

## 3 CARRIAGE OF DANGEROUS GOODS

### 3.1 GENERAL PRINCIPLES

Dangerous goods can be transported safely via air transport provided certain principles are strictly followed. The Riyadh Air Dangerous Goods Regulations Manual aligns with the International Civil Aviation Organization (ICAO) Technical Instructions and General Authority of Civil Aviation Regulations (GACAR) Part 109 requirements.

This manual provides a detailed list of dangerous goods prohibited from air transport as well as goods that can be transported safely if requirements for classification, packaging, marking, labeling, documentation, storage, loading and pilot notification are met. Training for all personnel involved in handling dangerous goods is essential.

Packaging is a key component in safely transporting hazardous materials by air. The manual provides packing instructions for permitted dangerous goods with options for inner, outer and single packaging aligned with UN specifications. Limited quantities may be shipped using excepted packaging but with strict limitations to minimize risk.

Proper shipment documentation ensures all parties are aware of the dangerous goods contents, required handling, and emergency procedures. Pilots must be notified of dangerous goods onboard to respond effectively to in-flight emergencies. Information on goods forbidden in baggage also aids passenger compliance.

Reporting of any dangerous goods incidents or accidents enables full investigation and corrective actions to be taken, including revisions to regulations. Compliance with this manual will enable the safe air transport of hazardous materials.

Riyadh Air is a non-carry operator of DGR. Only Company Materials (COMAT) and DGR carried by passengers in the cabin as stated in [Section 3.3.33.3](#) are allowed.

## 3.2 DANGEROUS GOODS PROHIBITED IN AIR TRANSPORT

IATA DGR – Section 2.1

### 3.2.1 Forbidden Dangerous Goods

IATA DGR -Section 2.1.1

Articles or substances that are liable to explode, dangerously react, emit toxic gases, or spontaneously combust when transported by air must not be carried under any circumstances per ICAO Doc 9284. This includes goods specifically forbidden on the Dangerous Goods List in Table 3-1 of the ICAO Technical Instructions.

*Note: Riyadh Air retains the authority to decline the transport of any cargo classified as dangerous goods that surpass the scope of our handling capabilities. It is imperative to acknowledge that the list of Dangerous Goods Regulations (DGR) detailed in Table 3-1 of the ICAO Technical Instructions does not represent an all-encompassing directory of hazardous materials. Cargo personnel must exercise due diligence in identifying potential dangers beyond those explicitly outlined*

### 3.2.2 Dangerous Goods Requiring Exemption

IATA DGR -Section 1.2.6

The following dangerous goods are prohibited on aircraft unless specifically exempted by the General Authority of Civil Aviation (GACA) under the provisions of GACAR §109.7:

1. Radioactive material that is:
  - a. In vented type B(M) packages
  - b. Requiring external cooling by an ancillary cooling system
  - c. Subject to operational controls during transport
  - d. Explosive
  - e. A pyrophoric liquid
2. Articles and substances, including those not otherwise specified, that are identified in the List of Dangerous Goods as being forbidden, unless otherwise provided.
3. Infected live animals.
4. Liquids having a vapor inhalation toxicity requiring Packing Group I packaging.
5. Substances offered for transport in a liquid state at/above 100°C or solid state at/above 240°C.
6. Any other articles or substances specified by GACA as requiring exemption.

Dangerous goods meeting the above criteria may only be transported by air if GACA grants a specific written exemption approval after reviewing the proposed shipment details.

## **3.2.3 Approval of Exemptions**

Exemption requests will be submitted to the (GACA) providing details on the shipment contents, reasons for air transport, and any special handling procedures proposed.

The final decision on whether to accept and transport a dangerous goods shipment under exemption rests solely with DG Manager based on our assessment of:

1. Aircraft capabilities and limitations
2. Ability to follow required handling procedures
3. Availability of qualified personnel
4. Adequate facilities, equipment, packaging
5. Overall risk to flight safety

Riyadh Air reserves the right to reject transport of dangerous goods approved for exemption by GACA if our safety assessment determines we lack the required capabilities, resources or procedures to manage the shipment properly.

Exempted dangerous goods will only be transported after receiving written GACA approval and subsequent Riyadh Air acceptance.

## **3.2.4 Restrictions on Specific Dangerous Goods**

Certain descriptions of cargo may indicate the potential presence of dangerous goods requiring further verification. IATA DGR manual has shown the following commodities often contain undeclared hazardous materials:

1. **Aircraft on Ground (AOG) Spares** - May contain explosives, compressed gases, batteries, paints, flammable liquids, etc.
2. **Aircraft Parts/Equipment** - May contain pyrotechnics, oxygen generators, batteries, compressed gases, flammables, etc.
3. **Automobile Parts** - May contain batteries, compressed gases, flammable liquids, magnetic materials, etc.
4. **Camping Equipment** - May contain flammable gases, flammable liquids, flammable solids, etc.
5. **Chemicals** - May contain flammables, oxidizers, organic peroxides, corrosives, toxics, etc.
6. **Cylinders** - May indicate compressed or liquefied gases.
7. **Electrical Equipment** - May contain magnetized materials, mercury, lithium batteries, fuel cells, etc.
8. **Machinery Parts** - May contain flammables, compressed gases, corrosives, etc.

9. **Medical/Dental Equipment** - May contain infectious substances, radioactive materials, batteries, mercury, etc.
10. **Metal Construction Materials** - May contain magnetic material requiring special stowage.
11. **Pharmaceuticals** - May contain radioactive material, flammables, corrosives, etc.
12. **Photographic Equipment** - May contain batteries, flammables, corrosives, etc.
13. **Repair Kits** - May contain flammables, organic peroxides, etc.
14. **Sporting Goods** - May contain compressed gases, flammables, batteries, etc.

Shippers must verify such cargo against dangerous goods classifications. Additional cargo screening and passenger baggage inspection procedures will be utilized to detect undeclared dangerous goods. Refer to [Section 9.4](#).

## 3.2.5 Dangerous Goods In The Mail

*IATA DGR – Section 2.4*

In accordance with Universal Postal Union (UPU) standards, dangerous goods as defined in these Regulations are prohibited from air mail, with the following exceptions permitted subject to approval from relevant authorities:

1. Patient specimens meeting Packing Instruction 650 requirements
2. Category B infectious substances (UN 3373) packed per Packing Instruction 650
3. Radioactive material not exceeding one-tenth of activity limits in Table 2-15 of ICAO Technical Instructions
4. Solid carbon dioxide (dry ice) when used as refrigerant for permitted dangerous goods

Riyadh Air mail facilities and personnel will be trained to identify and prevent restricted dangerous goods from entering air mail. Coordination with postal authorities will ensure dangerous goods mail complies with UPU Convention and ICAO Technical Instructions.

Riyadh Air will not accept Dangerous Goods in the mail.



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## 3.3 DANGEROUS GOODS CARRIED BY PASSENGERS AND CREW

*IATA DGR – Section 2.3*

Dangerous goods including excepted radioactive material are prohibited in checked baggage, carry-on baggage, or on the person of passengers or crew members, except the ones approved for personal use.

### 3.3.1 Required Operator Approval

*GACAR § 109.63*

The following dangerous goods require specific operator approval as per table [Table 4 : Provisions for Dangerous Goods Carried by Passengers or Crew](#):

1. Portable electronic devices containing lithium batteries exceeding 100Wh but not exceeding 160Wh.
2. Non-infectious specimens in flammable or corrosive preservatives.
3. Radioisotopic cardiac pacemakers or other devices implanted into a person.
4. Wheelchairs/mobility aids with lithium batteries.
5. Wheelchairs/mobility aids with spillable batteries.
6. Wheelchairs/mobility aids powered by lithium batteries exceeding 300Wh but not exceeding 600Wh.

The operator must have documented procedures for approval and notifying the pilot-in-command when these goods are carried.

### 3.3.2 Forbidden Goods

*IATA DGR – Section 2.2*

Dangerous goods completely prohibited from passenger and crew baggage include:

1. Explosives, fireworks, flares
2. Compressed gases, deeply refrigerated gases
3. Flammable liquids and solids
4. Oxidizers, organic peroxides
5. Toxic or infectious substances
6. Radioactive material
7. Corrosives
8. Goods that are forbidden in Table 4 : Provisions for Dangerous Goods Carried by Passengers or Crew.



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## 3.3.3 Provisions for Carriage in the Cabin

IATA DGR Section 2.3

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 packaging, 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. <b>Note:</b> Alcoholic beverages containing 24% or less alcohol by volume are not subject to any restrictions. Applicable as per local regulations (Refer to 9.1).	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 2.7 Wh.	FORBIDDEN			
Baggage with installed lithium batteries: 1. Non-removable batteries. Batteries must contain no more than 0.3 g lithium metal or for lithium ion must not exceed 2.7 Wh; 2. Removable batteries. Batteries must be removed if baggage is to be checked in. Removed batteries must be carried in the cabin.	NO	YES	YES	NO



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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				
Batteries, spare/loose, including lithium batteries, non-spillable batteries, nickel-metal hydride batteries and dry batteries (IATA DGR Manual section 2.3.5.8) 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 (IATA DGR Manual section 2.3.5.8.4). Lithium-ion batteries: the Watt-hour rating must not exceed 100 Wh (IATA DGR Manual section 2.3.5.8.4). 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 (IATA DGR Manual section 2.3.5.8.5).	NO*	NO	YES	NO
Camping stoves and fuel containers that have contained a flammable liquid fuel, with empty fuel tank and/or fuel container (IATA DGR Manual section 2.3.2.5 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 (IATA DGR Manual section 2.3.4.4).	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



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Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
e-cigarettes (including e-cigars, e-pipes, other personal vaporizers) containing batteries must be individually protected to prevent accidental activation (IATA DGR Manual section 2.3.5.8.2).	NO	NO	YES	NO
Electroshock 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), IATA DGR Manual section 2.3.5.9 for details.	NO	NO	YES	NO
Fuel cell cartridges, spare for portable electronic devices, IATA DGR Manual section 2.3.5.9 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 (IATA DGR Manual section 2.3.4.2).	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 a hydrocarbon gas cartridge, up to one (1) per passenger or crew member, provided that the safety cover is securely fitted over the heating element. This 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





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Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
Insulated packaging's 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 (IATA DGR Manual section 2.3.5.12 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 (IATA DGR Manual section 2.3.5.8). 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.	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



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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				
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.  <b>Note:</b> <i>"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 IATA DGR Manual section 2.3.5.8.4(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, (IATA DGR Manual section 2.3.2.2).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with spillable batteries or with lithium-ion batteries (IATA DGR Manual section 2.3.2.3 and 2.3.2.4 for details).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with lithium-ion batteries where the design of the mobility aid does not provide adequate protection for the battery(ies) (IATA DGR Manual section 2.3.2.4.3 for details).	YES	NO	YES	YES
Non-radioactive medicinal or toiletry articles (including aerosols) such as hairsprays, perfumes, colognes and medicines containing alcohol; and non-flammable, non-toxic (Division 2.2) aerosols, with no subsidiary hazard, for sporting or home use (IATA DGR Manual section 2.3.5.1).  The total 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.	NO	YES	YES	NO



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Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
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. <b>Note:</b> "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 (IATA DGR Manual section 2.3.5.8.4(e)).	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, (IATA DGR Manual section 2.3.2.2).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with spillable batteries or with lithium-ion batteries (IATA DGR Manual section 2.3.2.3 and 2.3.2.4 for details).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with lithium-ion batteries where the design of the mobility aid does not provide adequate protection for the battery(ies) (IATA DGR Manual section 2.3.2.4.3 for details).	YES	NO	YES	YES
Non-radioactive medicinal or toiletry articles (including aerosols) such as hairsprays, perfumes, colognes and medicines containing alcohol; and non-flammable, non-toxic (Division 2.2) aerosols, with no subsidiary hazard, for sporting or home use (IATA DGR Manual section 2.3.5.1).  The total 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.	NO	YES	YES	NO



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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				
Oxygen or air, gaseous, cylinders required for medical use. The cylinder must not exceed 5 kg gross weight. Note: Liquid oxygen systems are forbidden for transport.	YES	YES	YES	YES
Permeation devices, must meet A41 (IATA DGR Manual section 2.3.5.13 for details).	NO	YES	NO	NO
Radio isotopic 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 (IATA DGR Manual section 2.3.2.6 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 IATA DGR Manual section 2.3.2.6 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 (IATA DGR Manual section 2.3.5.11 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 (IATA DGR Manual section 2.3.3.1 for details).	YES	NO	YES	YES

Table 4 : Provisions for Dangerous Goods Carried by Passengers or Crew

## 3.4 GENERAL EXCEPTIONS

### 3.4.1 Airworthiness and Operational Items

*IATA DGR – Section 2.5*

Articles and substances that would otherwise be classified as dangerous goods but required on board Riyadh Air aircraft in accordance with airworthiness requirements and operating regulations are excepted from the provisions of these Regulations, including but not limited to:

1. Aircraft spare parts such as chemical oxygen generators, fire extinguishers, compressed gas cylinders.
2. Fuels, lubricants, paints, sealants, and other consumable products required for operation.
3. Dry ice for perishable preservation.

### 3.4.2 Medical Aid for a Patient

*IATA DGR – Section 2.3*

Approval is not required for dangerous goods placed on board a Riyadh Air aircraft to provide in-flight medical aid, including:

1. Dangerous goods approved by Riyadh Air to be carried for use during flight by a patient under direction of medical professional, limited to reasonable quantities per patient.
2. Dangerous goods that are part of permanent aircraft equipment adapted for specialized use to provide in-flight medical aid, such as:
  - a. Gas cylinders are manufactured specifically for containing and transporting that gas.
  - b. Drugs, medicines and other medical material under control of trained personnel when in use.
  - c. Equipment with wet cell batteries secured upright to prevent spillage.
  - d. Equipment properly stowed and secured during takeoff/landing as instructed by the pilot-in-command.

These dangerous goods are also permitted on flights to collect or deliver a patient when impractical to load/unload at the time of the medical flight.

## 3.5 HANDLING OF SPECIFIC DANGEROUS GOODS

*IATA DGR – Section 2.3*

### 3.5.1 Loading of Battery Powered Mobility Aids – General Requirements

A battery powered mobility aid (wheelchair) with installed batteries must be properly secured by straps, tie-downs or other restraint devices. The mobility aid, batteries, cabling and controls must be protected from damage by baggage/cargo movement.

Riyadh Air must verify:

1. Battery terminals are protected from short circuit, such as by enclosure in a battery container.
2. The battery is either:
  - a. Securely attached to the mobility aid with electrical circuits isolated per manufacturer instructions or.
  - b. Removed by the user if specifically designed for removal per manufacturer instructions.
3. To check electrical circuit isolation, power on the device (not in freewheel mode) and verify the mobility aid will not move when the joystick is used.

Supplemental motorized systems like seating must have cables disconnected to prevent inadvertent operation.

If a mobility aid has not been made safe for carriage, it must not be loaded.

### 3.5.2 Additional Requirements – Non-Spillable Battery Powered Mobility Aids

The passenger must confirm the battery is a non-spillable wet type meeting Special Provision A67 or Packing Instruction 872 vibration/pressure tests.

A maximum of one spare battery is permitted per passenger. Spare batteries and any batteries removed from the mobility aid must be carried in rigid packaging, protected from short circuit, and stowed in the cargo compartment.

## 3.5.3 Additional Requirements – Spillable Battery Powered Mobility Aids

Where possible, batteries should have spill-resistant vent caps.

If the mobility aid cannot stay upright, or does not adequately protect the battery, Riyadh Air must remove the battery and carry it in leak-tight, spill-proof packaging as follows:

1. Secured upright in packaging using straps, brackets, holders, etc. and not braced by cargo.
2. Protected against short circuit and surrounded by absorbent material.
3. Marked "Battery, wet, with wheelchair/mobility aid".
4. Labeled with "Corrosive" and package orientation labels.

## 3.5.4 Additional Requirements – Lithium-ion Battery powered Mobility Aids

Any lithium-ion batteries removed from the mobility aid and spare batteries must be carried in the cabin protected from damage (e.g. in protective pouches) with terminals insulated to prevent short circuit (e.g. taped).

Removed batteries cannot exceed 300 Watt-hours (Wh). Permitted spare batteries are:

1. One battery not exceeding 300 Wh; or
2. Two batteries not exceeding 160 Wh each.

Watt-hours are calculated by:

Volts (V) x Ampere-hours (Ah) = Watt-hours (Wh)

This covers key limitations on lithium-ion batteries from mobility aids brought into the cabin.

## 3.5.5 Labelling of Battery Powered Mobility Aids

All battery powered mobility aids must be labelled with the tag shown below.



Figure 11: Labelling: Battery Powered Mobility Aids

The label has two parts:

1. **Part A**, which remains with the wheelchair and indicates whether or not the battery has been removed.
2. **Part B**, which, in cases where the battery is separated from the wheelchair, should be affixed to the battery and be used to assist in identifying and reconciling the battery with its wheelchair.

### 3.5.6 Battery Powered Mobility Aids – Information to Commander

A Riyadh Air staff member or handling agent must inform the PIC of:

The location of any mobility aids with installed batteries

1. The location of any removed or spare batteries
2. The battery type (e.g. lithium-ion, spillable lead acid)
3. For lithium-ion batteries, confirmation that the Watt-hour rating complies with the limits in Section 3.5.4.

This information ensures the pilot is aware of the presence and location of mobility aid batteries for safety and emergency response purposes.

### 3.5.7 Medical Oxygen

With prior approval, passengers may carry medical oxygen cylinders for in-flight use with a medical certificate showing oxygen need.

Requirements:

1. Cylinders cannot exceed 5 kg gross weight.
2. Cylinders, valves and regulators must be protected from damage.
3. ISI/ISO/UNCOE standard cylinders are highly recommended.
4. Only gaseous oxygen systems are permitted.

Personal medical devices using liquid oxygen are forbidden.

### 3.5.8 Dry Ice (Carbon dioxide, Solid)

Dry ice used to store perishables in the galley should not exceed 5 kg per aircraft.

### 3.5.9 Ammunition

Carriage of Ammunition is prohibited. Refer to AOSP for information.



## 3.6 MARKING AND LABELLING OF PACKAGES

Dangerous goods assigned a UN number under the United Nations classification system must be marked with the applicable 4-digit UN number preceded by "UN".





Packages may also contain hazard labels indicating the class/division or handling labels/marks.

As Riyadh Air does not hold approval to transport dangerous goods, items bearing the following must not be loaded except as identified in Section 3.4:

1. UN number
2. Hazard label
3. "Radioactive Material, Excepted Package" label
4. Lithium battery handling mark
5. Environmentally hazardous substances mark
6. Excepted or limited quantities mark

Undeclared dangerous goods indicated by marks or labels must not be loaded. Reporting procedures per section **Error! Reference source not found.** will be followed.

### 3.6.1 Hazard Labels

DANGEROUS GOODS LABELS	CLASS/CATEGORY
	<p><b>Class 1 Explosives:</b> Explosive substances, explosive articles, pyrotechnic devices. Includes ammunition, fireworks, detonators, toy gun caps, etc.</p>
 	<p>Division 1.4 S is the only division transported by passenger aircraft. It consists of articles and substances which present no significant hazard (e.g. cartridges for weapons).</p>
	











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DANGEROUS GOODS LABELS	CLASS/CATEGORY
   	<p><b>Class 2 Gases:</b> Transported as compressed, liquefied, refrigerated liquefied, or gas in solution. Includes aerosols. This class has three divisions:</p> <p>Division 2.1: Flammable gases, i.e. butane, propane, camping gas cylinders, gas refills for lighters.</p> <p>Division 2.2: Non-flammable, non-toxic gases, i.e. oxygen, liquid nitrogen, compressed air (aqualungs).</p> <p>Division 2.3: Toxic gases, i.e. chlorine, coal gas, halon fire extinguishers.</p>
	<p><b>Class 3 Flammable liquids:</b> Includes liquids with a boiling point of 35 degrees C or less, or a flashpoint of 60 degrees C or less. Examples are petrol, alcohol, varnish, paint (and thinners), lighter fluid, many adhesives, methylated spirits, ether, turpentine.</p>
  	<p><b>Class 4 Flammable solids:</b> Substances liable to spontaneous combustion and substances which, when in contact with water, emit flammable gases.</p> <p>Class 4 has 3 divisions:</p> <p><b>Division 4.1:</b> Flammable solids such as hexamine solid fuel tablets for camping stoves, self-reactive substances, and desensitized explosives.</p> <p><b>Division 4.2:</b> Substances liable to spontaneous combustion under normal conditions encountered in air transport, such as phosphorus which burns when exposed to air.</p> <p><b>Division 4.3:</b> Substances in contact with water emit flammable gases, i.e. "Dangerous when wet". Examples are sodium, zinc particles, etc.</p>



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# DANGEROUS GOODS MANUAL

- 3 CARRIAGE OF DANGEROUS GOODS  
3.6 MARKING AND LABELLING OF PACKAGES

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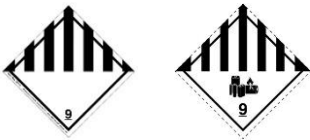
DANGEROUS GOODS LABELS	CLASS/CATEGORY
	<p><b>Class 5.1 Oxidizing substances:</b> Substances which themselves are not necessarily combustible, but which by yielding oxygen may cause or contribute to the combustion of other material. An example is generators which produce oxygen by chemical reaction, and bleaching agents.</p> <p><b>Class 5.2 Organic peroxides:</b> These are thermally unstable substances that may undergo heat-generating, self-accelerating decomposition, which may be explosive, rapid, sensitive to impact or friction, or react dangerously with other substances. An example is hydrogen peroxide.</p>
	<p><b>Class 6.1 Toxic substances:</b> Those substances which are liable to cause death or injury if swallowed, inhaled, or absorbed through the skin. Examples are pesticides and poisons (cyanides, arsenic).</p> <p><b>Class 6.2 Infectious substances:</b> Those known to contain, or are reasonably expected to contain, pathogens (live virus materials, bacteria, blood, feces, urine).</p>
	<p><b>Class 7 Radioactive material:</b> Substances for medical diagnoses or treatment, certain pacemakers, and several types of measuring instruments.</p>
	<p><b>Class 8 Corrosives:</b> Substances which, in the event of leakage, can cause severe damage by a chemical reaction when in contact with living tissue or materially damage other freight, containers, or aircraft. Examples are mercury (thermometers), nitric acid, sulfuric acid, battery acids, photo developers, drain cleaners, ammonia, oven cleaners, and alkaline.</p>
	<p><b>Class 9 Miscellaneous:</b> Includes magnetic articles, which can have an impact on the aircraft's compass, internal combustion engines, dry ice (solid carbon dioxide), retail packaging of perfumes, eau de cologne, acetone, and nail polish remover.</p>

Table 5 : Dangerous Goods Labels



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### 3.6.2 Handling Labels

	Cryogenics: Used on liquefied gases		This Way Up
	Magnetic Material		Cargo Aircraft Only: A warning that the package must not be carried on a passenger aircraft.
	Keep away from heat		

Table 6: Dangerous Goods Handling Labels



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### 3.6.3 Markings

Lithium Battery Mark	
	<p>Applies to packages of lithium batteries which, whilst regulated, are excepted from a number of requirements.</p> <p>Size ranges from 100mm x 100mm to 120mm x 120mm</p>
	<p>For packages containing limited quantity of dangerous goods</p>
	<p>Packages containing environmentally hazardous substances must be durably marked with the environmentally hazardous substance mark.</p>
	<p>For packages containing excepted quantities of dangerous goods.</p> <p>Black or red colored on white or suitable contrasting background.</p> <p>* place for class or, when assigned the division number</p> <p>** place for name of shipper or consignee, if not shown elsewhere on the package.</p>

Table 7 Lithium Battery Marking

## 3.7 RECOGNITION OF UNDECLARED DANGEROUS GOODS

*IATA DGR – Section 9.6*

### 3.7.1 Identification of Dangerous Goods Through X-Ray Screening

Personnel conducting x-ray screening of cargo should watch for dangerous goods in packages without required markings/labels or shipper's declaration. Items such as aerosols, gas cylinders, lighters, and wet batteries can often be identified in x-ray images. In the absence of dangerous goods documentation, suspicious package contents should be opened and hand-searched to verify no undeclared hazardous materials are present.

### 3.7.2 GHS Consumer Labelling

*IATA DGR – Appendix B Section 4*

Some household chemicals have consumer warning labels which may not indicate classification as dangerous goods for air transport. Different countries have varying laws on hazard classification and communication through supply labeling/safety data sheets. The same chemical could be considered toxic in one country but not another.

To address this, the UN Globally Harmonized System (GHS) was created to standardize chemical hazard classification and labeling internationally. However, GHS supply chain labels do not always align with air transport classifications.



*Figure 12 : GHS Consumer Labelling*