



# TECHNICAL GUIDANCE MATERIAL

## for

# Non-Dangerous Goods Approved Operators

Subject: **DANGEROUS GOODS TECHNICAL GUIDANCE MATERIAL FOR NON-DANGEROUS GOODS APPROVED OPERATORS**

Effective Date: 20 MARCH 2023

### 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 SACAR 2011, as amended, the SACATS DG and the ICAO Technical Instructions for the Safe Transport of DG by Air.

### PURPOSE

This section contains guidance material and procedures to be used by operators who are not approved to carry Dangerous Goods as part of their operations and must form part of the operations manual. 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 the Dangerous Goods section of the Flight Operations Manual.

**Note 1:** 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.

**Note 2:** The following text makes numerous references to the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions). Should the Operator have decided to use the IATA Dangerous Goods Regulations in lieu of the ICAO Technical Instructions, references to the ICAO Technical Instructions should be amended accordingly.

**Note 3:** The Dangerous Goods manual shall contain the definitions and abbreviations, Records of Amendments, Table of Contents and List of Effective pages.

### REQUIREMENTS

South African Civil Aviation Regulations (SACAR) for aircraft under Part 92

**1. REFERENCE:**

- i. ICAO Annex 18
- ii. ICAO DOC 9284 Technical Instructions
- iii. South African Civil Aviation Regulations, 2011 as amended (SACAR)
- iv. South African Civil Aviation Technical Standards (SACATS)

TERM	DEFINITION
<b>Dangerous Goods</b>	Articles or substances which are capable of posing a hazard to health, safety, property or the environment and which are shown in the list of dangerous goods in the ICAO Technical Instructions, or which are classified according to these Technical Instructions.
<b>Exception</b>	A provision in ICAO Annex 18 which excludes a specific item of dangerous goods from the requirements normally applicable to that item.
<b>Forbidden Dangerous Goods</b>	dangerous goods that are considered too dangerous to be carried on any aircraft under any circumstances
<b>Forbidden Unless Exempted</b>	dangerous goods that are forbidden under normal circumstances but may be carried with specific approvals.
<b>Handling agent</b>	An agent who performs on behalf of the operator some or all of the functions of the latter including receiving, accepting, loading, unloading, transferring or other processing of passengers or cargo.
<b>Hidden Dangerous Goods</b>	are defined as cargo declared under a general description which may contain hazardous articles that are not apparent.
<b>Operator</b>	a person, organization or enterprise engaged in, or offering to engage in a road and an aircraft operation
<b>Shipper</b>	the individual or company offering the consignment for shipment. They must fully comply with the DG Regulations when offering a consignment of dangerous goods

ABBREVIATION	DESCRIPTION
COMAT	Company Materials
IAEA	International Atomic Energy Agency
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
MOP	Manual of Procedures
NOTOC	Notification to the Captain
TPM	Training Procedures Manual
UN	United Nations
SACARs	South African Civil Aviation Regulations
SACATS	South African Civil Aviation Technical Standards
SACAA	South African Civil Aviation

## 2. DEFINITIONS

- 2.1 Where terms used in this programme are defined in the South African Civil Aviation Regulations, they are used in accordance with meanings and usage given therein.
- 2.2 A wide variety of terms are used throughout the world to describe facilities, procedures and concepts for air operations and cargo warehouse operations.
- 2.3 As far as possible the terms used in this document are those which have the widest international use.

## 3. COMMITMENT STATEMENT

- 3.1 I declare that, To the best of my knowledge, the information contained in company name (Pty) Ltd Dangerous Goods manual for Air Transport is true and accurate, the practices and procedures set out in this Manual will be implemented and maintained at all sites of Company name (Pty)Ltd
- 3.2 Company name (Pty) Ltd will inform the South African Civil Aviation Authority in writing of:
  - 3.2.1 minor changes / deviation to its Dangerous Goods Manual promptly and at least within 10 working days; and
- 3.3 In order to ensure compliance with relevant Civil Aviation legislation, company name (Pty) Ltd will cooperate fully with all inspections, as required, and provide access to all documents, as requested by authorized officers,
- 3.4 Company name (Pty)Ltd will inform the South African Civil Aviation Authority of any serious security breaches and of any suspicious circumstances which may be relevant to aviation security in particular any attempt to conceal prohibited articles in consignments,
- 3.5 Company name (Pty)Ltd will ensure that all relevant staff receive appropriate training and are aware of their security responsibilities under the company's Dangerous Goods manual, and

I shall accept full responsibility for this declaration.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name surname, Managing Director

## 4.

### 4. AMENDMENTS TO MANUAL

- 4.1 All amendments to an approved operations manual shall be submitted to the SACAA for approval before being effected. The organisation will always operate in accordance with an approved Manual.
- 4.2 The operations manual may not be altered or amended without the written approval of the SACAA and of the person or position that undersigned the compliance undertaking as contained in the manual.
- 4.3 Where a revision of this programme is effected, the following steps will be followed:

- 4.3.1 A cover letter, indicating the amended pages and the number of amended pages.
- a. New pages will be issued for insertion into the programme identified by a revision number and date.
  - b. Amendments will contain new information or revised meaning of text.
  - c. The old pages must be destroyed in a secure manner not accessible to unauthorised persons and the Record of Amendment completed accordingly.

## 5. 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. 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 (TI) and the SA Civil Aviation Authority regulations Part 92 of 2011, as amended.

## 6. APPROVAL FOR THE TRANSPORT OF DANGEROUS GOODS

Dangerous goods can only be carried according to the latest International Civil Aviation Organization'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.

**Note 1:** *Insert Text [Operator Name] does not hold an SACAA approval for the transport of dangerous goods by air.*

## 7. GENERAL EXCEPTIONS

- 7.1 These Instructions do not apply to dangerous goods carried by an aircraft where the dangerous goods are:
- 7.1.1 to provide, during flight, medical aid to a patient or to preserve tissues or organs intended for use in transplantation when those dangerous goods:
    - a. have been placed on board with the approval of the operator; or
    - b. form part of the permanent equipment of the aircraft when it has been adapted for specialized use, providing that:
      - 7.1.2 gas cylinders have been manufactured specifically for the purpose of containing and transporting that particular gas;
      - 7.1.3 equipment containing wet cell batteries is kept and, when necessary, secured in an upright position to prevent spillage of the electrolyte;
      - 7.1.4 spare lithium batteries are individually protected so as to prevent short circuits when not in use;
      - 7.1.5 to provide, during flight, veterinary aid or a humane killer for an animal;
      - 7.1.6 for dropping in connection with agricultural, horticultural, forestry, ice jam control, landslide clearance, pollution control activities or pest management activities;
      - 7.1.7 for dropping or triggering in connection with avalanche control activities;
      - 7.1.8 to provide, during flight, or related to the flight, aid in connection with search and rescue operations;

- 7.1.9 required for the propulsion of the means of transport or the operation of its specialized equipment during transport
- 7.1.10 contained within items of excess baggage being sent as cargo provided that:
- 7.1.11 the excess baggage has been consigned as cargo by or on behalf of a passenger;
- 7.1.12 the dangerous goods may only be those that are permitted by and in accordance with Table 8-1of the Technical Instructions or IATA Table 2.3.A to be carried in checked baggage;
- 7.1.13 the excess baggage is marked with the words “Excess baggage consigned as cargo”.

## 7.2 **Airworthiness and Operational Items**

- 7.2.1 An approval is not required for dangerous goods which are required to be aboard the aircraft 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.

## 7.3 **Veterinary Aid**

- 7.3.1 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.
- 7.3.2 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.
- 7.3.3 The dangerous goods must be under the control of trained personnel during the time when they are in use on the aircraft.
- 7.3.4 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.

## **7.4 Medical Aid for a Patient**

7.4.1 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.
- c. 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.

## **7.5 Dangerous goods carried in an aircraft where such goods are intended:**

- 7.5.1 for spraying, dusting, or dropping in connection with agricultural, horticultural, forestry fire suppression or pollution control operations; or
- 7.5.2 for dropping or triggering in connection with avalanche control activities.  
to provide, during flight or related to the flight, aid in connection with disaster management or search and rescue operations.

## **8. ITEMS THAT MAY BE CARRIED BY PASSENGERS AND CREW**

**Editorial Note 1:** International standards permit the carriage of the dangerous goods listed below by passengers or crew members either as or in carry-on baggage or checked baggage or on their person. Additional restrictions implemented by countries in the interests of aviation security may, however, limit or forbid the carriage of some of these items.

**Editorial Note 2:** 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.

**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).

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 table:

**Editorial note 2:** the latest Table 8-1 of the Technical Instructions or the latest Table 2.3.A of the IATA Dangerous Goods Regulations manual must be provided as the addendum to the operations manual.

## **9. CARRIAGE OF COMPANY MATERIAL (COMAT)**

9.1 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.

9.2 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

9.3 Procedures and instructions to ensure that any employee, agent, or contract employee of the operator

9.4 trained as a dangerous goods shipper.

## **10. PROVISION OF INFORMATION TO PASSENGERS**

10.1 Operators must inform passengers about dangerous goods that passengers are forbidden to transport aboard an aircraft.

- 10.2 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.
- 10.3 The information must be provided to passengers:
  - 10.3.1 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
  - 10.3.2 at boarding pass issuance, or when no boarding pass is issued, prior to boarding the aircraft.
- 10.4 The information may be provided in text or pictorial form, electronically, and verbally, as described in the operator's manuals.
- 10.5 An operator or the operator's handling agent and the airport operator must ensure that information on the types of dangerous goods which are forbidden to transport aboard an aircraft is communicated effectively to passengers.
- 10.6 This information must be presented at each of the places at an airport where tickets are issued, passengers are checked in, passenger baggage claim areas and aircraft boarding areas are maintained, and at any other location where passengers are issued boarding passes and/or checked baggage is accepted.
- 10.7 This information must include visual examples of dangerous goods forbidden from transport aboard an aircraft.
- 10.8 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.
- 10.9 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.
- 10.10 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.

## **11. INFORMATION TO OTHER PERSONS**

- 11.1 With the aim of preventing undeclared dangerous goods from being loaded on an aircraft and of preventing passengers from taking on board those dangerous goods which they are not permitted to have in their baggage, information about:



- 11.1.1 general descriptions that are often used for items in cargo or in passengers' baggage which may contain dangerous goods.
- 11.1.2 other indications that dangerous goods may be present (e.g., labels, markings); and those dangerous goods which may be carried by passengers in accordance with ICAO TI Table 8-1 or IATA Table 2.3.A, must be provided to passenger reservations and sales staff and passenger check-in staff as appropriate and must be readily available to such staff.
- 11.2 Where applicable, this information must also be provided to ground handling agents

**12. MARKING AND LABELLING OF PACKAGE**

- 11.3 Articles and substances meeting the dangerous goods classification criteria are assigned a 'UN Number' under the United Nations classification system.
- 11.4 This consists of 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.
- 11.5 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

**CLASS 1 – EXPLOSIVE**

Class 1 (with exploding bomb symbol) – explosives generally not permitted on an aircraft.

Class 1 (without exploding bomb symbol) – explosives usually permitted on an aircraft.



\* Division and compatibility group

• \*\* Compatibility group

## CLASS 2 – GASES

Flammable gas  
(Division 2.1)



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



Toxic gas (Division 2.3)



## CLASS 3 – FLAMMABLE LIQUID



## CLASS 4 – FLAMMABLE SOLIDS; SUBSTANCES LIABLE TO SPONTANEOUS COMBUSTION; SUBSTANCES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES

Flammable solid  
(Division 4.1)



Substance liable to spontaneous combustion  
(Division 4.2)



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



## CLASS 5 – OXIDISING SUBSTANCES AND ORGANIC PEROXIDES

Oxidising substance  
(Division 5.1)



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



## 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”.

## CLASS 7 – RADIOACTIVE MATERIAL

Category I



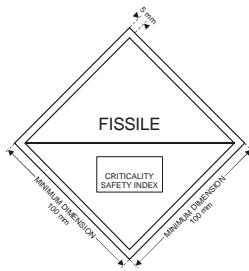
Category II



Category III



Criticality safety index label



**CLASS 8 – CORROSIVE**



**CLASS 9 – MISCELLANEOUS**

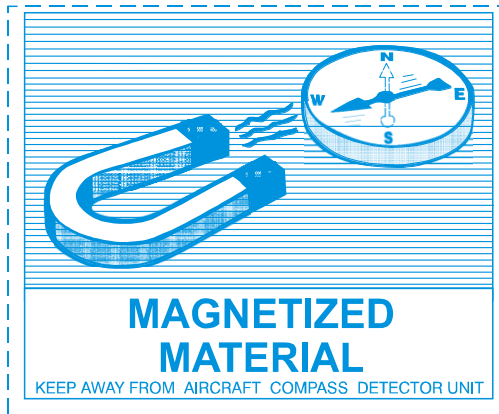
Class 9 label for Section IA and IB lithium battery shipments



**HANDLING LABELS**

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

Magnetized material



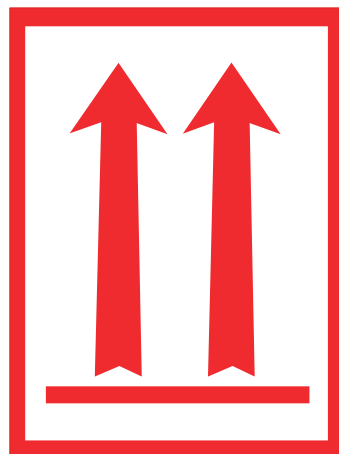
Cargo aircraft only



Cryogenic liquid label



Package orientation



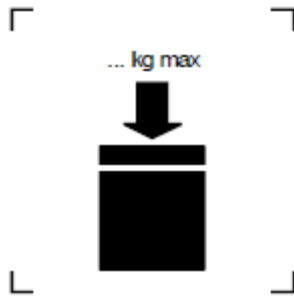
Keep away from heat



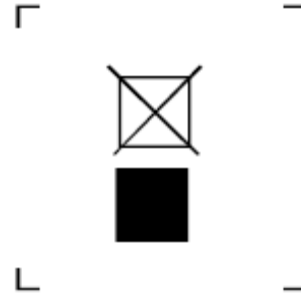
(red or black)

**Intermediate Bulk Containers (IBCs)** are only permitted for the transport of UN 3077 Environmentally hazardous substance, solid, n.o.s. The maximum permitted stacking load applicable when the IBC is in use must be displayed on a symbol as follows:

## IBCs capable of being stacked



## IBCs NOT capable of being stacked



## LITHIUM BATTERIES MARK

### Lithium Battery



\* Place for UN Number(s)

\*\* Place for telephone number for additional information

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;
- the package must be handled with care and that a flammability hazard exists if the package is damaged;
- 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.



## 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.

## 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 (ADR/IMDG) 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.

## 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.

### 1. Duties of All Personnel Involved

#### 1.1 Detailed Assignments of Responsibilities

**Editorial Note 1:** Operators need to assign the key responsibilities associated with the carriage of dangerous goods. For example, it may be intended for acceptance checks of consignments of dangerous goods cargo 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 include:

Cargo Department/ Cargo Sales Agents	<ul style="list-style-type: none"> <li>• Arrangement of the carriage of dangerous goods only in accordance with the operator's stated policies.</li> <li>• Recognition of undeclared dangerous goods.</li> </ul>
Persons receiving or handling general cargo, mail and stores	<ul style="list-style-type: none"> <li>• Recognition of undeclared dangerous goods.</li> <li>• Dealing with dangerous goods that are found damaged or leaking during processing for transport.</li> <li>• If there is a dangerous goods incident or accident, or if undeclared dangerous goods are detected, a report is made to the appropriate Authority (see 11.10.4).</li> </ul>
Reservations	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Considering passenger requests for approval of the operator for items of dangerous goods requiring such approval.</li> </ul>



Persons handling passengers	<ul style="list-style-type: none"> <li>• Ensuring that the provisions concerning passengers and dangerous goods are complied with.</li> <li>• 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.</li> <li>• 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.</li> <li>• Ensuring that the discovery of prohibited dangerous goods (after a passenger has checked in) is reported to the appropriate Authority.</li> </ul>
Cabin Crew	<ul style="list-style-type: none"> <li>• Ensuring that the provisions concerning passengers and dangerous goods are complied with.</li> <li>• Responding to a dangerous goods incident or accident in the cabin.</li> <li>• 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.</li> </ul>
Operations Personnel	<ul style="list-style-type: none"> <li>• If there is an aircraft incident or accident, information is passed to emergency services and state Authorities as required by the Technical Instructions</li> <li>• If there is a dangerous goods incident or accident, or if undeclared dangerous goods are detected a report is made to the appropriate Authority.</li> </ul>
Flight Crew	<ul style="list-style-type: none"> <li>• If an in-flight emergency occurs, as soon as the situation permits, passage of details of dangerous goods on board to the appropriate Air Traffic Services Unit.</li> </ul>
Trainers	<ul style="list-style-type: none"> <li>• Provision of initial and recurrent dangerous goods training commensurate with the responsibilities of the personnel concerned.</li> </ul>
Compliance Monitoring Manager, Auditors and Safety Manager	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Ensuring the initiation and follow-up of internal occurrence / accident investigations.</li> </ul>

Quality Auditors	<ul style="list-style-type: none"> <li>• Establishment and maintenance of Quality System to monitor compliance to Dangerous Goods procedures, regulations and provision of Dangerous Goods training.</li> <li>• Collation and assessment of details relating to Dangerous Goods incidents, accidents, mis-declared, undeclared Dangerous Goods within the flight Safety programme.</li> </ul>
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**Editorial Note 2:** In practice a ground handling agent may carry out some or all of the procedures for processing dangerous goods cargo for air transport. A ground handling agent must be provided with sufficient information to enable these procedures to be actioned. Operators should specify whether they utilise suitably qualified personnel of the operator or of a handling agent at the various aerodromes of the operation.

## 2. RECOGNITION OF UNDECLARED / HIDDEN DANGEROUS GOODS

### 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) OR CARGO WAREHOUSE AFTER ACCEPTANCE AND OR SCREENING MUST BE REPORTED TO THE SACAA WITHIN 48 HOURS.**

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.

*Aircraft on ground (AOG) spares* — 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.

*Automobile parts/supplies (car, motor, motorcycle)* — 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.

*Battery-powered devices/equipment* — may contain wet or lithium batteries.

*Breathing apparatus* — may indicate cylinders of compressed air or oxygen, chemical oxygen generators or refrigerated liquefied oxygen.

*Camping equipment* — may contain flammable gases (butane, propane, etc.), flammable liquids (kerosene, gasoline, etc.) or flammable solids (hexamine, matches, etc.).

*Cars, car parts* — see automobile parts, etc.

*Chemicals* — may contain items meeting any of the criteria for dangerous goods, particularly flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances.

*Consolidated consignments (groupages)* — may contain any of the defined classes of dangerous goods.

*Cryogenic (liquid)* — indicates refrigerated liquefied gases such as argon, helium, neon, nitrogen, etc.

*Cylinders* — may contain compressed or liquefied gas.

*Dental apparatus* — may contain flammable resins or solvents, compressed or liquefied gas, mercury and radioactive material.

*Diagnostic specimens* — may contain infectious substances.

*Diving equipment* — 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.

*Drilling and mining equipment* — may contain explosive(s) and/or other dangerous goods.

*Dry shipper (vapour shipper)* — 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.

*Electrical/electronic equipment* — 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.

*Electrically-powered apparatus* (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.

*Expeditionary equipment* — may contain explosives (flares), flammable liquids (gasoline), flammable gas (camping gas) or other dangerous goods.

*Film crew and media equipment* — may contain explosive pyrotechnic devices, generators incorporating internal combustion engines, wet or lithium batteries, fuel, heat-producing items, etc.

*Frozen embryos* — may be packed in refrigerated liquefied gas or dry ice (solid carbon dioxide).

*Frozen fruit, vegetables, etc.* — may be packed in dry ice.

*Fuel control units* — may contain flammable liquids.

*Hot-air balloon* — may contain cylinders with flammable gas, fire extinguishers, engines (internal combustion), batteries, etc.

*Household goods* — 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.

*Instruments* — may conceal barometers, manometers, mercury switches, rectifier tubes, thermometers, etc. containing mercury.

*Laboratory/testing equipment* — 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.

*Machinery parts* — may contain flammable adhesives, paints, sealants and solvents, wet and lithium batteries, mercury, cylinders of compressed or liquefied gas, etc.

*Magnets* and other items of similar material — may individually or cumulatively meet the definition of magnetised material.

*Medical supplies/equipment* — 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.

*Metal construction material* — may contain ferro-magnetic material which may be subject to special stowage requirements due to the possibility of affecting aircraft instruments.

*Metal fencing* — may contain ferro-magnetic material which may be subject to special stowage requirements due to the possibility of affecting aircraft instruments.

*Metal piping* — may contain ferro-magnetic material which may be subject to special stowage requirements due to the possibility of affecting aircraft instruments.

*Pharmaceuticals* — 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.

*Photographic supplies/equipment* — 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.

*Racing car or motorcycle team equipment* — 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.

*Refrigerators* — may contain liquefied gases or an ammonia solution.

*Repair kits* — may contain organic peroxides and flammable adhesives, solvent-based paints, resins, etc.

*Samples for testing* — 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.

*Semen* — may be packed with dry ice or refrigerated liquefied gas (see also dry shipper).

*Sporting goods/sports team equipment* — may contain cylinders of compressed or liquefied gas (air, carbon dioxide, etc.), lithium batteries, propane torches, first aid kits, flammable adhesives, aerosols, etc.

*Swimming pool chemicals* — may contain oxidising or corrosive substances.

*Switches* in electrical equipment or instruments — may contain mercury.

*Tool boxes* — may contain explosives (power rivets), compressed gases or aerosols, flammable gases (Butane cylinders or torches), flammable adhesives or paints, corrosive liquids, lithium batteries, etc.

*Torches* — 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.

*Unaccompanied passengers' baggage/personal effects* — may contain items meeting any of the criteria for dangerous goods not permitted for carriage by passengers and crew.

**Note:** *Excess baggage carried as cargo may contain certain dangerous goods (see 10.1.3.4).*

*Vaccines* — may be packed in dry ice.

## 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.

## 2.3 GHS/CHIP 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).

## 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:



### 3. EMERGENCY SITUATIONS

#### 3.1 Provision of Information for Use in Responding to In-Flight Emergencies

For those dangerous goods for which a dangerous goods transport document is required, the commander of an aircraft carrying such goods must be provided with information which can be used on board to assist in planning the response to an emergency arising in-flight involving the dangerous goods.

#### 3.2 Conditions Under Which Weapons, Munitions of War and Sporting Weapons May Be Carried

##### 3.2.1 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 a place inaccessible to passengers during flight and, in the case of firearms, unloaded. In South Africa, the operator must apply to the SACAA Dangerous Goods Department should they need to apply for such an exemption.

##### 3.2.2 Notifying Commander of the Carriage of Munitions of War

The commander must be notified before a flight if weapons of war or munitions of war are to be carried on the aircraft.

##### 3.2.3 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.

**Editorial Note 1:** 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.

- 3.2.4 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.

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

## 4. DANGEROUS GOODS NOTIFICATION REQUIREMENTS

### 4.1 Information to be Provided by the Pilot-In-Command in the Event of an In-Flight Emergency

If an in-flight emergency occurs and the situation permits, the commander (PIC) must without delay inform the appropriate Air Traffic Services Unit (ATSU), of any dangerous goods on board. This information should include the proper shipping name, class/division, identified subsidiary risk(s), compatibility group for explosives, quantity and location on board.

**Editorial Note:** This information can be provided by the 'Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods' (Doc 9481), which is published by the International Civil Aviation Organization, or by another document giving similar information. Operators should establish what information is to be made available to flight crew onboard aircraft.

## 5. DANGEROUS GOODS ACCIDENT AND INCIDENT REPORTING

### 5.1 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.

### 5.2 Dangerous Goods Accident and incident reporting both Declared and undeclared

- 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 — (i) the Director; and
  - a) in the case of an accident, the Director, any ATSU or the nearest police station; or
  - b) (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 (ii) where such accident or incident occurs at an aerodrome, the aerodrome.

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.

- 5.3** An operator must report any occasion when undeclared or mis-declared dangerous goods are discovered in cargo or mail. Such a report must be made to the appropriate authorities 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.

- 5.4** In addition to the requirements of the ICAO Technical Instructions for the reporting of dangerous goods occurrences (above), the SACAA requires that any incident which endangers or which, if not corrected, would endanger an aircraft, its occupants or any other person is reported through the safety management system reporting of the operator.

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

- Date of the incident or accident or the finding of undeclared or misdeclared dangerous goods.
- Location, the flight number and flight date.
- Description of the goods and the reference number of the air waybill, pouch, baggage tag, ticket, etc.
- Proper shipping name (including the technical name, if appropriate) and UN/ID number, when known.
- Class or division and any subsidiary risk.
- Type of packaging, and the packaging specification marking on it.
- Quantity of dangerous goods.
- Name and address of the shipper, passenger, etc.
- Any other relevant details.
- Suspected cause of the incident or accident.
- Action taken.



- Any other reporting action taken.
- Name, title, address and telephone number of the person making the report.

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.**

**Editorial 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 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).

## 6. REMOVAL OF CONTAMINATION

In the event of a spillage or leakage of dangerous goods within an aircraft, the position where the dangerous goods or ULD 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:

- identify the hazards and wear appropriate protective clothing;
- avoid handling the package or keep handling to a minimum;
- inspect adjacent packages for contamination and put aside any that may have been contaminated;
- arrange for decontamination of the aircraft and equipment; and
- 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.
- Do not allow the contents of the package(s) to come into contact with any part of the body
- Do not inhale any vapour or fumes
- In case of damage or leakage, inspect the remainder of the shipment to ensure all packages are in good condition for air transportation
- Guard against fire

## 7. HELICOPTER OPERATIONS

Due to the difference in the type of operations carried out by helicopters, there may be circumstances when the full provisions of these instructions are not appropriate or necessary, due to the operations involving unmanned sites, remote locations, mountainous areas, or construction sites.

## **8. TRAINING PROGRAMME**

### **8.1 Instructor qualification**

- a. Instructors of initial and recurrent DG training programmes must have adequate instructional skills and have successfully completed a DG training programme in the applicable Category 6, prior to delivering such a DG training programme.
- b. Instructors delivering initial and recurrent DG training programmes must successfully complete a category 6 refresher course within 24 months calculated from the date of completion of the initial course with an approved SACAA approved Aviation Training Organisation or IATA or ICAO.
- c. In addition to the above, aerodromes and heliports shall abide by the requirements for instructors as detailed in the technical guidance material for CBTA.

## **8.2 The operator must refer to the technical guidance material for Competency Based Training.**

### **8.2.1 General requirements applicable to training**

- a. To ensure that everyone involved is aware of their responsibilities in the transport of DG, 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 DG and how they should be dealt with in air transport. Personnel identified within the organisation shall be trained in accordance with the requirements in 92.008, the ICAO Technical Instructions and the SACAA approved technical guidance material for the Competency based training and assessment for DG, training must be verified prior to the person performing any duty.
- b. Recurrent/refresher training and OJT assessment shall be provided within 24 months of previous training, calculated from last date of successful completion of the initial DG training or preceding refresher DG training, as the case maybe.
- c. As with other aviation qualifications an offence against the regulations will be committed if staff continue to work after their training qualification has expired.
- d. A test to verify understanding must be undertaken following training and confirmation that the test has been completed satisfactorily is required. Furthermore, job training and assessment must be conducted.
- e. The records of training and the OJT 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.
- f. The purpose of competency-based training and assessment is to train and assess the capacity of an individual to perform at the standard expected in an organizational workplace.
- g. Therefore, organizations implementing competency-based training and assessment should adapt the corresponding generic SACAA Technical guidance material to develop a suitable training programme for their organisations.
- h. The ICAO DOC 10147 for competency framework for DG personnel or IATA concept appendix H may also be used.
- i. Employers and Training organizations must also reference the Employee groupings table in the CBTA TGM.

### **8.2.2 Establishment of a training program**

Competency-based training and assessment program shall be developed and submitted to the authority for approval in accordance with the technical guidance material.

### 8.2.3 Training and Testing Materials




Operators shall develop training materials in accordance with the Technical guidance for CBTA.

### 8.2.4 Issuance of certificates

The operator shall develop procedures for the training organisation to issue certificates to candidates upon successful completion of the initial DG training or the refresher DG training as required by Part 92.00.8(5)

### 8.2.5 Issuance of Competency Cards

All personnel who have received training and are current in DG training shall be issued with a competency card and shall carry the card with them at all times while on duty as required by Part 92.00

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