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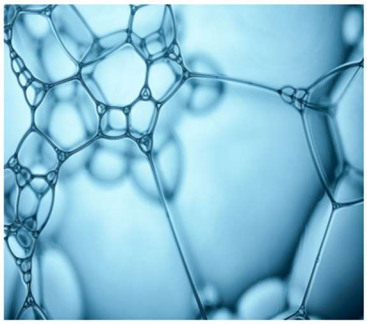


MODEL CHAPTER IN A DRONE OPERATOR'S OPERATIONS MANUAL FOR THE TRANSPORT BY DRONE OF MEDICAL DANGEROUS GOODS UN1851, UN3249, UN3373

PROJECT INMED

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INDUSTRIAL STRATEGY

UK Research and Innovation

INMED

THE PROJECT IS FUNDED BY UK RESEARCH AND INNOVATION THROUGH THE INDUSTRIAL STRATEGY CHALLENGE FUND.

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FOREWORD

Project INMED is a collaborative research project funded by UK Research and Innovation through the industrial Strategy Challenge Fund. The project unites a complementary team of industrial and academic partners, as well as end-user hospital trust:

DGP Intelsius Ltd, project lead

Milton Keynes NHS Foundation Trust Hospital

Cranfield University

Herotech8 Ltd

King's College London

Special thanks are extended to Amit SINGH, Senior Service Deliver Manager, South Africa National Blood Service, SANBS, who shared his return of experience of flying blood units and blood samples by drone since 2019.

The Drone Office Ltd is leader of Work Package "Standard Operating Procedures for routine drone operations between medical sites," and specifically focused on:

- the adaptation of "Operations Manual Entries for a Conventional Helicopter Operator Approved to Carry Dangerous Goods as a Cargo" for a model chapter in a Drone Operator's Operations Manual for the transport by drone of medical Dangerous Goods as a Cargo, specifically UN 1851, UN3249 such as cytotoxic cancer treatments, and UN3373 such as blood samples;
- with a view to obtain approval to conduct such operations from the Civil Aviation Authority.

THIS MODEL CHAPTER REFERS TO PROCESSES AND DOCUMENTATION - SUCH AS THE SHIPPER'S DECLARATION, OR THE AIRWAY BILL - THAT ARE VERY FAMILIAR TO CONVENTIONAL AVIATION AND TO THE REGULATOR, WITH A VIEW TO FACILITATING APPROVAL. IN PRACTICE HOWEVER, DRONE TRANSPORT MAY DIGITIZE OR AMEND THOSE DOCUMENTS AND PROCESSES. WE LET EACH OPERATOR DISCUSS SUCH DEVIATIONS WITH THE AUTHORITIES BASED ON THEIR OWN TECHNICAL AND OPERATIONAL SPECIFICS: EACH ORGANISATION CAN ADAPT AND/OR SIMPLIFY THIS MODEL AS PER THEIR NEEDS.

WHILE EVERY EFFORT HAS BEEN MADE TO ENSURE THE ADEQUACY OF THIS MODEL, IT HAS NOT BEEN APPROVED BY THE RELEVANT DEPARTMENTS AT THE CAA, AND NEITHER THE DRONE OFFICE LTD NOR ANY MEMBERS OF THE GROUP WILL ASSUME ANY LIABILITY FOR ANY USE MADE OF THIS PUBLICATION.

We expect that this model will help many pioneering hospitals and drone operators around the globe craft their own standard operating procedures and operations manual to carry medicines and blood products, and eventually improve access to care and patient health outcome.

Feedback is welcome at: hello@thedroneoffice.com.

Anne-Lise Scaillierez

Partner, The Drone Office

Qualified RPAS/drone Pilot. Operational Authorisation PDRA01 delivered by the Civil Aviation Authority.

IATA Category 6 Dangerous Goods Transport by Air. Certification # ATL145583 by Dangerous Goods Safety Group (UK) Ltd

AMENDMENT RECORD

Revision History

DATE	VERSION	CHANGES
30 October 2022	V1.0	Not applicable

TABLE OF CONTENTS

A. SECTION A TRANSPORTING DANGEROUS GOODS

A.1 POLICY FOR THE TRANSPORT OF DANGEROUS GOODS

A.1.1 Approval Received

Dangerous goods can only be carried according to the 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.

> **[Drone Operator] has been granted an approval by the UK CAA under the Air Navigation (Dangerous Goods) Regulations for the transport by air of dangerous goods Class 6.1 Toxic Substances UN1851 and UN3249; Class 6.2 Infectious Substances UN3373 ONLY, under the conditions detailed in section A.1. ONLY.**

The Person nominated as the Dangerous Goods Accountable Manager, responsible for this Approval is:

[Dangerous Goods Accountable Manager
Name and contact details]

In his/her absence, the responsibility is assigned to:

[Dangerous Goods Accountable Manager Deputy
Name and contact details]

A.1.2 General Exception: Airworthiness and Operational Items

An approval is not required for dangerous goods which are required to be aboard the aircraft as items for airworthiness or operating reasons, such as lithium-ion cells or batteries.

However, replacement of the same operating batteries is not in the scope of this approval.

A.1.3 Identification of the Dangerous Goods Transported

Dangerous goods are any articles or substances which are capable of posing a hazard to health, safety, property or the environment, and which are listed as dangerous goods in the ICAO *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (ICAO Doc 9284), known as the 'Technical Instructions', or which are classified as such according to the Technical Instructions.

The scope of operations conducted by [Drone Operator] is to transport by drone between hospital or medical sites products which may qualify as the following dangerous goods ONLY:

- **UN1851 Medicines, liquid, toxic, n.o.s.** Class 6.1. Toxic substances, such as cytotoxic cancer treatment
- **UN3249 Medicines, solid, toxic, n.o.s.**, Class 6.1. Toxic substances
- **UN3373 Biological substance category B**, class 6.2. Infectious Substances, such as blood samples for lab analysis, or used COVID-19 swab tests.

UN/ID	Proper Shipping Name	Class or Div. (Sub Hazard)	Hazard Labels	PG	Passenger and Cargo Aircraft					Cargo Aircraft Only		SP	ERG Code
					EQ	Limited Quantity				Pack Inst PI	MaxNet Qty/Pkg		
						Pack Inst PI	MaxNet Qty/Pkg	PI	MaxNet Qty/Pkg				
UN1851	Medicine, liquid, toxic, n.o.s.	6.1	Toxic	II	E4	Y641	1 L	P654	5 L	P662	60 L	A3	6L
				III	E1	Y642	2 L	P655	60 L	P663	220 L	A3	6L
UN3249	Medicine, solid, toxic, n.o.s.	6.1	Toxic	II	E4	Y644	1 kg	P669	25 kg	P676	100 kg	A3	6L
				III	E1	Y645	10 kg	P670	100 kg	P677	200 kg	A3	6L
UN3373	Biological substance, Category B	6.2			E0	Forbidden		P650		P650			11L

A.1.4 Maximum quantities of Dangerous Goods Transported

UN/ID	Proper Shipping Name	Packaging	Maximum Quantities
UN1851	Medicine, liquid, toxic, n.o.s.	Packaging that successfully passed the Vehicle Certification Agency VCA Test Procedure version 1.0 dating April 2022 "Crash-Protected Containers for Dangerous Goods carried by Remotely Piloted Aircraft Systems".	100ml
UN3249	Medicine, solid, toxic, n.o.s.		100g
UN3373	Biological substance, Category B – blood samples		100ml

The quantities of UN1851 and UN3249 effectively carried will always be below the Limited quantities thresholds and may even be below the excepted quantities threshold.

The maximum quantity of UN 3373 transported in one drone is 10 tubes, approximately 60ml and maximum 100ml. Excepted quantities and Limited quantities provisions do not apply to UN3373.

A.1.5 Packaging compliant with VCA test procedure

Dangerous Goods are transported by [Drone Operator] ONLY in packaging having successfully passed the test in accordance with the Vehicle Certification Agency issued version 1.0 of its *Test Procedure for Crash-Protected Containers for Dangerous Goods carried by Remotely Piloted Aircraft Systems*.

This rule applies systematically to all flights, including when carrying quantities below the excepted quantity thresholds.

A.1.6 External mount and/or internal docking of payload on UAS

The packaging containing the dangerous goods items will either be mounted externally on the UAS or carried internally in the UAS payload bay.

A.1.7 Geographical area in which the flight will be operated

The purpose is to transport medical payload between hospitals, therefore the flightpaths include congested areas in the vicinity of the take-off and landing areas, as well as sparsely populated areas along the flightpath.

A.1.8 Training, level of competence of those handling the dangerous goods

[Drone Operator] has established a dangerous goods training programme for the personnel involved, as required by the Technical Instructions. Such training programmes is commensurate with the responsibilities of the personnel involved in those operations.

The training programme is detailed in A.6.3., and is repeated below for convenience:

Based on the assignment of responsibilities detailed in A.2.3., the training requirement of [Drone Operator] personnel, in reference to ICAO Technical Instructions requirements, is as follows:

The Dangerous Goods Accountable Manager	**CAT 11** - Crew members (other than flight crew members)
DG Dispatch Handling Agent	**CAT 6** - Operator's staff accepting dangerous goods
DG Receiving Handling Agent	**CAT 10** - Flight crew members, loadmasters, load planners and flight operations officer/flight dispatcher
Operations Personnel	**CAT 11** - Crew members (other than flight crew members)
Remote Pilot, Flight Crew	**CAT 10** - Flight crew members, loadmasters, load planners and flight operations officer/flight dispatcher
Trainers	Outsourced to specialist companies
Compliance Monitoring Manager, Auditors and Safety Manager	**CAT 11** - Crew members (other than flight crew members)

A.2 DUTIES OF THE OPERATOR AND THE PERSONNEL INVOLVED

A.2.1 The Hospital of origin / the Shipper's responsibilities

In accordance with the ICAO Technical Instructions and IATA DGR, **the hospital of origin is the Shipper. It is responsible for the consigned package** and must:

a) provide the necessary information to its staff;

b) ensure the dangerous goods are not forbidden to travel by air;

c) ensure the articles are properly identified, classified, packed, marked, labelled, documented and be in the condition for transport in accordance with regulations;

d) ensure that, before a consignment of dangerous goods is offered for air transport, all relevant persons involved in its preparation have received training to enable them to carry out their responsibilities;

e) ensure that the dangerous goods are packaged in compliance with all applicable air transport requirements;

f) retain at least one (1) copy of the documentation for a minimum of three (3) months: the Shipper's declaration and other documentation as applicable.

The Shipper's Declaration certifies that the shipment has been labelled, packed and declared according to IATA's Dangerous Goods Regulations (DGR), and it helps the Drone Operator understand the type of handling that is required during transit.

The Shipper must prepare 2 copies of the Shipper's Declaration for each consignment, one provided with the consignment, one retained by the Shipper for at least 3 months. An example of a Shipper's Declaration is in Appendix.

The Shipper is also legally responsible of Good Distribution Practices "GDP" compliance when shipping Pharmaceutical Products, and must ensure that the operations, even when outsourced, comply with the GDP.

A.2.2 Operator's responsibilities

[Drone Operator] bears the legal responsibility of the flight safety and must obtain the relevant Operational Authorisation from the Civil Aviation Authority to perform the flights.

In addition, [Drone Operator] must comply with the ICAO Technical Instructions for the safe transport of dangerous goods and any applicable CAA Regulatory and Technical standards. **{Drone Operator} must obtain the separate approval from the CAA Dangerous Goods department.**,.

[Drone Operator] must comply with the requirements of section 9 of the DGR in terms of:

- Acceptance;
- Storage;
- Loading;
- Inspection;
- Provision of information, including emergency response information;
- Reporting;
- Retention of Records;
- Training.

A.2.3 Detailed Assignments of Responsibilities

Key responsibilities associated with the carriage of dangerous goods are assigned to [Drone Operator's] and/or to [the hospital/lab/end-user] suitably trained staff. Each personnel must be provided with sufficient information to enable the procedures to be actioned.

Duties associated with the carriage of dangerous goods include:

Dangerous Goods or DG, Accountable Manager	• Is nominated as responsible for Operator's Dangerous Goods Approval; • Performs oversight and control of the carriage of dangerous goods; • Ensures all necessary permissions, approvals and exemptions are held; • Generates, updates (or accepts) relevant procedures; • Responds to queries regarding the carriage of dangerous goods; • Ensures staff is adequately trained and current.
DG Dispatch Handling Agent	• Performs the acceptance procedures for dangerous goods as required by the Technical Instructions, and using the Acceptance Check List; • Performs the packages' inspection for damage or leakage as required by the Technical Instructions; • Loads, segregates, stowes and secures the packages on the aircraft in accordance with the Technical Instructions • Generates information about dangerous goods loaded on board to the Remote Pilot in the form of the U-Airway Bill for signature • Performs retention of documentation on the ground • Deals with dangerous goods that are found damaged or leaking before loading for transport • Recognizes undeclared dangerous goods • If there is a dangerous goods incident or accident, or if undeclared dangerous goods are detected, reports to the appropriate Authority.
DG Receiving Handling Agent	• Offloads the package; • Checks that this site is the correct receiving site indicated on the U-Airway Bill; • Performs leakage and damage inspection; • Acknowledges receipt of the package on the U-Airway Bill; • Ensures that the Shipper/hospital of origin is informed of receipt and identity of Receiving Handling Agent; • If there is an aircraft incident or accident, information is passed to emergency services and state Authorities as required by the Technical Instructions ; • If there is a dangerous goods incident or accident, or if undeclared dangerous goods are detected, a report is made to the appropriate Authority.

Operations Personnel	• If there is an aircraft incident or accident, information is passed to emergency services and state Authorities as required by the Technical Instructions; • If there is a dangerous goods incident or accident, or if undeclared dangerous goods are detected, a report is made to the appropriate Authority
Remote Pilot, Flight Crew	• Recognizes undeclared dangerous goods; • Signs the U-Airway Bill to indicate receipt of information; • If an in-flight emergency occurs, as soon as the situation permits, communicate details of dangerous goods on board to the appropriate Air Traffic Services Unit; • 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	• Provide initial and recurrent dangerous goods training commensurate with the responsibilities of the personnel concerned.
Compliance Monitoring Manager, Auditors and Safety Manager	• Ensures 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; • Ensures the initiation and follow-up of internal occurrence / accident investigations.

A.3 OPERATIONAL PROCEDURES FOR ACCEPTANCE, HANDLING AND STOWAGE

A.3.1 Acceptance Check List

Before a consignment consisting of a package or overpack or a unit load device containing dangerous goods is first accepted for carriage by air, the Dispatch Handling Agent must, by use of a checklist, verify compliance with requirements.

[Drone Operator] Acceptance Check List is based on the DGR Acceptance Check List and is provided in Appendix.

[Drone Operator] must be able to identify the person who performed the acceptance check.

A consignment can be accepted ONLY IF the check list is complete and shows compliance: aanswers can be yes or NA. If there is ONE NO, then consignment is not acceptable.

To make sure the shipper's declaration doesn't fall off the package, the document must be folded and put it in an adhesive, transparent and sturdy pouch on the package.

[Drone Operator] must verify the following:

a) the documentation or, when provided, the electronic data is compliant with the applicable requirements;

b) the quantity of dangerous goods stated on the dangerous goods transport document is within the acceptable limits;

c) the package, overpack or freight container marks accord with the details stated on the accompanying dangerous goods transport document and is clearly visible;

d) where required, the letter in the packaging specification marking designating the packing group for which the design type has been successfully tested is appropriate for the dangerous goods contained within. This does not apply to overpacks where the specification marking is not visible;

e) proper shipping names, UN numbers, labels, and special handling instructions appearing on the interior package(s) are clearly visible or reproduced on the outside of an overpack;

f) the labelling of the package, overpack or freight container is as required for the consignment;

g) the outer packaging of a combination package or the single packaging is permitted by the applicable packing instruction, and when visible is of the type stated on the accompanying dangerous goods transport document;

h) the package or overpack does not contain different dangerous goods which require segregation from each other; and

i) the package, overpack, freight container or unit load device is not leaking and there is no indication that its integrity has been compromised.

Note 1: An acceptance check is not required for dangerous goods in excepted quantities.

Note 2: Persons conducting dangerous goods acceptance checks must have received dangerous goods training commensurate with this responsibility. Acceptance checks conducted in the United Kingdom must only be conducted by a person who has successfully completed training applicable to this role from a CAA Approved Dangerous Goods Training Organisation.

A.3.2 Marking, Labelling, Packaging

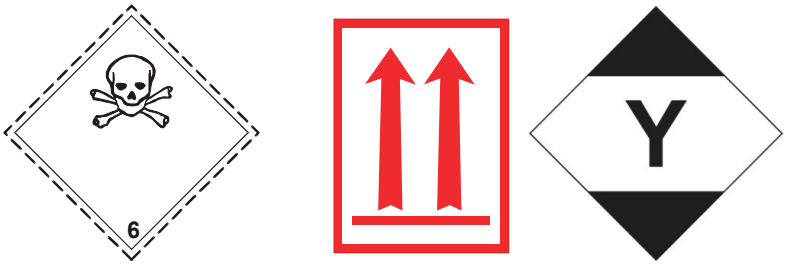
Marking, labelling, packaging is the responsibility of the Shipper, the hospital of origin.

It is however the responsibility of [Drone Operator] to check the proper marking, labelling, packaging before accepting a consignment. The Ground Handling Agent is responsible for that task, as part of his/her acceptance checklist procedure.

A.3.2.1 Marking and labelling for UN1851

Packages containing UN1851 must be marked and labelled as follows:

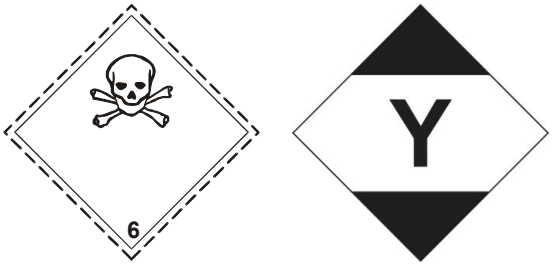
i. UN number: UN1851
ii. Proper Shipping Name: "Medicine, liquid, toxic, n.o.s." in letters at least 6mm high
iii. The packing number
iv. Net quantity in each package
v. Shipper name and address
vi. Consignee name and address on the same side
vii. The name of telephone number of the person responsible
viii. These marks, which must be at least 50mm x 50mm:



A.3.2.2 Marking and labelling for UN3249

Packages containing UN3249 must be marked and labelled as follows:

i UN number: UN3249
ii Proper Shipping Name: Medicine, solid, toxic, n.o.s." in letters at least 6mm high
iii The packing number
iv Net quantity in each package
v Shipper name and address
vi Consignee name and address on the same side
vii The name of telephone number of the person responsible
viii This mark, which must be at least 50mm x 50mm:



A.3.2.3 Marking and labelling for UN3373

Packages containing UN3373 must be marked and labelled as follows:

i. UN number: UN3373
ii. Proper Shipping Name: "Biological substance Category B", in letters at least 6mm high
iii. The packing number
iv. Net quantity in each package
v. Shipper name and address
vi. Consignee name and address on the same side
vii. The name of telephone number of the person responsible
viii. This diamond mark, which must be at least 50mm x 50mm

A.3.2.4 Excepted Quantities

Certain Dangerous Goods, when shipped in very small quantities, and when packaged in user-tested packaging configurations, are subject to less stringent regulations. In certain cases, the package may be exempt from most marking, packaging, and labelling requirements of the hazard class.

It is the case for UN1851 and UN3249 PG II and PG III under the following maximum quantity restrictions:

Code	Maximum Quantity per inner package	Maximum Quantity per outer package	Example of DG
E0	Not permitted	Not permitted	UN3373
E1	**30g / 30ml**	**1Kg / 1L**	**UN1851 PG II; UN3249 PG II**
E2	30g / 30ml	500g / 500ml	
E3	30g / 30ml	300g / 300ml	
E4	**1g / 1ml**	**500g / 500ml**	**UN1851 PG III; UN3249 PG III**
E5	1g / 1ml	300g / 300ml	

In this case, the Excepted quantity label must be added on the packaging, and the airway bill must include the following mention: " DG in excepted quantities."

A.3.3 Inspection for Damage or Leakage

A package or overpack containing dangerous goods must not be loaded onto an aircraft or into a unit load device unless it has been inspected immediately prior to loading and found free from evidence of leakage or damage.

Packages or overpacks containing dangerous goods must be inspected for signs of damage or leakage upon unloading from the aircraft or unit load device.

A.3.4 Loading of package

Packages containing dangerous goods must be loaded, stowed, and secured on the aircraft in a manner that will prevent any movement. Dangerous goods must be protected so they cannot be damaged by the movement of other cargo.

Segregation of incompatible Dangerous Goods is not applicable to the DG in the scope (no incompatibility among class 6).

A.3.5 External Carriage of Dangerous Goods

When dangerous goods are prepared for open external carriage (e.g., suspended from an aircraft or in open external carrying devices), consideration should be given to the type of packaging used and protection of those packaging where necessary from the effects of airflow and weather (e.g., by damage from rain or snow).

When dangerous goods are carried suspended from an aircraft, the operator must ensure that consideration is given to the dangers of static discharge upon landing or release of the load.

A.3.6 Security of premises, access controls

Access to the RPAS controlled take-off and landing area and the Dangerous Goods areas shall be restricted to authorized persons with an operational need.

Access control shall be exercised at specific access control points, there being no other means of access into the premises other than through that point or points. Each access control point shall be effectively monitored or secured

Staff authorized to have unescorted access to controlled areas shall be issued with passes/permits.

Visitors shall always be escorted if required to enter controlled areas within the facility from where the drone will be operated for the transportation of DG (This includes the storage location of the drone, Infectious substances / Biological Substances / Lithium Batteries).

If an unauthorised person is found having access to the secure RPAS environment and where Dangerous Goods are located, those goods will be inspected for any leakage and/or damage.

In any such event of unauthorized access, appropriate steps shall be taken without delay to prevent further breaches to the security system.

Where an unauthorised person is detected in the controlled area the following actions shall be taken:

i. The person should be challenged. If it is regarded as not safe, the assistance of the security department and or police must be sought.

ii. The identity of the person should be established;

iii. The area shall be regarded as contaminated/unsecured.

The area shall be subjected to security controls (which may include a thorough search/inspection) as to confirm that Dangerous Goods is secure.

A.3.7 U-Airway Bill notification to Remote Pilot and Flight crew team

As early as practicable before departure of the aircraft, but in no case later than when the aircraft moves under its own power, [Drone Operator] must provide to its remote pilot and the flight crew team with accurate and legible written or printed information concerning dangerous goods that are to be carried as cargo in the form of a U-Airway Bill (see Appendix).

This information must include the following:

a) the date of the flight;
b) the air waybill number (when issued);
c) UN Number and the proper shipping name;
d) the class or division;
e) the packing group shown on the dangerous goods transport document;
f) the number of packages and their exact loading location;
g) the net quantity, or gross mass if applicable, of each package and the total quantities for a consignment consisting of multiple packages containing dangerous goods bearing the same proper shipping name and UN;
h) the aerodrome/landing area at which the package(s) is to be unloaded;
i) signed confirmation from the Dispatch Handling Agent responsible for loading the aircraft that there was no evidence of any damage to or leakage from the packages loaded on the aircraft;
j) the telephone numbers and contact details of the persons and organisations that should be contacted in case of an emergency.

A.3.8 Receiving Handling Agent; Package offloading

Once the aircraft has safely and securely landed on the receiving site, the Receiving Handling Agent:

a) offloads the package;
b) checks that this site is the correct receiving site indicated on the U-Airway Bill;
c) performs leakage and damage inspection;
d) Acknowledges receipt of the package on the U-Airway Bill;
e) The Shipper/hospital of origin is informed of receipt and identity of Receiving Handling Agent.

A.3.9 Retention of Documentation

The following documents must be retained for at least 3 months:

- The Shipper's Declaration provided by the Shipper with the consignment
- The Acceptance Check List completed by the Dispatch Handling Agent before take-off
- The Airway Bill provided by the DG Dispatch Handling Agent to the Remote Pilot and the flight crew.

A.4 RECOGNITION OF UNDECLARED / HIDDEN DANGEROUS GOODS

A.4.1 UN1851, UN3249, UN3373 approved Dangerous Goods only

Approval has only been granted for the air transport of Dangerous Goods UN1851, UN3249 (Class 6.1), and UN3373 (Class 6.2). Consequently, packages bearing indications of other types of dangerous goods should not be loaded on the aircraft.

A.4.2 'Hidden' Dangerous Goods

Personnel must be alert to indications that undeclared dangerous goods are present within cargo.

NOTE: THE DISCOVERY OF UNDECLARED OR MIS-DECLARED DANGEROUS GOODS OR THE DISCOVERY OF DANGEROUS GOODS FORBIDDEN FOR CARRIAGE MUST BE REPORTED TO THE CAA.

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.

There are a number of indications of the presence of other dangerous goods, including the indication of a UN number, and/or any the following:

CLASS 1 – EXPLOSIVE

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

Class 1 (without exploding bomb symbol):

Divisions 1.4B, 1.4F, 1.5 and 1.6 - explosives not permitted on an aircraft in normal circumstances.

* 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."

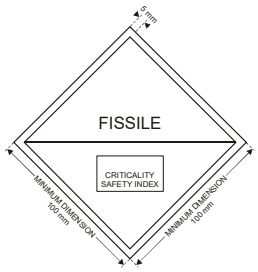
CLASS 7 – RADIOACTIVE MATERIAL

Category I

Category II

Category III

Criticality safety index label



CLASS 8 – CORROSIVE

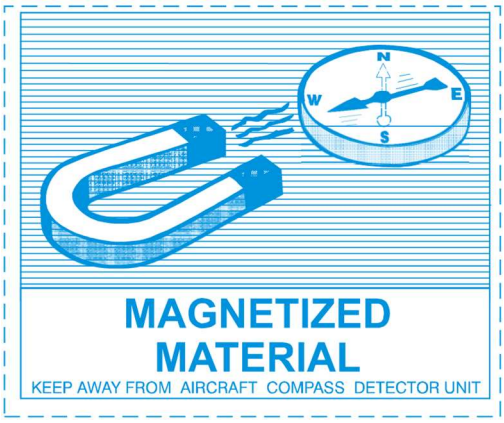
CLASS 9 – MISCELLANEOUS

Class 9 label for Section I. IA and IB lithium battery shipments

HANDLING LABELS

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

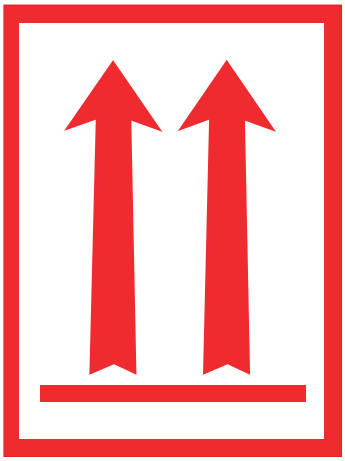
Magnetized material



Cargo aircraft only

Cryogenic liquid label

Package orientation

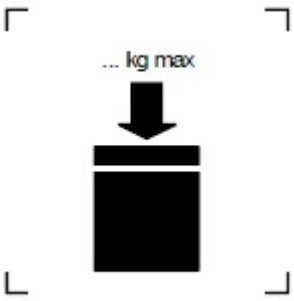


(red or black)

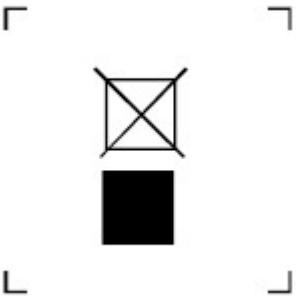
Keep away from heat

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

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. Consignments borne this label without the Class 9 label do not need to be accompanied by a dangerous goods transport document (Shipper's Declaration) and no acceptance check is required.

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 packaging that have not been tested and marked as is required for UN Specification packaging 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 (the CAA if discovered within the UK).

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 packages containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids.

The following is a list of general descriptions that are often used for items in cargo 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 the Technial 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 batteries.

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.

Frozen fruit, vegetables, etc. — may be packed in dry ice (solid carbon dioxide).

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.

Vaccines — may be packed in dry ice (solid carbon dioxide).

A.5 PROCEDURE FOR EMERGENCY SITUATIONS

A.5.1 Removal of Contamination within aircraft

In the event of a spillage or leakage of dangerous goods within an aircraft, the position where the dangerous goods were stowed in 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 the landing area; and
- in the case of infectious material UN3373:
    - inform the appropriate public health authority, and
    - notify the shipper and/or the consignee.

A.5.2 Aircraft Accident or Serious Incident Where Dangerous Goods Carried as Cargo May be Involved

If an aircraft carrying dangerous goods as cargo is involved in an accident or serious incident where the dangerous goods may be involved, [Drone Operator] must:

- provide information, without delay, to emergency services responding to the accident or serious incident about the dangerous goods, as shown on the copy of the U-Airway Bill. The information must be sufficient to enable any hazards created by the dangerous goods to be minimised and include the proper shipping name, UN number, class/division, any identified subsidiary hazards, the quantity, and the location on board the aircraft;
- provide this information to the CAA Dangerous Goods Office. In the first instance, the Dangerous Goods Office should be alerted to the incident or accident by phone using the following number:

Telephone: [+44 (0) 330 022 1915.]

A.5.3 Reporting Requirements

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 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.

[Drone 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, including any occasion when:

a) dangerous goods are discovered to have been carried when not correctly loaded, segregated, separated or secured; or

b) dangerous goods are discovered to have been carried without information having been provided to the remote pilot (when required) or the information is inadequate;

c) undeclared or misdeclared dangerous goods are discovered in cargo

In addition to the requirements of the ICAO Technical Instructions for the reporting of dangerous goods occurrences (above), ORO.GEN.160 requires that **any incident** which endangers or which, if not corrected, would endanger an aircraft or any person is reported to **CAA Safety Data.** Dangerous goods occurrences reportable under the Mandatory Occurrence Reporting Scheme include:

- dangerous goods found not to have been secured to prevent movement;
- damage to packages of dangerous goods;
- U-Airway Bill errors where dangerous goods have not been stowed in accordance with loading instructions;

The report must be made to CAA Safety Data within 72 hours, unless exceptional circumstances prevent this.

Dangerous goods occurrences not meeting the criteria of ORO.GEN.160 are to be reported to **dgo@caa.co.uk** using the **CAA Form** SRG 2808.

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 mis declared 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 hazard;
- 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.

A.6 TRAINING SYLLABUS FOR TRANSPORT OF DANGEROUS GOODS

(OPERATIONS PERSONNEL INCLUDING CREW MEMBERS)

A.6.1 Approval of Dangerous Goods Training Programmes

[Drone Operator] outsources the provision of dangerous goods training to the following specialist companies holding an approval for training programmes in the carriage of dangerous goods by air by the Dangerous Goods Office of the CAA:

[list DG Training companies providing training].

A.6.2 General Requirements Applicable to Dangerous Goods Training Programmes

To ensure that everyone involved is aware of their responsibilities in the transport of dangerous goods, training must be given so that an 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 1-4 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 1-4.

Training must be provided or verified upon the employment of personnel. Recurrent training must be provided within 24 months of previous training in addition to the remainder of the month of completion to ensure knowledge is current. If recurrent training is completed within the final three months of validity of previous training, the period of validity shall extend from the month of completion until 24 months from the expiry month of that previous training.

As with other aviation qualifications an offence against the regulations will be committed 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 36 months from the most recent training completion month and must be made available upon request to the employee or the appropriate national authority.

A.6.3 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.

Extract from Table 1-4 of the ICAO Technical Instructions (Content of Training Courses)

	Categories of staff								
Aspects of transport of dangerous goods by air with which they should be familiar, as a minimum	1	2	6	7	8	9	10	11	12
General philosophy	X	X	X	X	X	X	X	X	X
Limitations	X		X	X	X	X	X	X	X
General requirements for shippers	X		X						
Classification	X	X	X						X
List of dangerous goods	X	X	X				X		
Packing requirements	X	X	X						
Labelling and marking	X	X	X	X	X	X	X	X	X
Dangerous goods transport document and other relevant documentation	X		X	X					
Acceptance procedures			X						
Recognition of undeclared dangerous goods	X	X	X	X	X	X	X	X	X
Storage and loading procedures			X		X		X		
Pilots' notification			X		X		X		
Provisions for passengers and crew	X	X	X	X	X	X	X	X	X
Emergency procedures	X	X	X	X	X	X	X	X	X

CATEGORY:

1 - Shippers and persons undertaking the responsibilities of shippers.
2 - Packers.
6 - Operator's staff accepting dangerous goods.
7 - Operator's staff accepting cargo or mail (other than dangerous goods).
8- Operator's staff involved in the handling, storage and loading of cargo or mail and baggage.
9 - Passenger-handling staff.
10 - Flight crew members, loadmasters, load planners, flight operations officer/flight dispatcher.
11 - Crew members (other than flight crew members).
12 - Security staff.

Based on the assignment of responsibilities detailed in A2.3., the training requirement of [Drone Operator] personnel are as follows:

The Dangerous Goods Accountable Manager	**11** - Crew members (other than flight crew members)
DG Dispatch Handling Agent	**6** - Operator's staff accepting dangerous goods
DG Receiving Handling Agent	**10** - Flight crew members, loadmasters, load planners and flight operations officer/flight dispatcher
Operations Personnel	**11** - Crew members (other than flight crew members)
Remote Pilot, Flight Crew	**10** - Flight crew members, loadmasters, load planners and flight operations officer/flight dispatcher
Trainers	Outsourced to specialist companies
Compliance Monitoring Manager, Auditors and Safety Manager	**11** - Crew members (other than flight crew members)

A.6.4 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.

Instructors delivering initial and recurrent dangerous goods training programmes must at least every 24 months deliver such courses, or in the absence of this attend recurrent training.

A.6.5 Identification of Training and Testing Materials

[Drone Operator] will keep records of the details of the dangerous goods training and testing materials that have been subjected to approval for each category of personnel, so that trainers may readily identify them. 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. If preferred, reference may be made to a separate controlled document where this information is maintained.

Further information concerning training can be found in CAP 483: *Training in the Safe Transport of Dangerous Goods by Air* (Part A).

APPENDIX – SHIPPER'S DECLARATION

SHIPPER'S DECLARATION FOR DANGEROUS GOODS (Provide at least three copies to the airline.)

Shipper

Air Waybill No.

Page of Pages

Shipper's Reference Number *(optional)*

Consignee

This shipper's declaration was prepared using a FedEx Express template.
It must be used ONLY for:
* Class 7 radioactive shipments
* Shipments using an 023 air waybill (IP1, IXF or ATA service)
* Shipments originating from a non-US location

Two completed and signed copies of this Declaration must be handed to the operator

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: *(delete non applicable)*
PASSENGER AND CARGO AIRCRAFT | CARGO AIRCRAFT ONLY

Airport of Departure

Airport of Destination:

Shipment type: *(delete non-applicable)*
NON-RADIOACTIVE | RADIOACTIVE

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			

Additional Handling Information

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.

Name/Title of Signatory

Place and Date

Signature *(see warning above)*

Emergency Telephone Number

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

APPENDIX – DGR ACCEPTANCE CHECKLIST

2022

DANGEROUS GOODS CHECKLIST FOR A NON-RADIOACTIVE SHIPMENT

The recommended checklist appearing on the following pages is intended to verify shipments at origin. Copies of the

	YES	NO*	N/A
AIR WAYBILL–HANDLING INFORMATION			
25. The statement: "Dangerous goods as per associated Shipper's Declaration" or "Dangerous Goods as per associated DGD" [8.2.1(a)]	☐	☐	
26. "Cargo Aircraft Only" or "CAO", if applicable [8.2.1(b)]	☐	☐	☐
27. Where non-dangerous goods are included, the number of pieces of dangerous goods shown [8.2.2]	☐	☐	☐
PACKAGE(S) AND OVERPACKS			
28. Packaging free from damage and leakage [9.1.3 (i)]	☐	☐	
29. Packaging conforms with packing instruction	☐	☐	☐
30. Same number and type of packagings and overpacks delivered as shown on DGD [9.1.3]	☐	☐	
Marks			
31. UN Specification Packaging, marked according to 6.0.4 and 6.0.5:			
31.1 – Symbol and Specification Code [6.0.4.2.1 (a), (b)]	☐	☐	☐
31.2 – X, Y or Z meets or exceeds Packing Group/Packing Instruction requirements [6.0.4.2.1 (c)]	☐	☐	☐
31.3 – Gross Weight within limits (Solids, Inner Packagings or IBCs [SP A179, 6.0.4.2.1 (d)]	☐	☐	☐
31.4 – Plastic drums, jerricans and IBCs within permitted period of use [5.0.2.15]	☐	☐	☐
31.5 – Infectious substance package mark [6.5.3.1]	☐	☐	☐
32. UN or ID number(s), preceded by prefix [7.1.4.1(a)]	☐	☐	
33. The Proper Shipping Name(s) including technical name where required [7.1.4.1(a)]	☐	☐	
34. The full name and address of Shipper and Consignee [7.1.4.1(b)]	☐	☐	
35. For consignments of more than one package of all classes (except ID 8000 and Class 7) the net quantity, or gross weight followed by "G", as applicable, unless contents are identical, marked on the packages [7.1.4.1(c)]	☐	☐	☐
36. Carbon Dioxide, Solid (Dry Ice), the net weight marked on the packages [7.1.4.1(d)]	☐	☐	☐
37. The Name and Telephone Number of a responsible person for Division 6.2 Infectious Substances shipment [7.1.4.1(e)]	☐	☐	☐
38. The Special Marking requirements shown for Packing Instruction 202 [7.1.4.1(f)]	☐	☐	☐
39. Limited Quantities mark [7.1.4.2]	☐	☐	☐
40. Environmentally Hazardous Substance mark [7.1.5.3]	☐	☐	☐
41. Lithium Battery mark [7.1.5.5]	☐	☐	☐
Labelling			
42. The label(s) identifying the Primary hazard as per 4.2, Column D properly affixed [7.2.3.1; 7.2.6]	☐	☐	
43. The label(s) identifying the Subsidiary hazard, as per 4.2, Column D properly affixed [7.2.3.1; 7.2.6.2.3]	☐	☐	☐
44. "Cargo Aircraft Only" label [7.2.4.2; 7.2.6.3]	☐	☐	☐
45. "Orientation" labels on two opposite sides, if applicable [7.2.4.4]	☐	☐	☐
46. "Cryogenic Liquid" label, if applicable as per 4.2, Column D [7.2.4.3]	☐	☐	☐
47. "Keep Away From Heat" label, if applicable as per 4.2, Column D [7.2.4.5]	☐	☐	☐
48. Any irrelevant marks and labels removed or obliterated [7.1.1; 7.2.1]	☐	☐	☐
For Overpacks			
49. Packaging use marks and hazard and handling labels, as required must be clearly visible or reproduced on the outside of the overpack [7.1.7.1, 7.1.7.2, 7.2.7]	☐	☐	☐
50. The word "Overpack" marked if marks and labels are not visible on packages within the overpack [7.1.7.1]	☐	☐	☐
51. If more than one overpack is used, identification marks shown and total quantity of dangerous goods [7.1.7.3]	☐	☐	☐
GENERAL			
52. State and Operator variations complied with [2.8]	☐	☐	☐
53. Cargo Aircraft Only shipments, a cargo aircraft operates on all sectors	☐	☐	☐

Comments: _____

Checked by: _____

Place: _____ Signature: _____

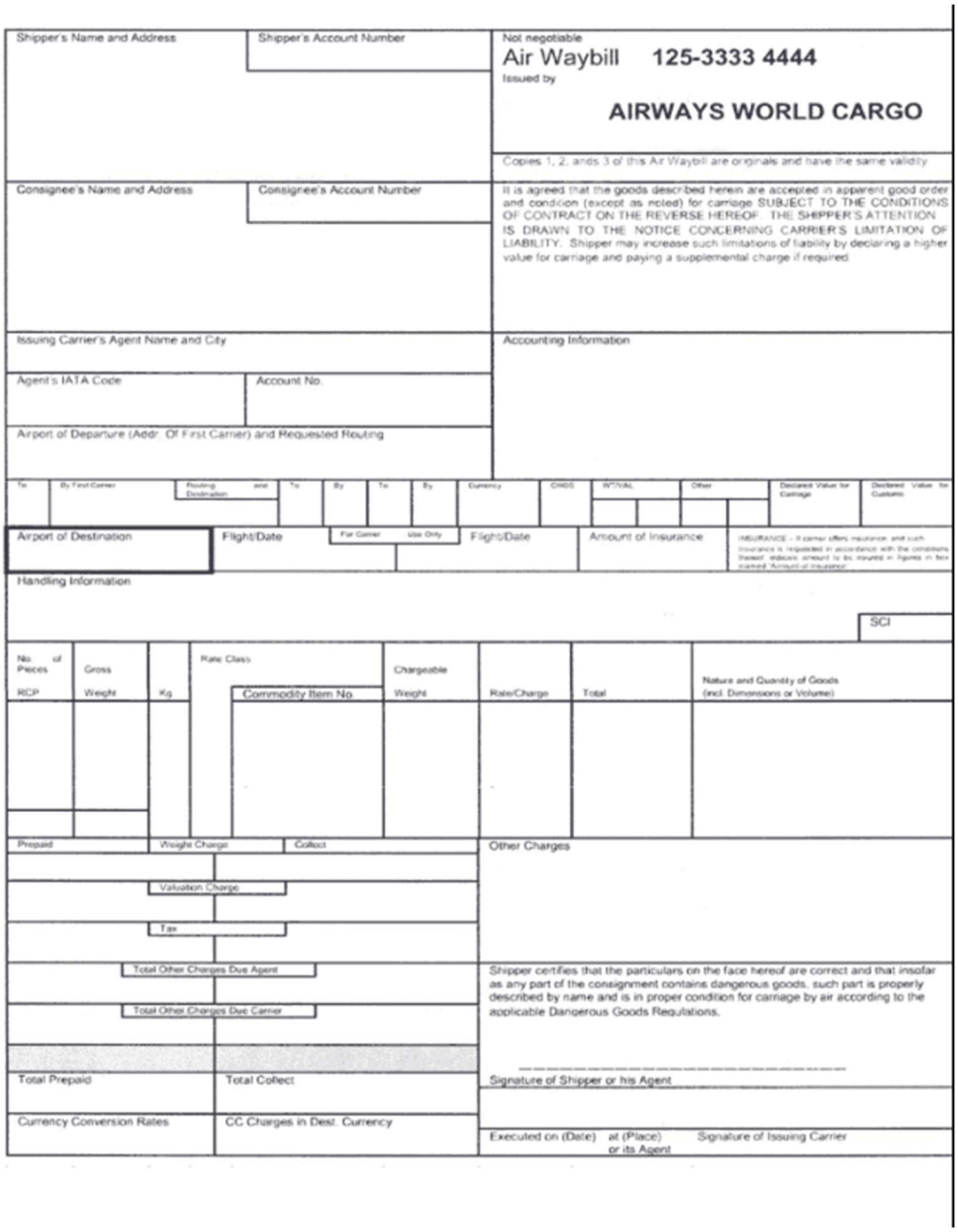
Date: _____ Time: _____

*** IF ANY BOX IS CHECKED "NO", DO NOT ACCEPT THE SHIPMENT AND GIVE A DUPLICATE COPY OF THIS COMPLETED FORM TO THE SHIPPER.**

Clear Form Print

63rd EDITION, 1 JANUARY 2022

APPENDIX – AIRWAY BILL



Shipper's Name and Address | Shipper's Account Number

Not negotiable
Air Waybill 125-3333 4444
Issued by
AIRWAYS WORLD CARGO

Copies 1, 2, and 3 of this Air Waybill are originals and have the same validity

Consignee's Name and Address | Consignee's Account Number

It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitations of liability by declaring a higher value for carriage and paying a supplemental charge if required.

Issuing Carrier's Agent Name and City | Accounting Information

Agent's IATA Code | Account No.

Airport of Departure (Addr. Of First Carrier) and Requested Routing

To	By First Carrier	Routing and Destination	To	By	To	By	Currency	CHGS	WT/VAL	Other	Declared Value for Carriage	Declared Value for Customs

Airport of Destination | Flight/Date | For Carrier Use Only | Flight/Date | Amount of Insurance | INSURANCE – If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance"

Handling Information

SCI

No. of Pieces RCP	Gross Weight	Kg	Rate Class / Commodity Item No.	Chargeable Weight	Rate/Charge	Total	Nature and Quantity of Goods (incl. Dimensions or Volume)

Prepaid	Weight Charge	Collect	Other Charges
	Valuation Charge		
	Tax		
	Total Other Charges Due Agent		Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations.
	Total Other Charges Due Carrier		
Total Prepaid		Total Collect	Signature of Shipper or his Agent
Currency Conversion Rates		CC Charges in Dest. Currency	Executed on (Date) at (Place) Signature of Issuing Carrier or its Agent

APPENDIX – REFERENCE PUBLICATIONS

Reference	Date	Title
DANGEROUS GOODS TRANSPORT		
CAP2383	Aug'22	Using Drones to Carry Dangerous Goods using Crash Protected Containers
VCA	Apr'22	Crash protected containers for dangerous goods carried by remotely piloted aircraft systems
CAP2248	Sep'21	Carriage of Dangerous Goods by Remotely Piloted Aircraft Systems by the CAA Innovation Hub
CAA doc	Jun'21	Example Operations Manual Entry for a UK Fixed-Wing Operator or Helicopter Operator Approved to Carry Dangerous Goods as Cargo
CAP1162	Jan'20	Dangerous Goods Guidance
CAP 483:	Nov'21	Training in the Safe Transport of Dangerous Goods by Air (Part A).
CAA SRG2807	Oct'20	Application for Approval to Transport Dangerous Goods by Air: Operators of UK Registered Aircraft
ICAO AC 102-37	Jun'20	Advisory Circular (AC) 102-37 Guidance associated with the ICAO Model UAS Regulations regarding unmanned aircraft systems (UAS) operations in the Specific category. It may assist Civil Aviation Authority (CAA) personnel in the implementation and oversight of UAS operations that carry hazardous goods.
ICAO U-AID	Sep'20	Unmanned Aircraft Systems (UAS) for Humanitarian Aid and Emergency Response Guidance U-AID
UN Model Regulation	2019	UN recommendations on the Transport of Dangerous Goods – Model Regulations
ICAO SARPs Doc9284 Annex 18	Jul '11	The Safe Transport of Dangerous Goods by Air
ICAO Doc9284	2021	Technical Instructions for the Safe Transport of Dangerous Goods by Air 2021-2022 (Doc 9284)
ICAO Guidance to Technical Instructions	2005	GUIDANCE DOCUMENT - Infectious Substances International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air, 2005-2006
IATA DGR	Jan 2021	2021 Dangerous Goods Regulations Edition 62
WHO	2019	Guidance on regulations for the transport of infectious substances 2019– 2020
WHO	2017	Guidance on regulations for the transport of infectious substances 2017– 2018

THEDRONEOFFICE