage.

5.2. Small Non-flammable Gas Cartridges Fitted into Devices

5.2.1. Small cartridges fitted into a self-inflating personal safety device, intended to be worn by a person, such as a life-jacket or vest:

- (a) no more than two personal safety devices per person;
- (b) the personal safety device(s) must be packed in such a manner that they cannot be accidentally activated;
- (c) limited to carbon dioxide or other suitable gas in Division 2.2 without a subsidiary hazard;
- (d) cartridge(s) must be for inflation purposes;
- (e) each device must be fitted with no more than two small cartridges; and
- (f) not more than two spare cartridges per device.

5.2.2. Other devices:

- no more than four small cartridges of carbon dioxide or other suitable gas in Division 2.2 without a subsidiary hazard, per person;
- the water capacity of each cartridge must not exceed 50 ml.

Note:

For carbon dioxide a gas cartridge with a water capacity of 50 mL is equivalent to a 28 g cartridge.

5.3. Avalanche Rescue Backpack

One avalanche rescue backpack per person containing cartridges of compressed gas in Division 2.2 without a subsidiary hazard. The avalanche rescue backpack may also be equipped with a pyrotechnic trigger mechanism containing not more than 200 mg net of explosives in Division 1.4S. The backpack must be packed in such a manner that it cannot be accidentally activated. The air bags within the backpacks must be fitted with pressure relief valves.

5.4. Chemical Agent Monitoring Equipment

Instruments containing radioactive material not exceeding the activity limits i.e., chemical agent monitor (CAM) and/or rapid alarm and identification device monitor (RAID-M), securely packed and without lithium batteries, when carried by staff members of the Organization for the Prohibition of Chemical Weapons (OPCW) on official travel.

5.5. Carbon Dioxide, Solid (Dry Ice)

Carbon dioxide, solid (dry ice) in quantities not exceeding 2.5 kg per person when used to pack perishables that are not subject to these Regulations in checked or carry-on baggage, provided the baggage (package) permits the release of carbon dioxide gas. Each item of checked baggage containing dry ice must be marked:

- "Carbon dioxide, solid" or "Dry ice"; and
- with the net weight of dry ice or an indication that the net weight is 2.5 kg or less.

5.6. Lithium Battery-Powered Electronic Devices

For the purpose of these Regulations, lithium battery- powered electronic device means the equipment or apparatus for which the lithium cells or batteries will provide electrical power for its operation. These devices are permitted in checked and carry-on baggage with the approval of the operator as follows:

- (a) portable medical electronic devices (PMED), such as automated external defibrillators (AED), portable oxygen concentrators (POC) and continuous positive airway pressure (CPAP), containing lithium metal or lithium-ion cells or batteries may be carried by passengers for medical use as follows:
 - i. for lithium metal or lithium alloy batteries, a lithium content exceeding 2g, but not exceeding 8g; or
 - ii. for lithium-ion batteries, a watt-hour rating exceeding 100 Wh, but not exceeding 160 Wh;
 - iii. batteries must be of a type that meets the requirements of the UN Manual of Tests and Criteria, Part III, subsection 38.3.
- (b) portable electronic devices, such as power tools, video cameras and laptops containing lithium-ion batteries as follows:
 - i. lithium-ion batteries with a watt-hour rating exceeding 100 Wh, but not exceeding 160 Wh;
 - ii. batteries must be of a type that meets the requirements of the UN Manual of Tests and Criteria, Part III, subsection 38.3.
- (c) if devices are carried in checked baggage:
 - i. measures must be taken to protect the device from damage and to prevent unintentional activation;
 - ii. the device must be completely switched off (not in sleep or hibernation mode).

Note:

For spare lithium metal batteries with a lithium content exceeding 2 g and lithium-ion batteries with a Watt-hour rating exceeding 100 Wh see 4.2. For electronic devices with lithium metal batteries with a lithium content not exceeding 2 g and lithium-ion batteries with a Watt- hour rating not exceeding 100 Wh see 6.9.

Table 1.A

Provisions for Dangerous Goods Carried by Passengers or Crew

Dangerous goods must not be carried in or as passengers or crew, checked or carry-on baggage, except as otherwise provided below. Dangerous goods permitted in carry-on baggage are also permitted "on one's person", except where otherwise specified.

The pilot-in-command must be informed of the location				
Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
Alcoholic beverages , when in retail packagings, containing more than 24% but not more than 70% alcohol by volume, in receptacles not exceeding 5 L, with a total net quantity per person of 5 L.	NO	YES	YES	NO
Ammunition, securely packaged (in Div. 1.4S, UN 0012 or UN 0014 only), in quantities not exceeding 5 kg gross weight per person for that person's own use. Allowances for more than one person must not be combined into one or more packages.	YES	YES	NO	NO
Avalanche rescue backpack , one (1) per person, containing cartridges of compressed gas in Div. 2.2. May also be equipped with a pyrotechnic trigger mechanism containing no more than 200 mg net of Div. 1.4S. The backpack must be packed in such a manner that it cannot be accidentally activated. The airbags within the backpacks must be fitted with pressure relief valves.	YES	YES	YES	NO
Baggage with installed lithium batteries non-removable batteries exceeding-0.3 g lithium metal or 2.7Wh.	FORBIDDEN			
Baggage with installed lithium batteries:	NO	YES	YES	NO
– non-removable batteries. Batteries must contain no more than 0.3 g lithium metal or for lithium ion must not exceed 2.7 Wh;				
– removable batteries. Batteries must be removed if baggage is to be checked in. Removed batteries must be carried in the cabin.				
Batteries, spare/loose , including lithium batteries, non-spillable batteries, nickel-metal hydride batteries and dry batteries (see 6.8) for portable electronic devices must be carried in carry-on baggage only. Articles which have the primary purpose as a power source, e.g., power banks are considered as spare batteries. These batteries must be individually protected to prevent short circuits. Lithium metal batteries: the lithium metal content must not exceed 2 g (see 6.8.4). Lithium-ion batteries: the Watt-hour rating must not exceed 100 Wh (see 6.8.4). Each person is limited to a maximum of 20 spare batteries. *The operator may approve the carriage of more than 20 batteries. Non-spillable batteries: must be 12 V or less and 100 Wh or less. Each person is limited to a maximum of 2 spare batteries (see 6.8.5)	NO*	NO	YES	NO
Camping stoves and fuel containers that have contained a flammable liquid fuel , with empty fuel tank and/or fuel container (see 3.5 for details).	YES	YES	NO	NO
Chemical Agent Monitoring Equipment , when carried by staff members of the Organization for the Prohibition of Chemical Weapons on official travel (see 5.4).	YES	YES	YES	NO
Disabling devices such as mace, pepper spray, etc. containing an irritant or incapacitating substance are forbidden on the person, in checked and carry-on baggage.	FORBIDDEN			
Dry ice (carbon dioxide, solid) , in quantities not exceeding 2.5 kg per person when used to pack perishables not subject to these Regulations in checked or carry-on baggage, provided the baggage (package) permits the release of carbon dioxide gas. Checked baggage must be marked "dry ice" or "carbon dioxide, solid" and with the net weight of dry ice or an indication that there is 2.5 kg or less dry ice.	YES	YES	YES	NO
e-cigarettes (including e-cigars, e-pipes, other personal vaporizers) containing batteries must be individually protected to prevent accidental activation (see 6.8.2).	NO	NO	YES	NO
Electro shock weapons (e.g., Tasers) containing dangerous goods such as explosives, compressed gases, lithium batteries, etc. are forbidden in carry-on baggage or checked baggage or on the person.	FORBIDDEN			
Fuel cells containing fuel, powering portable electronic devices (e.g., cameras, cellular phones, laptop computers and camcorders), see 6.9 for details.	NO	NO	YES	NO
Fuel cell cartridges, spare for portable electronic devices, see 6.9 for details.	NO	YES	YES	NO
Gas cartridges, small, non-flammable containing carbon dioxide or other suitable gas in Division 2.2. Up to two (2) small cartridges fitted into a self-inflating personal safety device , intended to be worn by a person, such as a life jacket or vest. Not more than two (2) devices per passenger and up to two (2) spare small cartridges per device, not more than four (4) cartridges up to 50 ml water capacity for other devices (see 5.2).	YES	YES	YES	NO
Gas cylinders, non-flammable, non-toxic worn for the operation of mechanical limbs . Also, spare cylinders of a similar size if required to ensure an adequate supply for the duration of the journey.	NO	YES	YES	NO
Hair styling equipment containing hydrocarbon gas , up to one (1) per passenger or crew-member, provided that the safety cover is securely fitted over the heating element. These hair styling equipment must not be used on board the aircraft. Spare gas cartridges for such hair styling equipment are not permitted in checked or carry-on baggage.	NO	YES	YES	NO

TABLE 1.A

Provisions for Dangerous Goods Carried by Passengers or Crew (continued)

The pilot-in-command must be informed of the location				
Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
Insulated packagings containing refrigerated liquid nitrogen (dry shipper), fully absorbed in a porous material containing only non-dangerous goods.	NO	YES	YES	NO
Internal combustion or fuel cell engines , must meet A70 (see 6.13 for details).	NO	YES	NO	NO
Lithium Batteries: Portable electronic devices (PED) containing lithium metal or lithium-ion cells or batteries , including medical devices such as portable oxygen concentrators (POC) and consumer electronics such as cameras, mobile phones, laptops and tablets (see 6.8). For lithium metal batteries the lithium metal content must not exceed 2 g and for lithium-ion batteries the Watt-hour rating must not exceed 100 Wh. Devices in checked baggage must be completely switched off and must be protected from damage. Each person is limited to a maximum of 15 PED. *The operator may approve the carriage of more than 15 PED.	NO*	YES	YES	NO
Lithium batteries, spare/loose, including power banks , see Batteries, spare/loose				
Lithium battery-powered electronic devices . Lithium-ion batteries for portable (including medical) electronic devices, a Wh rating exceeding 100 Wh but not exceeding 160 Wh. For portable medical electronic devices only, lithium metal batteries with a lithium metal content exceeding 2 g but not exceeding 8 g. Devices in checked baggage must be completely switched off and must be protected from damage.	YES	YES	YES	NO
Lithium batteries, spare/loose with a Watt-hour rating exceeding 100 Wh but not exceeding 160 Wh for consumer electronic devices and PMED or with a lithium metal content exceeding 2 g but not exceeding 8 g for PMED only. Maximum of two spare batteries in carry-on baggage only. These batteries must be individually protected to prevent short circuits.	YES	NO	YES	NO
Matches, safety (one small packet) or a small cigarette lighter that does not contain unabsorbed liquid fuel, other than liquefied gas, intended for use by an individual when carried on the person. Lighter fuel and lighter refills are not permitted on one's person or in checked or carry-on baggage. <i>Note: "Strike anywhere" matches, "Blue flame" or "Cigar" lighters or lighters powered by a lithium battery without a safety cap or means of protection against unintentional activation are forbidden (see 6.8.4(e)).</i>	NO	ON ONE'S PERSON		NO
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with non-spillable wet batteries, nickel-metal hydride batteries or dry batteries , (see 3.2).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with spillable batteries or with lithium-ion batteries . (see 3.3 and 3.4 for details).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with lithium-ion batteries where the battery is specifically designed to be removed, the battery must be carried in the cabin (see 3.4.3(b)2. for details).	YES	NO	YES	YES
Non-radioactive medicinal or toiletry articles (including aerosols) such as hair sprays, perfumes, colognes and medicines containing alcohol; and Non-flammable, non-toxic (Division 2.2) aerosols , with no subsidiary hazard, for sporting or home use.	NO	YES	YES	NO
The <u>total</u> net quantity of non-radioactive medicinal or toiletry articles and non-flammable, non-toxic (Division 2.2) aerosols must not exceed 2 kg or 2 L and the net quantity of each single article must not exceed 0.5 kg or 0.5 L. Release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents.				
Oxygen or air, gaseous, cylinders required for medical use . The cylinder must not exceed 5 kg gross weight. <i>Note: Liquid oxygen systems are forbidden for transport.</i>	YES	YES	YES	YES
Permeation devices , must meet A41 (see 6.13 for details).	NO	YES	NO	NO
Radioisotopic cardiac pacemakers or other devices, including those powered by lithium batteries, implanted into a person or fitted externally.	NO	ON ONE'S PERSON		NO
Security-type equipment (see 3.6 for details).	YES	YES	NO	NO
Security-type attaché cases, cash boxes, cash bags , etc. incorporating dangerous goods, such as lithium batteries. and/or pyrotechnic material, except as provided in 3.6 are totally forbidden. See entry in 4.2-List of Dangerous Goods.		FORBIDDEN		
Specimens, non-infectious packed with small quantities of flammable liquid, must meet A180 (see 6.11 for details).	NO	YES	YES	NO
Thermometer, medical or clinical , which contains mercury, one (1) per person for personal use, when in its protective case.	NO	YES	NO	NO
Thermometer or barometer, mercury filled carried by a representative of a government weather bureau or similar official agency (see 4.1 for details).	YES	NO	YES	YES

6. Goods Acceptable without the Operator's Approval

Dangerous goods, as listed in 6.1 through 6.13, are permitted on aircraft as baggage without the approval of the operator(s).

6.1. Medicinal or Toiletry Articles and Aerosols in Division 2.2

Non-radioactive medicinal or toiletry articles (including aerosols). The term "medicinal or toiletry articles" is intended to include such items as hair sprays, perfumes, colognes and medicines containing alcohols. Aerosols in Division 2.2, with no subsidiary hazard, for sporting or home use.

Note:

The total net quantity of all such articles carried by each passenger or crew member under the provisions of 6.1 must not exceed 2 kg or 2 L and the net quantity of each single article must not exceed 0.5 kg or 0.5 L. Release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents.

6.2. Cylinders for Mechanical Limbs

Small cylinders of a gas of Division 2.2 worn for the operation of mechanical limbs. Also, spare cylinders of a similar size if required to ensure an adequate supply for the duration of the journey.

6.3. Cardiac Pacemakers

Radioisotopic cardiac pacemakers or other medical devices, including those powered by lithium batteries, implanted into a person or fitted externally.

6.4. Medical/Clinical Thermometer

In checked baggage only, one small medical or clinical thermometer which contains mercury, for personal use, when in its protective case.

6.5. Safety Matches or Cigarette Lighter

One small packet of safety matches or a small cigarette lighter that does not contain unabsorbed liquid fuel, other than liquefied gas, intended for use by an individual when carried on the person. Matches and lighters are not permitted in checked or carry-on baggage. Lighter fuel and lighter refills are not permitted on one's person nor in checked or carry-on baggage.

Notes:

- i. "Strike anywhere" matches are forbidden for air transport.*
- ii. "Blue Flame" or "Cigar" lighters are not permitted on one's person, carry-on or checked baggage.*
- iii. Cigarette lighters should have two independent actions by the user to activate ignition.*
- iv. Cigarette lighters, powered by a lithium ion or lithium metal battery without a safety cap or means of protection against unintentional activation are not permitted on one's person, carry-on or checked baggage (see 6.8.4(e)).*

6.6. Alcoholic Beverages

Alcoholic beverages, when in retail packagings, containing more than 24% but not more than 70% alcohol by volume, in receptacles not exceeding 5 L, with a total net quantity per person of 5 L for such beverages.

Note:

Alcoholic beverages containing 24% or less alcohol by volume are not subject to any restrictions.

6.7. Hair Styling Equipment

Hair styling equipment containing hydrocarbon gas, no more than one per passenger or crew member, provided that the safety cover is securely fitted over the heating element. These hair styling equipment must not be used on board the aircraft. Spare gas cartridges for such hair styling equipment are not permitted in checked or carry-on baggage.

6.8. Portable Electronic Devices (PED) (Including Medical Devices) Containing Batteries and Spare Batteries

6.8.1. For the purpose of these Regulations, battery powered electronic device means the equipment or apparatus for which the batteries will provide electrical power for its operation. These devices (PED), which may include medical devices such as portable oxygen concentrators (POC) and consumer electronics such as cameras, mobile phones, laptops and tablets containing batteries when carried by passengers or crew for personal use, which should be carried in carry-on baggage. Batteries and heating elements must be isolated in portable electronic devices capable of generating extreme heat, by removal of the heating element, battery or other components. These provisions apply to dry batteries, nickel-metal hydride batteries, lithium batteries and wet, non-spillable batteries. Additional specific requirements for lithium batteries and wet, non-spillable batteries are set out in 6.8.4 and 6.8.5 respectively. If devices are carried in checked baggage:

- (a) measures must be taken to protect the device from damage and to prevent unintentional activation;
- (b) the device must be completely switched off (not in sleep or hibernation mode).

6.8.2. Electronic cigarettes including e-cigars and other personal vaporisers containing batteries must be in carry-on baggage only. Recharging of these devices and/or batteries on board the aircraft is not permitted, and measures must be taken to prevent accidental activation.

6.8.3. Spare batteries must be individually protected to prevent short circuits by placement in the original retail packaging or by otherwise insulating terminals, e.g., by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch and carried in carry-on baggage only. Each person is limited to a maximum of 20 spare batteries; however, the operator may approve the carriage of more than 20 spare batteries.

6.8.4. Additional requirements for lithium batteries:

- (a) each installed or spare battery must not exceed:
 - i. for lithium metal or lithium alloy batteries, a lithium content of not more than 2 g; or

- ii. for lithium-ion batteries, a watt-hour rating of not more than 100 Wh.
- (b) batteries must be of a type that meets the requirements of the UN Manual of Tests and Criteria, Part III, subsection 38.3;
- (c) each person is limited to a maximum of 15 PED; however, the operator may approve the carriage of more than 15 PED;
- (d) articles containing lithium metal or lithium-ion cells or batteries, the primary purpose of which is to provide power to another device, e.g., power banks, are permitted in carry-on baggage only. These articles must be individually protected to prevent short circuits by placement in the original retail packaging or by otherwise insulating terminals, e.g., by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch;
- (e) electronic cigarette lighters (see also 6.5) powered by lithium batteries, the following conditions must also be met:
 - i. only lighters with a safety cap or means of protection against unintentional activation are permitted on one's person;
 - ii. recharging of these devices and/or batteries on board the aircraft is not permitted, and measures must be taken to prevent accidental activation.
- (f) baggage with installed lithium batteries, with a lithium metal content exceeding 0.3 g or a Watt-hour rating exceeding 2.7 Wh:
 - i. if the baggage is to be checked in, the lithium battery must be removed from the baggage and the lithium battery must be carried in the cabin; or
 - ii. the baggage must be carried in the cabin.
 - iii. baggage where the lithium battery exceeds the limits in 6.8.4(f) and cannot be removed is forbidden for carriage.

6.8.5. Additional requirements for non-spillable wet batteries:

- (a) batteries must meet the requirements of Special Provision A67 (see Special Provisions at the end of this document) and must not contain any free or unabsorbed liquid;
- (b) the voltage of each battery must not exceed 12 V and the Watt-hour rating must not exceed 100 Wh;
- (c) each person is limited to a maximum of two spare batteries in carry-on baggage only and each spare battery must be protected from short circuit by insulation of the battery terminals.

6.9. Fuel Cells Contained in Portable Electronic Devices

Fuel cells used to power portable electronic devices (for example cameras, cellular phones, laptop computers and camcorders) and spare fuel cell cartridges, under the following conditions:

- (a) fuel cells and fuel cell cartridges may only contain flammable liquids, corrosive substances, liquefied flammable gas, water-reactive substances or hydro- gen in metal hydride;
- (b) refuelling of fuel cells on board an aircraft is not permitted except that the installation of a spare cartridge is allowed;
- (c) the maximum quantity of fuel in any fuel cell or fuel cell cartridge must not exceed:

- i. for liquids, 200 ml;
 - ii. for solids 200 g;
 - iii. for liquefied gases, 120 ml for non-metallic fuel cells or fuel cell cartridges or 200 ml for metal fuel cells or fuel cell cartridges;
 - iv. for hydrogen in metal hydride the fuel cell cartridges must have a water capacity of 120 ml or less.
- (d) each fuel cell and each fuel cell cartridge must conform to IEC 62282-6-100 Ed. 1, including Amendment 1 and must be marked with a manufacturer's certification that it conforms to the specification. In addition, each fuel cell cartridge must be marked with the maximum quantity and type of fuel in the cartridge;
- (e) no more than two spare fuel cell cartridges may be carried in checked baggage, carry-on baggage, or on the person;
- (f) fuel cells containing fuel are permitted in carry-on baggage only;
- (g) interaction between fuel cells and integrated batteries in a device must conform to IEC 62282-6-100 Ed. 1, including Amendment 1. Fuel cells whose sole function is to charge a battery in the device are not permitted;
- (h) fuel cells must be of a type that will not charge batteries when the portable electronic device is not in use and must be durably marked by the manufacturer: "APPROVED FOR CARRIAGE IN AIRCRAFT CABIN ONLY" to so indicate; and
- (i) in addition to the languages which may be required by the State of origin for the marks specified above, English should be used.

6.10. Insulated Packages Containing Refrigerated Liquid Nitrogen (Dry Shipper)

In checked or carry-on baggage, insulated packagings containing refrigerated liquid nitrogen fully absorbed in a porous material (dry shipper). The dry shipper must meet the requirements of Special Provision A152 (see Special Provisions at the end of this document).

6.11. Non-Infectious Specimens Packed with Small Quantities of Flammable Liquids

In checked or carry-on baggage non-infectious specimens, such as specimens of mammals, birds, amphibians, reptiles, fish, insects and other invertebrates containing small quantities of flammable liquids provided that the following requirements of Special Provision A180 (see Special Provisions at the end of this document) are complied with:

- (a) specimens are:
- i. wrapped in paper towel and/or cheesecloth moistened with alcohol or an alcohol solution and then placed in a plastic bag that is heat-sealed. Any free liquid in the bag must not exceed 30 ml; or
 - ii. placed in vials or other rigid containers with no more than 30 ml of alcohol or an alcohol solution;
- (b) the prepared specimens are then placed in a plastic bag that is then heat-sealed;
- (c) the bagged specimens are then placed inside another plastic bag with absorbent material then heat sealed;

- (d) the finished bag is then placed in a strong outer packaging with suitable cushioning material;
- (e) the total quantity of flammable liquid per outer packaging must not exceed 1 L; and
- (f) the completed package is marked "scientific research specimens, not restricted Special Provision A180 applies".

6.12. Internal Combustion or Fuel Cell Engines

Flammable liquid powered internal combustion or fuel cell engines being carried separately or incorporated into a machine or other apparatus, without batteries or other dangerous goods may be accepted in checked baggage only provided that the engine must comply with the following requirements of Special Provision A70 (see Special Provisions at the end of this document):

- (a) the engine is powered by a fuel that does not meet the classification criteria for any class or division; or
- (b) the fuel tank of the vehicle, machine or other apparatus has *never* contained any fuel, or the fuel tank has been flushed and purged of vapours and adequate measures taken to nullify the hazard;
- (c) the passenger has provided the operator with written or electronic documentation stating that a flushing and purging procedure has been followed; and
- (d) the entire fuel system of the engine has no free liquid and all fuel lines are sealed or capped or securely connected to the machinery or apparatus.

6.13. Permeation Devices

In checked baggage only permeation devices for calibrating air quality monitoring equipment. These devices must comply with the following requirements of Special Provision A41 (see Special Provisions at the end of this document):

- (a) each device must be constructed of a material compatible with the dangerous goods it contains;
- (b) the total quantity of dangerous goods in each device is limited to 2 ml and the device must not be liquid full at 55°C;
- (c) each permeation device must be placed in a sealed, high impact-resistant, tubular inner packaging of plastic or equivalent material. Sufficient absorbent material must be contained in the inner packaging to completely absorb the contents of the device. The closure of the inner packaging must be securely held in place with wire, tape or other positive means;
- (d) each inner packaging must be contained in a secondary packaging constructed of metal, or plastic having a minimum thickness of 1.5 mm. The secondary packaging must be hermetically sealed;
- (e) the secondary packaging must be securely packed in strong outer packaging. The completed package must be capable of withstanding, without breakage or leakage of any inner packaging and without significant reduction in effectiveness:
 - i. the following free drops onto a rigid, non-resilient, flat and horizontal surface from a height of 1.8 m:
 - one drop flat on the bottom;

- one drop flat on the top;
 - one drop flat on the long side;
 - one drop flat on the short side;
 - one drop on a corner at the junction of three intersecting edges; and
- ii. a force applied to the top surface for a duration of 24 hours, equivalent to the total weight of identical packages if stacked to a height of 3 m (including the test sample).

Note:

Each of the above tests may be performed on different but identical packages.

- (f) the gross weight of the completed package must not exceed 30 kg.

SPECIAL PROVISIONS:

A41 Permeation devices that contain dangerous goods and that are used for purposes of calibrating air quality monitoring devices are not subject to these Regulations when carried as cargo provided the following requirements are met:

- (a) each device must be constructed of a material compatible with the dangerous goods it contains;
- (b) the total quantity of dangerous goods in each device is limited to 2 ml and the device must not be liquid full at 55°C;
- (c) each permeation device must be placed in a sealed, high impact-resistant, tubular inner packaging of plastic or equivalent material. Sufficient absorbent material must be contained in the inner packaging to completely absorb the contents of the device. The closure of the inner packaging must be securely held in place with wire, tape or other positive means;
- (d) each inner packaging must be contained in a secondary packaging constructed of metal, or plastic having a minimum thickness of 1.5 mm. The secondary packaging must be hermetically sealed;
- (e) the secondary packaging must be securely packed in strong outer packaging. The completed package must be capable of withstanding, without breakage or leakage of any inner packaging and without significant reduction in effectiveness:
 - 1. the following free drops onto a rigid, non- resilient, fiat and horizontal surface from a height of 1.8 m:
 - one drop fiat on the bottom; one drop fiat on the top;
 - one drop fiat on the long side; one drop fiat on the short side;
 - one drop on a corner at the junction of three intersecting edges; and
 - 2. a force applied to the top surface for a duration of 2 hours, equivalent to the total weight of identical packages if stacked to a height of 3 m including test sample).

Note: *Each of the above tests may be performed on different but identical packages.*

- (f) The gross weight of the completed package must not exceed 30kg.

A67 Wet cell batteries can be considered as non-spillable provided that they are capable of withstanding the vibration and pressure differential tests given below, without leakage of battery fluid.

Vibration test: The battery is rigidly clamped to the platform of a vibration machine and a simple harmonic motion having an amplitude of 0.8 mm (1.6 mm maximum total excursion) is applied. The frequency is varied at the rate of 1 Hz/min between the limits of 10 Hz to 55 Hz. The entire range of frequencies and return is traversed in 95 ± 5 minutes for each mounting position (direction of vibration) of the battery. The battery must be tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for equal time periods.

Pressure differential test: Following the vibration test, the battery is stored for six hours at $24^{\circ}\text{C} \pm 4^{\circ}\text{C}$ while subjected to a pressure differential of at least 88 kPa. The battery must be tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for at least six hours in each position.

Note:

Non-spillable type batteries which are an integral part of, and necessary for the operation of, mechanical or electronic equipment must be secure/y fastened in the battery holder on the equipment and protected in such a manner so as to prevent damage and short circuits.

Non-spillable batteries are not subject to these Regulations when carried as cargo if, at a temperature of 55°C , the electrolyte will not flow from a ruptured or cracked case. The battery must not contain any free or unabsorbed liquid. Any electrical battery or battery powered device, equipment or vehicle having the potential of dangerous evolution of heat must be prepared for transport so as to prevent:

- (a) a short circuit (e.g., in the case of batteries, by the effective insulation of exposed terminals; or in the case of equipment, by disconnection of the battery and protection of exposed terminals); and
- (b) unintentional activation

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

A70 Internal combustion or fuel cell engines or machinery shipped either separately or incorporated into a machine or other apparatus, without batteries or other dangerous goods, are not subject to these Regulations when carried as cargo or baggage (see 6.13), provided that:

- (a) for flammable liquid powered engines:
 1. the engine is powered by a fuel that does not meet the classification criteria for any class or division; or
 2. the fuel tank of the vehicle, machine or other apparatus has never contained any fuel, or the tank has been flushed and purged of vapours and adequate measures taken to nullify the hazard;
 3. the shipper has provided the operator with written or electronic

documentation stating that a flushing and purging procedure has been followed; and

4. the entire fuel system of the engine has no free liquid that is subject to these Regulations and all fuel lines are sealed or capped or securely connected to engine and vehicle, machinery or apparatus.

(b) for flammable gas-powered internal combustion or fuel cell engines:

1. the entire fuel system must have been flushed, purged and filled with non-flammable gas or fluid to nullify the hazard;
2. the final pressure of the non-flammable gas used to fill the system does not exceed 200 kPa at 20°C;
3. the shipper has made prior arrangements with operator; and
4. the shipper has provided the operator with written or electronic documentation stating that the flushing, purging and filling procedure has been followed and the final contents of the engine(s) have been tested and verified to be non-flammable.

Multiple engines meeting the provisions of this special provision may be shipped in a unit load device provided that the shipper has made arrangements with the operator(s) for each consignment.

When carried as cargo and this special provision is used, the words „Not Restricted“ and the Special Provision number must be included in the description of the goods on the Air Waybill as required by 8.2.6, when Air Waybill is used.

A123 This entry applies to Batteries, electric storage, not otherwise listed in Subsection 4.2-List of Dangerous Goods. Examples of such batteries are: alkali-manganese, zinc-carbon and nickel-cadmium batteries. Any electrical battery or battery powered device, equipment or vehicle having the potential of a dangerous evolution of heat must be prepared for transport so as to prevent:

- (a) a short-circuit (e.g., in the case of batteries, by the effective insulation of exposed terminals; or, in the case of equipment, by disconnection of the battery and protection of exposed terminals); and
- (b) unintentional activation.

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

A152 Insulated packagings conforming to the requirements of Packing Instruction 202 containing refrigerated liquid nitrogen fully absorbed in a porous material are not subject to these Regulations provided the design of the insulated packaging would not allow the build-up of pressure within the container and would not permit the release of any refrigerated liquid nitrogen irrespective of the orientation of the insulated packaging and any outer packaging or overpack used is closed in a way that will not allow the build-up of pressure within that packaging or overpack.

When used to contain substances not subject to these Regulations the words "Not Restricted" and the Special Provision number must be included in the description of the substance on the Air Waybill, when an Air Waybill is issued.

A180 Non-infectious specimens, such as specimens of mammals, birds, amphibians, reptiles, fish, insects and other invertebrates containing small quantities of UN 1170, UN 1198, UN 1987, or UN 1219 are not subject to these Regulations provided the following packing and marking requirements are met:

- (a) specimens are:
 - 1. wrapped in paper towel and/or cheesecloth moistened with alcohol or an alcohol solution and then placed in a plastic bag that is heat-sealed. Any free liquid in the bag must not exceed 30 ml; or
 - 2. placed in vials or other rigid containers with no more than 30 ml of alcohol or an alcohol solution;
- (b) the prepared specimens are then placed in a plastic bag that is then heat-sealed;
- (c) the bagged specimens are then placed inside another plastic bag with absorbent material then heat sealed;
- (d) the finished bag is then placed in a strong outer packaging with suitable cushioning material;
- (e) the total quantity of flammable liquid per outer packaging must not exceed 1 l; and
- (f) the completed package is marked "scientific research specimens, not restricted Special Provision A180 applies".

The words "not restricted" and the special provision number A180 must be included in the description of the substance on the Air Waybill, when an Air Waybill is issued.

A199 The UN number UN 3496 is only applicable in sea transport. Nickel-metal hydride batteries or nickel-metal hydride battery-powered devices, equipment or vehicles having the potential of a dangerous evolution of heat are not subject to these Regulations provided they are prepared for transport so as to prevent:

- (a) a short circuit (e.g., in the case of batteries, by the effective insulation of exposed terminals; or, in the case of equipment, by disconnection of the battery and protection of exposed terminals); and
- (b) unintentional activation.

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

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