



Dangerous Goods Technical Guidance Material for Non-Dangerous Goods Carriers

Subject: **DANGEROUS GOODS TECHNICAL GUIDANCE MATERIAL FOR NON-DANGEROUS GOODS CARRIERS**

Date: **15 MAY 2017**

APPLICABILITY

This process is applicable to Non-Dangerous Goods carriers and is to be used in combination with the applicable checklists, Part 92 of the CAR 2011, as amended, the SACATS DG and the ICAO Technical Instructions for the Safe Transport of DG by Air.

PURPOSE

This section contains guidance and procedures to be used by operators who are not approved or do not carry Dangerous Goods as part of their operations. Nothing in this guidance material prohibits the operator from adding any information in their manuals which they may deem pertinent for safety with regards to Dangerous Goods. Operators should note that this TGM is adapted to suit section 10 of the Flight Operations Manual as per below.

REFERENCE:

- i. South African Civil Aviation Regulations Part 92.
- ii. ICAO- Annex 18

1. DANGEROUS GOODS

Note 1: Operators should note that this TGM is adapted to suit section 10 of the Flight Operations Manual. Where Dangerous Goods Section of the Manual is not under Section 10, references to the entire manual must be amended according to the Dangerous goods section of the operations manual

Note 2: Editorial notes within the following text indicate where the operator needs to add text to describe their specific operation. The editorial notes must be replaced with the operator's own text before submission to the CAA.

2. POLICY ON THE TRANSPORT OF DANGEROUS GOODS

It is not the policy of [{Company name}](#) to transport Dangerous Goods as cargo or as part of passenger baggage.

2.1. Approval for the Transport of Dangerous Goods

Dangerous goods can only be carried according to the International Civil Aviation Organisation's Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions), irrespective of whether the flight is wholly or partly within or wholly outside the territory of a State. An approval must be granted by the State of the Operator before dangerous goods can be carried on an aircraft, except as identified in 10.1.3 below. Approval for transport of Dangerous Goods is indicated on the Operations Specifications.

3. General Exceptions

3.1. Airworthiness and Operational Items (CAR 92.00.27)

An approval is not required for dangerous goods which are required to be aboard the aircraft such as:

- a. items for airworthiness or operating reasons or for the health of passengers or crew, such as batteries, fire extinguishers, first-aid kits, insecticides, air fresheners, life rafts, escape slides, life-saving appliances, portable oxygen supplies, tritium signs, smoke hoods, passenger service units;

- b. aerosols, alcoholic beverages, perfumes, colognes, liquefied gas lighters and portable electronic devices containing lithium metal or lithium ion cells or batteries provided that the batteries meet the provisions applicable when carried by passengers and crew) carried aboard an aircraft by the operator for use or sale on the aircraft during the flight or series of flights, but excluding non-refillable gas lighters and those lighters liable to leak when exposed to reduced pressure; and
- c. dry ice intended for use in food and beverage service aboard the aircraft; and
- d. electronic devices such as electronic flight bags, personal entertainment devices, credit card readers, containing lithium metal or lithium ion cells or batteries and spare lithium batteries for such devices carried aboard an aircraft by the operator for use on the aircraft during the flight or series of flights, provided that the batteries meet the provisions applicable to the carriage of portable electronic devices containing lithium or lithium ion cells or batteries by passengers. Spare lithium batteries must be individually protected so as to prevent short circuits when not in use.

Note: Conditions for the carriage and use of these electronic devices and for the carriage of spare batteries must be provided in the operations manual and/or other appropriate manuals as will enable flight crew, cabin crew and other employees to carry out their responsibilities. Operators should either explain these conditions or specify that spares may not be carried.

3.2. Veterinary Aid (92.00.1(1))

An approval is not required for dangerous goods which are carried for use in flight as veterinary aid or as a humane killer for an animal. Such dangerous goods must be stowed and secured during take-off and landing and at all other times when deemed necessary by the pilot-in-command. The dangerous goods must be under the control of trained personnel during the time when they are in use on the aircraft.

Dangerous goods may be carried on a flight made by the same aircraft before or after a flight for which they are required as veterinary aid or as a humane killer for an animal, (e.g. training flights and positioning flights prior to or after maintenance), when it is impracticable to load or unload the dangerous goods immediately before or after the flight, subject to the following conditions:

- a. the dangerous goods must be capable of withstanding the normal conditions of air transport;
- b. the dangerous goods must be appropriately identified (e.g. by marking or labelling);
- c. the dangerous goods may only be carried with the approval of the operator;
- d. the dangerous goods must be inspected for damage or leakage prior to loading;

- e. loading must be supervised by the operator;
- f. the dangerous goods must be stowed and secured in the aircraft in a manner that will prevent any movement in flight which would change their orientation;
- g. the pilot-in-command must be notified of the dangerous goods loaded on board the aircraft and their loading location. In the event of a crew change, this information must be passed to the next crew;
- h. all personnel must be trained commensurate with their responsibilities; and
- i. the provisions of Dangerous Goods Accident and Incident Reports apply.

3.3. Medical Aid for a Patient (92.00.1(1))

An approval is not required for dangerous goods which:

- a. are placed on board an aircraft with the approval of the operator; or
- b. form part of the permanent equipment of the aircraft when it has been adapted for specialised use, to provide, during flight, medical aid for a patient, such as gas cylinders, drugs, medicines, other medical material (e.g. sterilising wipes) and wet cell or lithium batteries, providing:
 - i. the gas cylinders have been manufactured specifically for the purpose of containing and transporting that particular gas;
 - ii. the drugs and medicines and other medical matter are under the control of trained personnel during the time when they are in use;
 - iii. the equipment containing wet cell batteries is kept, and when necessary secured, in an upright position to prevent spillage of the electrolyte; and
 - iv. proper provision is made to stow and secure all the equipment during take-off and landing and at all other times when deemed necessary by the commander in the interests of safety.

These dangerous goods may also be carried on a flight made by the same aircraft to collect a patient or after that patient has been delivered (e.g. training flights and positioning flights prior to or after maintenance), when it is impracticable to load or unload the goods at the time of the flight on which the patient is carried.

Note: The dangerous goods carried may differ from those identified above due to the needs of the patient. These provisions apply both to dedicated air ambulances and to temporarily modified aircraft.

3.4. Items That May Be Carried by Passengers and Crew (CAR 92.00.27)

Note 1: Certain items listed are permitted only with the operator's approval. Requirements apply to some items regarding the means by which they are prepared for transport (e.g. wheelchairs and battery-powered mobility devices) or the professional status of the passenger (e.g. Chemical Agent Monitoring Equipment). The operator's policy towards the carriage of items listed as requiring operator's approval should be established. This should include details of how passengers are expected to declare their intention to carry an item, how its proper preparation will be confirmed and how details will be passed to ground handlers (as required). If case-by-case consideration is considered appropriate for items requiring operator approval, the person or role within the operation that may grant approval for the carriage of such items and the basis upon which approvals will be granted should be stated.

An approval is not required for those dangerous goods which, according to the Technical Instructions, can be carried by passengers or crew members as per the following table:

Note: Should it be necessary to transfer carry-on baggage to the hold (e.g. due to the size of the baggage preventing proper stowage in the cabin) it is necessary for cabin crew to verify that the baggage contains no dangerous goods that are permitted for carriage in carry-on baggage only (e.g. spare lithium batteries, heat producing articles etc.)

The latest copy of IATA Dangerous Goods Regulations Table 2.3.A should be attached on this section.

3.5. Carriage of company material

Note 1. The Operators aircraft components and or consumable materials (e.g. aircraft spares) classified as dangerous goods must be transported in accordance with the provisions of the Technical Instructions. The operator must develop procedures in the operations manual.

3.5.1. The procedures must ensure that all spares and /or company material (COMAT) classified as Dangerous Goods are offered for transport by a different mode of transport and /or an operator that is authorised to transport dangerous goods; and

3.5.2. Procedures and instructions to ensure that any employee, agent, or contract employee of the operator who prepares and/or offers COMAT classified as dangerous goods for shipment via any mode if fully trained as a dangerous goods shipper.

3.6. Provision of Information to Passengers (CAR 92.00.28)

- 3.6.1. Operators must inform passengers about dangerous goods that passengers are forbidden to transport aboard an aircraft. The notification system must ensure that where the ticket purchase and/or boarding pass issuance can be completed by a passenger without the involvement of another person, the system must include an acknowledgement by the passenger that they have been presented with the information. The information must be provided to passengers:
- 3.6.1.1. at the point of ticket purchase or, if this is not practical, made available in another manner to passengers prior to boarding pass issuance; and
 - 3.6.1.2. at boarding pass issuance, or when no boarding pass is issued, prior to boarding the aircraft.
- 3.6.2. An operator or the operator's handling agent and the airport operator must ensure that information on the types of dangerous goods which they are forbidden to transport aboard an aircraft is communicated effectively to passengers. This information must be presented at each of the places at an airport where tickets are issued, passengers are checked in, boarding passes are issued, passenger baggage is dropped off and aircraft boarding areas are maintained, and at any other location where passengers are issued boarding passes and/or checked baggage is accepted. This information must include visual examples of dangerous goods forbidden from transport aboard an aircraft.
- 3.6.3. An operator, of passenger aircraft, should have information on those dangerous goods which may be carried by passengers made available prior to the boarding pass issuance process on their websites or other sources of information.
- 3.6.4. When provision is made for the check-in process to be completed remotely (e.g. via the Internet), the operator must ensure that information on the types of dangerous goods which a passenger is forbidden to transport aboard an aircraft is presented to passengers. Information may be in text or pictorial form but must be such that the check-in process cannot be completed until the passenger, or a person acting on their behalf, has been presented with this information and indicated that they have understood the restrictions on dangerous goods in baggage.
- 3.6.5. When provision is made for the check-in process to be completed at an airport by a passenger without the involvement of any other person (e.g. automated check-in facility), the operator or the airport operator must ensure that information on the types of dangerous goods which a passenger is forbidden to transport aboard an aircraft is presented to passengers. Information must be in pictorial form and must be such that the check-in process cannot be completed until the passenger has been presented with this information and indicated that they have understood the restrictions on dangerous goods in baggage.

Note: Operators must describe the means of promulgating such information to passengers. The operations manual must include information on how passengers will be notified and acknowledge, when required, of the restriction on the carriage of dangerous goods before, during, and after ticketing/booking, boarding pass issuance and check-in processes.

3.7. Marking and Labelling of Packages (92.00.12)

Articles and substances meeting the dangerous goods classification criteria are assigned a 'UN Number' under the United Nations classification system. This consists a four-digit number preceded by the capital letters 'UN'.

Packages of dangerous goods must be marked with the UN Number(s) applicable to their contents.

Packages containing dangerous goods can also be identified by labels indicating the hazard of the goods by their class or division or by the presence of certain handling labels/marks.

Note 1: As no approval for the transport of dangerous goods is held, dangerous goods bearing any UN Number, hazard label; the radioactive material, excepted package handling label; the lithium battery handling mark; the environmentally hazardous substances marking; or the excepted or limited quantities marking must not be loaded on an aircraft.

Note 2: When dangerous goods marks or labels are seen on items not declared as dangerous goods it is often an indication that they do contain such goods. Undeclared dangerous goods must not be loaded on an aircraft and reporting procedures must be implemented

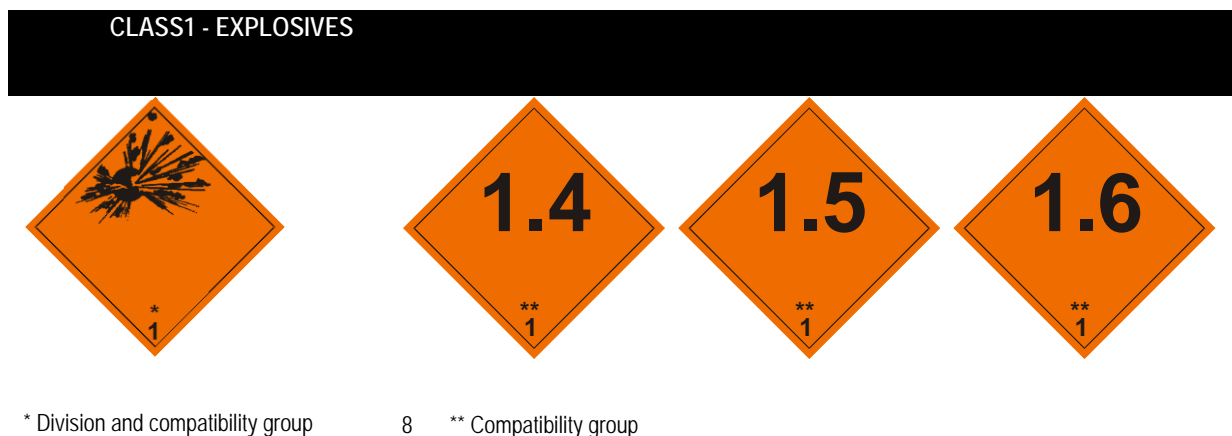


Figure 1: Class 1

CLASS 2 - GASES

Flammable gas

(Division 2.1)

Non-flammable, non-toxic gas (Division 2.2)

Toxic gas (Division 2.3)



Figure 2: Class 2

CLASS 3 - FLAMMABLE LIQUIDS



Figure 3: Class 3

CLASS 4 – FLAMMABLE SOLIDS

Flammable solid
(Division 4.1)

Substance liable to spontaneous
combustion (Division 4.2)

A. Substance which, in contact with
water, emits flammable gas
(Division 4.3)

B.



Figure 4: Class 4

CLASS 5 – OXIDISING SUBSTANCES AND ORGANIC PEROXIDES

Oxidising substance
(Division 5.1)

Organic peroxide (Division 5.2) (flame may be black or white)



Figure 5: Class 5

CLASS 6 – TOXIC AND INFECTIOUS SUBSTANCES

Toxic substance (Division 6.1)

Infectious substance (Division 6.2)



The bottom part of the label should bear the inscription:

“INFECTIOUS SUBSTANCE — In case of damage or leakage immediately notify public health authority”

Figure 6: Class 6

VII. CLASS 7 – RADIOACTIVE MATERIAL

Category I

Category II

Category III



Criticality safety index label

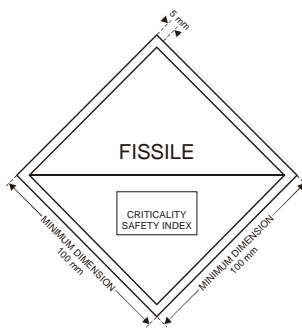


Figure 7: Class 7

CLASS 8 – CORROSIVE



Figure 8: Class 8

CLASS 9 – MISCELLANEOUS

Class 9 label for Section IA and IB lithium battery shipments

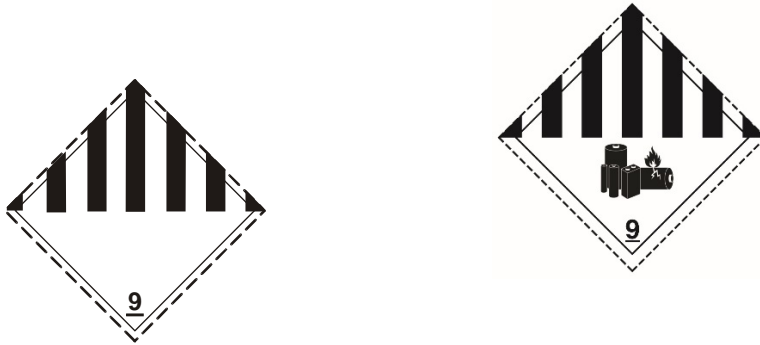


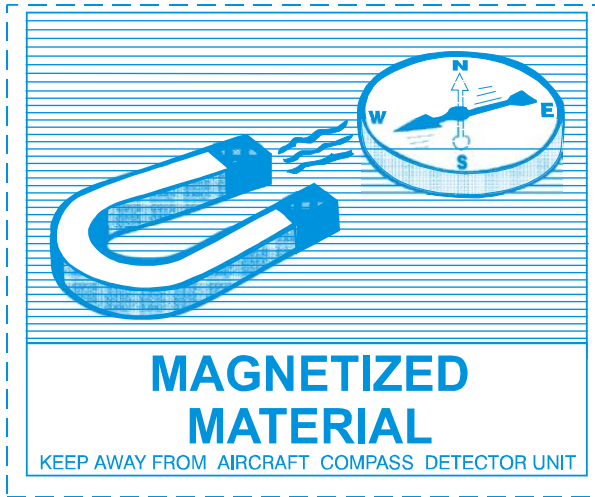
Figure 9: Class 9

HANDLING LABELS

Packages of dangerous goods may also bear labels providing handling information; these are:

Magnetized material

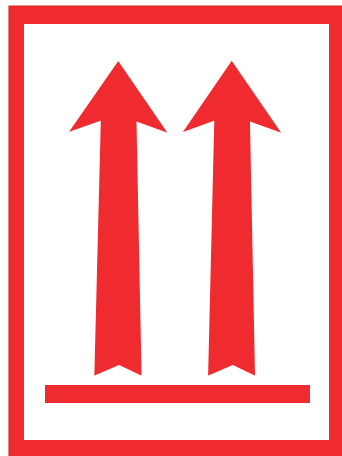
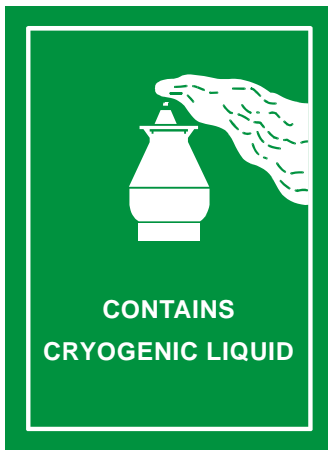
Cargo aircraft only



Cryogenic liquid label

Package orientation

Keep away from heat



(red or black)

Figure 10: Handling Labels

Lithium Battery



- * Place for UN Number(s)
- ** Place for telephone number for additional information

Note: the lithium battery handling label contained in the 2015-2016 Edition of the ICAO Technical Instructions (below) may continue to be used until 31 December 2018:



Application of the lithium battery mark to a consignment of lithium batteries (of any type) indicates that the Shipper has determined specific requirements have been met. Such consignments do not need to be accompanied by a dangerous goods transport document (Shipper's Declaration) and no acceptance check is required. Consignments bearing the lithium battery label must be accompanied with a document such as an air waybill with:

- an indication that the package contains lithium metal cells or batteries;
- an indication that the package must be handled with care and that a flammability hazard exists if the package is damaged;
- an indication that special procedures should be followed in the event the package is damaged, to include inspection and repacking if necessary;
- a telephone number for additional information; and
- when an air waybill is issued the applicable Packing Instruction must be stated together with the words 'not restricted'; and 'lithium ion batteries' or 'lithium metal batteries' as applicable.

Figure 11: Lithium Battery

EXCEPTED QUANTITIES MARK

Packages containing excepted quantities of dangerous goods can be identified from the following:



Hatching and symbol of the same colour, black or red, on white or suitable contrasting background.

* Place for class or, when assigned, the division number(s).

** Place for name of shipper or consignee, if not shown elsewhere on the package.

Figure 12: Excepted Quantities Mark

LIMITED QUANTITIES MARK

Packages containing limited quantities of dangerous goods can be identified from the following:



Many dangerous goods when in reasonably limited quantities present a reduced hazard during transport and can safely be carried in good quality packagings that have not been tested and marked as is required for UN Specification packagings required for larger quantities of dangerous goods. Packages containing limited quantities of dangerous goods must be marked with a diamond shaped mark. When presented for carriage by air, the mark must additionally include a "Y" which indicates compliance with the provisions of the ICAO Technical Instructions, some of which are more stringent than those of the UN Model Regulations and of other modes of transport.

NOTE: The mark depicted here but without the 'Y' indicates that the package contains dangerous goods in limited quantities as permitted by surface transport regulations which may not be acceptable for air transport. A package so marked and offered for transport in the absence of a dangerous goods transport document must be reported to the appropriate authority where the goods are discovered as a discovery of undeclared dangerous goods.

Figure 13: Limited Quantities Mark

ENVIRONMENTALLY HAZARDOUS SUBSTANCES MARK



Packages containing environmentally hazardous substances (UN Nos. 3077 and 3082) must be durably marked with the environmentally hazardous substance mark with the exception of single packagings and combination packagings containing inner packagings with contents of 5 L or less for liquids; or contents of 5 kg or less for solids. ALL packages containing environmentally hazardous substances must bear a Class 9 hazard label.

Figure 14: Environmentally Hazardous Substances Mark

4. Duties of all Personnel Involved

4.1. Detailed Assignments of Responsibilities

Note 1: Operators need to assign the key responsibilities associated with the carriage of dangerous goods. For example, it may be intended for the checking in of passengers to be conducted by suitably trained ground staff of the operator or alternatively by a designated handling agent. Duties associated with the carriage of dangerous goods for an operator not holding approval for their carriage as cargo include:

Cargo Department/ Cargo Sales Agents	<ul style="list-style-type: none"> • Ensuring procedures are implemented to ensure dangerous goods as cargo are not carried. • Recognition of undeclared dangerous goods. • Ensuring that notices, giving information about the transport of dangerous goods, are displayed in sufficient number and prominence at cargo acceptance points.
Persons receiving or handling general cargo, mail and stores	<ul style="list-style-type: none"> • Recognition of undeclared dangerous goods. • Dealing with dangerous goods that are found damaged or leaking during processing for transport. • If there is a dangerous goods incident or accident, or if undeclared dangerous goods are detected, a report is made to the appropriate Authority
Reservations	<ul style="list-style-type: none"> • Ensuring that information is provided with the passenger ticket or in another manner such that prior to or during the check-in process the passenger receives the information. • Considering passenger requests for approval of the operator for items of dangerous goods requiring such approval.

Persons handling passengers	<ul style="list-style-type: none"> • Ensuring that the provisions concerning passengers and dangerous goods are complied with. • Ensuring that notices are displayed in sufficient number and prominence at each of the places at an airport where tickets are issued, passengers checked in and aircraft boarding areas maintained, and at any other location where passengers are checked in. • With the aim of preventing dangerous goods which passengers are not permitted to have from being taken on board an aircraft in their baggage, seeking confirmation from a passenger about the contents of any item where there are suspicions that it may contain dangerous goods. • Ensuring that the discovery of prohibited dangerous goods (after a passenger has checked in) is reported to the appropriate Authority
Cabin Crew	<ul style="list-style-type: none"> • Ensuring that the provisions concerning passengers and dangerous goods are complied with. • Responding to a dangerous goods incident or accident in the cabin. • Ensuring that a dangerous goods incident or accident in the cabin, or the discovery of prohibited dangerous goods (after a passenger has boarded), is reported to the appropriate Authority
Operations Personnel	<ul style="list-style-type: none"> • If there is a dangerous goods incident or accident, or if undeclared dangerous goods are detected, a report is made to the appropriate Authority
Trainers	<ul style="list-style-type: none"> • Provision of initial and recurrent dangerous goods training commensurate with the responsibilities of the personnel concerned.
Compliance Monitoring Manager, Auditors and Safety Manager	<ul style="list-style-type: none"> • Ensuring that activities are monitored for compliance with dangerous goods requirements and that these activities are carried out properly under the supervision of the relevant head of functional area. • Ensuring the initiation and follow-up of internal occurrence / accident investigations.

Table 1: Assignments of Responsibilities

Note: In practice, a ground handling agent may carry out some or all of the functions related to the carriage of cargo, passengers and their baggage. Ground handling agents must be provided with sufficient information to enable the operator's policies and procedures to be followed. Operators should specify whether they utilise suitably qualified personnel of the operator or of a handling agent at the various aerodromes of the operation.

4.2. Recognition of Undeclared / Hidden Dangerous Goods (CAR 92.00.25)

4.2.1. 'Hidden' Dangerous Goods

Personnel must be alert to indications that undeclared dangerous goods are present within cargo, mail or stores. Personnel interfacing with passengers must be alert to indications that prohibited dangerous goods are carried by passengers or within their baggage.

NOTE: THE DISCOVERY OF UNDECLARED OR MIS-DECLARED DANGEROUS GOODS OR THE DISCOVERY OF DANGEROUS GOODS FORBIDDEN FOR CARRIAGE BY PASSENGERS (DISCOVERED AFTER THE CHECK-IN PROCESS) MUST BE REPORTED TO THE CAA.

The following is a list of general descriptions that are often used for items in cargo or in passengers' baggage and the types of dangerous goods that may be included in any item bearing that description.

<i>Aircraft on ground (AOG) spares</i>	— may contain explosives (flares or other pyrotechnics), chemical oxygen generators, unserviceable tyre assemblies, cylinders of compressed gas (oxygen, carbon dioxide or fire extinguishers), fuel in equipment, wet or lithium batteries, matches.
<i>Automobile parts/supplies (car, motor, motorcycle)</i>	— may include engines (including fuel cell engines), carburettors or fuel tanks that contain or have contained fuel, wet or lithium batteries, compressed gases in tyre inflation devices and fire extinguishers, air bags, flammable adhesives, paints, sealants and solvents, etc.
<i>Battery-powered devices/equipment</i>	— may contain wet or lithium batteries.
<i>Breathing apparatus</i>	— may indicate cylinders of compressed air or oxygen, chemical oxygen generators or refrigerated liquefied oxygen.
<i>Camping equipment</i>	— may contain flammable gases (butane, propane, etc.), flammable liquids (kerosene, gasoline, etc.) or flammable solids (hexamine, matches, etc.).
<i>Cars, car parts</i>	— see automobile parts, etc.
<i>Chemicals</i>	— may contain items meeting any of the criteria for dangerous goods, particularly flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances.
<i>Consolidated consignments (groupages)</i>	— may contain any of the defined classes of dangerous goods.
<i>Cryogenic (liquid)</i>	— indicates refrigerated liquefied gases such as argon, helium, neon, nitrogen, etc.
<i>Cylinders</i>	— may contain compressed or liquefied gas.

<i>Dental apparatus</i>	— may contain flammable resins or solvents, compressed or liquefied gas, mercury and radioactive material.
<i>Diagnostic specimens</i>	— may contain infectious substances.
<i>Diving equipment</i>	— may contain cylinders of compressed gas (e.g. air or oxygen). May also contain high intensity diving lamps that can generate extreme heat when operated in air. In order to be carried safely, the bulb or battery should be disconnected.
<i>Drilling and mining equipment</i>	— may contain explosive(s) and/or other dangerous goods.
<i>Dry shipper (vapour shipper)</i>	— may contain free liquid nitrogen. Dry shippers are only not subject to these Instructions when they do not permit the release of any free liquid nitrogen irrespective of the orientation of the packaging.
<i>Electrical/electronic equipment</i>	— may contain magnetised materials, mercury in switch gear, electron tubes, wet or lithium batteries or fuel cells or fuel cell cartridges that contain or have contained fuel.
<i>Electrically-powered apparatus</i> (wheelchairs, lawn mowers, golf carts, etc.)	— may contain wet or lithium batteries or fuel cells or fuel cell cartridges that contain or have contained fuel.
<i>Expeditionary equipment</i>	— may contain explosives (flares), flammable liquids (gasoline), flammable gas (camping gas) or other dangerous goods.
<i>Film crew and media equipment</i>	— may contain explosive pyrotechnic devices, generators incorporating internal combustion engines, wet or lithium batteries, fuel, heat-producing items, etc.
<i>Frozen embryos</i>	— may be packed in refrigerated liquefied gas or dry ice (solid carbon dioxide).
<i>Frozen fruit, vegetables, etc</i>	— may be packed in dry ice.
<i>Fuel control units</i>	— may contain flammable liquids.
<i>Hot-air balloon</i>	— may contain cylinders with flammable gas, fire extinguishers, engines (internal combustion), batteries, etc.
<i>Household goods</i>	— may contain items meeting any of the criteria for dangerous goods. Examples include flammable liquids such as solvent-based paint, adhesives, polishes, aerosols (for passengers, those not permitted under ICAO Technical Instructions 8;1.1.2), bleach, corrosive oven or drain cleaners, ammunition, matches, etc.
<i>Instruments</i>	— may conceal barometers, manometers, mercury switches, rectifier tubes, thermometers, etc. containing mercury.

<i>Laboratory/testing equipment</i>	— may contain items meeting any of the criteria for dangerous goods, particularly flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances, lithium batteries, cylinders of compressed gas, etc.
<i>Machinery parts</i>	— may contain flammable adhesives, paints, sealants and solvents, wet and lithium batteries, mercury, cylinders of compressed or liquefied gas, etc.
<i>Magnets and other items of similar material</i>	— may individually or cumulatively meet the definition of magnetised material.
<i>Medical supplies/equipment</i>	— may contain items meeting any of the criteria for dangerous goods, particularly flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances, lithium batteries.
<i>Metal construction material</i>	— may contain ferro-magnetic material which may be subject to special stowage requirements due to the possibility of affecting aircraft instruments.
<i>Metal fencing</i>	— may contain ferro-magnetic material which may be subject to special stowage requirements due to the possibility of affecting aircraft instruments.
<i>Metal piping</i>	— may contain ferro-magnetic material which may be subject to special stowage requirements due to the possibility of affecting aircraft instruments.
<i>Pharmaceuticals</i>	— may contain items meeting any of the criteria for dangerous goods, particularly radioactive material flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances.
<i>Photographic supplies/equipment</i>	— may contain items meeting any of the criteria for dangerous goods, particularly heat-producing devices, flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances, lithium batteries.
<i>Racing car or motorcycle team equipment</i>	— may contain engines (including fuel cell engines), carburettors or fuel tanks that contain fuel or residual fuel, wet and lithium batteries, flammable aerosols, nitromethane or other gasoline additives, cylinders of compressed gases, etc.
<i>Refrigerators</i>	— may contain liquefied gases or an ammonia solution.
<i>Repair kits</i>	— may contain organic peroxides and flammable adhesives, solvent-based paints, resins, etc.
<i>Samples for testing</i>	— may contain items meeting any of the criteria for dangerous goods, particularly infectious substances, flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances.

<i>Semen</i>	— may be packed with dry ice or refrigerated liquefied gas (see also dry shipper).
<i>Sporting goods/sports team equipment</i>	— may contain cylinders of compressed or liquefied gas (air, carbon dioxide, etc.), lithium batteries, propane torches, first aid kits, flammable adhesives, aerosols, etc.
<i>Swimming pool chemicals</i>	— may contain oxidising or corrosive substances.
<i>Switches in electrical equipment or instruments</i>	— may contain mercury.
<i>Tool boxes</i>	— may contain explosives (power rivets), compressed gases or aerosols, flammable gases (butane cylinders or torches), flammable adhesives or paints, corrosive liquids, lithium batteries, etc.
<i>Torches</i>	— micro torches and utility lighters may contain flammable gas and be equipped with an electronic starter. Larger torches may consist of a torch head (often with a self-igniting switch) attached to a container or cylinder of flammable gas.
<i>Unaccompanied passengers' baggage/personal effects</i>	— may contain items meeting any of the criteria for dangerous goods not permitted for carriage by passengers and crew. <i>Note: Excess baggage carried as cargo may contain certain dangerous goods (see 10.1.3.4).</i>
<i>Vaccines</i>	— may be packed in dry ice.

Table 2: list of general descriptions

4.2.2. Identification of Dangerous Goods through X-Ray Screening

Persons conducting security screening of cargo should be alert to the presence of dangerous goods within packages that are not marked and labelled as dangerous goods and/or not accompanied by a Shipper's Declaration. In particular, items such as aerosols, ammunition, gas cylinders (camping gas, cylinders attached to life-jackets, etc.), cigarette lighters and wet acid batteries can be readily identified from x-ray images. Information provided on an air waybill or marked on a package often indicates that a consignment contains no dangerous goods. In the absence of such annotation by the shipper, should suspicions be raised by the size and shape of the contents of a package, consideration should be given to opening and hand-searching the consignment to verify that no undeclared dangerous goods are present.

4.2.3. Consumer Labelling (Overview)

Some everyday household items bear consumer warning labels which may or may not indicate they are classified as dangerous goods in air transport. All over the world there are different laws on how to identify the hazardous properties of chemicals (called 'classification') and how information about these hazards is then passed to users (through consumer

supply labels and safety data sheets for workers). This can be confusing because the same chemical can have different hazard descriptions in different countries. For example, a chemical could be labelled for supply as 'toxic' in one country, but not in another. For this reason, the UN brought together experts from different countries to create the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

4.2.4. GHS Labels

Products bearing the following GHS labels ARE classified as dangerous goods:



Note: A product bearing the GHS corrosive label (depicted far right above) is NOT classified as dangerous goods if the signal word 'Danger' and hazard statement 'causes serious eye damage' applies.





Products bearing the following GHS labels (and none of the above) are NOT classified as dangerous goods:











4.2.5. CHIP Labels







CHIP labels are represented below, together with indications of how goods bearing such labels may be classified for transport purposes. In the event that CHIP labels and associated risk phrases cause suspicion that a particular consignment contains undeclared dangerous goods, it will be necessary to refer to the Safety Data Sheet applicable to the product (see information above).

4.2.5.1. Physiochemical


Symbol	Abbreviation	Hazard	Description of hazard	Transport classification
	E	explosive	Chemicals that explode.	All substances and preparations classified in Class 1. Organic peroxides of Division 5.2 which require an "EXPLOSIVE" subsidiary risk label.
	O	oxidising	Chemicals that react exothermically with other chemicals.	All substances and preparations classified in Division 5.1. All organic peroxides of Division 5.2 other than those which require an "EXPLOSIVE" subsidiary risk label.
	F+	extremely flammable	Chemicals that have an extremely low flash point and boiling point, and gases that catch fire in contact with air.	Gases of Division 2.1 and Division 2.3 gases with a subsidiary risk of Division 2.1. All substances and preparations classified in Class 3 Packing Group I.
	F	highly flammable	Chemicals that may catch fire in contact with air, only need brief contact with an ignition source, have a very low flash point or evolve highly flammable gases in contact with water.	<u>Most</u> substances and preparations classified as Class 3 Packing Group II. <u>Some</u> solids classified in Division 4.1. All substances and preparations classified in Division 4.2. All substances and preparations classified as Division 4.3.
None	None	flammable	Substances and preparations with a flashpoint equal to or greater than 21°C and less than or equal to 55°C.	<u>Some</u> substances and preparations classified as Class 3 Packing Group II and <u>most</u> substances and preparations classified in Class 3 Packing Group III.

4.2.5.2. Health

Symbol	Abbreviation	Hazard	Description of hazard	Transport classification
	T+	very toxic	Chemicals that at very low levels cause damage to health.	Substances and preparations classified in Division 6.1 Packing Group I, and some substances and preparations classified in Division 6.1 Packing Group II.
	T	toxic	Chemicals that at low levels cause damage to health.	Substances and preparations classified in Division 6.1 Packing Group II other than those classified above, and <u>some</u> substances and preparations classified in Division 6.1 Packing Group III.
	Carc Cat 1	category 1 carcinogens	Chemicals that may cause cancer or increase its incidence.	Substances and preparations <u>may</u> be classified in any Class or Division of Classes 1 to 9 (though normally in Division 6.1) but <u>may</u> , however, be not subject to the Technical Instructions and may not need to be declared as dangerous goods.
	Carc Cat 2	category 2 carcinogens		
	Carc Cat 3	category 3 carcinogens		
	Muta Cat 1	category 1 mutagens	Chemicals that induce heritable genetic defects or increase their incidence.	
	Muta Cat 2	category 2 mutagens		
	Muta Cat 3	category 3 mutagens		

Symbol	Abbreviation	Hazard	Description of hazard	Transport classification
	Repr Cat 1	category 1 reproductive toxins	Chemicals that produce or increase the incidence of birth defects, which may be severe, and/or an impairment in reproductive functions or capacity.	
	Repr Cat 2	category 2 reproductive toxins		
	Repr Cat 3	category 3 reproductive toxins		
	Xn	harmful	Chemicals that may cause damage to health.	Substances and preparations classified in Division 6.1 Packing Group III other than those classified above, and <u>some</u> substances and preparations which are not subject to the Technical Instructions.
	C	corrosive	Chemicals that may destroy living tissue on contact.	The vast majority of substances and preparations which are classified as Class 8.
	Xi	irritant	Chemicals that may cause inflammation to the skin or other mucous membranes.	<u>Some</u> organic peroxides of Division 5.2. Otherwise, substances and preparations are not subject to the Technical Instructions.

4.2.5.3. Environmental

Symbol	Abbreviation	Hazard	Description of hazard	Transport classification
	N	dangerous for the environment	4.2.5.4. Chemicals that may present an immediate or delayed danger to one or more	Substances designated as severe marine pollutants ^(a) , marine pollutants ^(b) , and aquatic pollutants ^(c) . Substances and preparations may be classified in any Class or Division of Classes 1 to 8, and

			components of the environment.	UN 3077 and UN 3082 in Class 9.
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Notes:

- (a) Substances and preparations designated as "severe marine pollutant" in the International Maritime Dangerous Goods Code.
- (b) Substances and preparations designated as "marine pollutant" in the International Maritime Dangerous Goods Code.
- (c) Substances and preparations designated as aquatic pollutants in ADR.
- (d) The above table does not apply to substances and preparations of Division 6.2 and Class 7 which are not subject the CHIP Regulations.
- (e) CHIP labels for mixtures will be replaced by the Globally Harmonized System (GHS) of labelling on 1 June 2015. Information on CHIP should be removed after 1 June 2017 once transitional arrangements cease to apply.

4.2.6. Conditions Under Which Weapons, Munitions of War and Sporting Weapons May Be Carried

4.2.6.1. Need for Approval to Transport Munitions of War

Weapons of war and munitions of war can only be carried provided an approval to do so has been granted by all the States concerned before a flight. They must be carried in the aircraft in a place which is inaccessible to passengers during flight and, in the case of firearms, unloaded.

4.2.6.2. Carriage of Sporting Weapons When Inaccessible to Passengers During Flight

Sporting weapons and ammunition for such weapons may be carried without an approval from an Authority, provided they are stowed in a place on the aircraft which is inaccessible to passengers during flight and, in the case of firearms, unloaded.

NOTE: Ammunition is subject to the conditions set out in Table 2.3.A IATA DGR or Technical Instructions Table 8-1

Note: Operators must take all reasonable measures to ensure that any sporting weapons intended to be carried by air are reported to them and operators should describe the measures in place to make passengers aware of the need to furnish the

operator with details of any sporting weapon they intend to carry. For aircraft without inaccessible compartments, carriage should be prohibited unless alternative effective procedures for stowing the weapons in a place that is inaccessible to passengers are established.

4.2.7. The passenger and operator (or his agent) must observe all regulations applicable to the export, import and transit of weapons and ammunition, applicable in the country of departure, transit and destination.

Note 1: Operators should consider all relevant legislation when formulating procedures for the carriage of weapons, munitions of war and sporting weapons.

5. DANGEROUS GOODS INCIDENTS AND ACCIDENTS

5.1. Dangerous Goods Accident and Incident Reports (CAR 92.00.22)

5.1.1. Definitions:

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

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

Note: A dangerous goods accident or incident may also constitute an aircraft accident or incident as specified in ICAO Annex 13 — Aircraft Accident and Incident Investigation.

An operator must report dangerous goods accidents and incidents to the appropriate authorities of the State of the Operator and the State in which the accident or incident occurred in accordance with the reporting requirements of those appropriate authorities. In South Africa, incidents or accidents involving Dangerous Goods shall be reported to the SACAA within 48 hours.

Note.— This includes incidents involving dangerous goods that are not subject to all or part of the ICAO Technical Instructions through the application of an exception or of a special provision (e.g. an incident involving the short circuiting of a dry cell battery that is required to meet short-circuit prevention conditions in a special provision of 3;3).

5.2. Reporting

(1) The operator of an aircraft, involved in a dangerous goods accident or dangerous goods incident within the Republic, shall within 48 hours after such accident or incident has occurred, notify –

- a. in the case of an accident, the Director, any ATSU or the nearest police station; or
- b. in the case of an incident, any ATSU, of such accident or incident, and such ATSU or police station, as the case may be, shall immediately on receipt of the notification, notify –
 - i. the Director; and
 - ii. where such accident or incident occurs at an aerodrome, the aerodrome.

(2) The operator of a South African aircraft involved in a dangerous goods accident or dangerous goods incident outside the Republic, must, as soon as practicable, notify –

- a. the appropriate authority of the State in territory where the accident or incident has occurred, directly or through any ATSU; and
- b. the Director, of such accident or incident.

An operator must report any occasion when undeclared or misdeclared dangerous goods are discovered in cargo or mail. Such a report must be made to the appropriate authorities (CAA) of the State of the Operator and the State in which this occurred.

An operator must report any occasion when dangerous goods that are not permitted are discovered by the operator (or the operator is advised by the entity that discovers the dangerous goods) either in the baggage or on the person of passengers (after check-in) or crew members. Such a report must be made to the appropriate authority of the State in which this occurred.

A dangerous goods accident or dangerous goods incident must be reported to the CAA within 48 hours. If necessary, a subsequent report shall be made as soon as possible giving all the details that were not known at the time the first report was sent. If a report has been made verbally, written confirmation shall be sent as soon as possible. Any type of accident or incident must be reported irrespective of whether the dangerous goods are in cargo, mail, stores, passengers' baggage or crew baggage.

The first and any subsequent report shall be as precise as possible and contain such of the following data that are relevant:

- a. Date of the incident or accident or the finding of undeclared or misdeclared dangerous goods.
- b. Location, the flight number and flight date.

- c. Description of the goods and the reference number of the air waybill, pouch, baggage tag, ticket, etc.
- d. Proper shipping name (including the technical name, if appropriate) and UN/ID number, when known.
- e. Class or division and any subsidiary risk.
- f. Type of packaging, and the packaging specification marking on it.
- g. Quantity of dangerous goods.
- h. Name and address of the shipper, passenger, etc.
- i. Any other relevant details.
- j. Suspected cause of the incident or accident.
- k. Action taken.
- l. Any other reporting action taken.
- m. Name, title, address and telephone number of the person making the report.
- n. Copies of relevant documents and any photographs taken should be attached to a report.

NOTE: IF SAFE TO DO SO, THE DANGEROUS GOODS INVOLVED IN THE ACCIDENT OR INCIDENT SHOULD BE HELD PENDING CAA INVESTIGATION.

Note: Operators should describe their procedures for reporting dangerous goods incidents, accidents and undeclared dangerous goods to the CAA. Where applicable, this information should be provided to handling agents so that, as a minimum, they are advised to whom events should be submitted (CAR 92.00.30(1)) places a direct legal duty upon a person who performs a function in respect of the ground handling of aircraft to report to the CAA any incident which endangers or which, if not corrected, would endanger an aircraft, its occupants or any other person).

5.3. Removal of Contamination (CAR 92.00.16)

In the event of a spillage or leakage of undeclared dangerous goods within an aircraft, the position where the dangerous goods or unit load device was stowed on the aircraft must be inspected for damage or contamination and any hazardous contamination removed. Persons responding in the event of damage to or leakage of dangerous goods from packages must:

- a. identify the hazards and wear appropriate protective clothing;
- b. avoid handling the package or keep handling to a minimum;
- c. inspect adjacent packages for contamination and put aside any that may have been contaminated;
- d. arrange for decontamination of the aircraft and equipment; and
- e. in the case of infectious material, inform the appropriate public health authority or veterinary authority, and provide information to any other countries of transit where persons may have been exposed to danger; and notify the shipper and/or the consignee.

If it is evident that a package containing radioactive material is damaged or leaking, or if it is suspected that the package may have leaked or been damaged, access to the package must be restricted and a qualified person must, as soon as possible,

assess the extent of contamination and the resultant radiation level of the package. The scope of the assessment must include the package, the aircraft, the adjacent loading and unloading areas and, if necessary, all other material which has been carried in the aircraft. When necessary, additional steps for the protection of persons, property and the environment must be taken in accordance with provisions established by the relevant competent authority, to overcome and minimise the consequences of such leakage or damage.

6. TRAINING SYLLABUS FOR TRANSPORT OF DANGEROUS GOODS

6.1. Approval of Training Programmes

Insert Text ['Operator XXX'] holds approval for training programmes in the carriage of dangerous goods by air in accordance with (CAR 92.00.8(1)).

Note: Prior to outsourcing the provision of dangerous goods training, operators must establish that the proposed training materials are approved by the CAA.

Note: All training for Dangerous Goods within the Republic shall only be provided by a dangerous goods training organisation designated by SACAA in terms of Part 141

6.1.1. General Requirements Applicable to Dangerous Goods Training Programmes

To ensure that everyone involved is aware of their responsibilities in the transport of dangerous goods, no matter whether such goods are carried as cargo or are in the possession of passengers, training must be given so that awareness is gained of the hazards associated with dangerous goods and how they should be dealt with in air transport. Personnel identified in the categories specified in Table 1-5 of the ICAO Technical Instructions (extract produced below) must be trained or training must be verified prior to the person performing any duty specified in Table 1-5.

Recurrent/refresher training must be provided within 24 months of previous training, calculated from last date of successful completion of the initial dangerous goods training or preceding refresher dangerous goods training, as the case maybe.

As with other aviation qualifications, an offence against will be committed against the regulations if staff continue to work after their training qualification has expired.

A test to verify understanding must be undertaken following training and confirmation that the test has been completed satisfactorily is required. The records of training must be retained by the employer for a minimum period of 5 years as prescribed under SACAR Part 141 and must be made available upon request to the employee or the appropriate national authority.

6.1.2. Dangerous Goods Training Syllabus

The areas to be covered for various categories of personnel are listed within the table below; the depth of training required for each area is dependent on the responsibilities of the individuals and varies from a general appreciation to in-depth knowledge so that decisions can be taken.

Note: The following table should be tailored to match the categories of personnel employed by the operator.

Extract from Table 1-5 of the ICAO Technical Instructions (Content of Training Courses)

	Categories of staff				
<i>Aspects of transport of dangerous goods by air with which they should be familiar, as a minimum</i>	13	14	15	16	17
• General philosophy	X	X	X	X	X
Limitations	X	X	X	X	X
Labelling and marking	X	X	X	X	X
Dangerous goods transport document and other relevant documentation	X				
Recognition of undeclared dangerous goods	X	X	X	X	X
Provisions for passengers and crew	X	X	X	X	X
Emergency procedures	X	X	X	X	X

Table 3: Table 1-5 of the ICAO Technical Instructions

13	Operator's staff accepting cargo or mail (other than dangerous goods).
14	Operator's staff responsible for the handling, storage and loading of cargo or mail and baggage.
15	Passenger-handling staff.
16	Flight crew members, loadmasters, load planners and flight operations officer/flight dispatcher.
17	Crew members (other than flight crew members).

Table 4: Category

Note 1: Depending on the responsibilities of the person, the aspects of training to be covered may vary from those shown in the table.

Note 2: The categories of personnel identified in Table 1-5 of the ICAO Technical Instructions (Content of Training Courses) are not all-encompassing. Personnel employed by or interacting with the aviation industry in areas such as passenger and cargo reservation centres, and engineering and maintenance, except when acting in a capacity identified in Table 1-5, should be provided with dangerous goods training commensurate with their specific responsibilities. See ICAO Technical Instructions 4;2.1.

6.1.3. Instructor Qualifications

Instructors of initial and recurrent dangerous goods training programmes must have adequate instructional skills and have successfully completed a dangerous goods training programme in the applicable category, or Category 6 of Table 1-4 of the Technical Instructions (applicable to operator's staff accepting dangerous goods), prior to delivering such a dangerous goods training programme.

Note 1: In addition to the above, operators should detail the experience and aptitudes considered appropriate for the selection of trainers.

6.1.4. Identification of Training and Testing Materials

Note 1: Operators should detail the dangerous goods training and testing materials that have been subjected to approval for each category of personnel, so that they may be readily identified by trainers. The titles and revision numbers of presentations, videos, study books, handouts, visual aids and tests to verify understanding should be included. Additionally, the mark required to achieve a pass and procedures to be applied in the event that personnel do not achieve or maintain the required standards must be established.




Note 2: Tests to verify understanding must be conducted in a controlled environment that prevents collaboration.

6.1.5. Issuance of certificate (CAR 92.00.8 (5))

Upon successful completion of the initial dangerous goods training or the refresher dangerous goods training, the dangerous goods training organisation concerned shall issue to the candidate a certificate in the handling of dangerous goods to be conveyed by air.

6.1.6. Competency Cards (CAR 92.00.31)

All personnel who have received training and are current in Dangerous Goods training shall be issued with a competency card and shall carry the card with them at all times while on duty

DEVELOPED BY:		
	THAMI ZEMBE	15 MAY 2017
SIGNATURE OF MANAGER: DANGEROUS GOODS	NAME IN BLOCK LETTERS	DATE
REVIEWED & VALIDATED BY:		
	NICO SMIT	15 MAY 2017
SIGNATURE OF SENIOR MANAGER: DANGEROUS GOODS & CARGO SECURITY	NAME IN BLOCK LETTERS	DATE
APPROVED BY:		
	LUVUYO GOEKE	15 MAY 2017
SIGNATURE OF EXECUTIVE: AVSEC	NAME IN BLOCK LETTERS	DATE

-END-