Department for Transport

Maritime and Coastguard Agency

hseni CONTROLLING RISK TOGETHER

Civil Aviation Authority

GUIDANCE NOTE NUMBER: 17/2012[REV.6]

Carriage of Dangerous Goods and Transportable Pressure Equipment Regulations 2009 as amended;

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations (Northern Ireland) 2010

Applicable in Great Britain and Northern Ireland

This information is based upon the interpretation of the UK Competent Authority. This guidance note should not be taken as a complete or definitive statement of the law. It is not intended as a substitute for detailed legal or other professional advice based on specific circumstances. The Department for Transport accepts no liability for any loss or damage caused by reliance on the contents of this guidance note.

In international carriage Competent Authorities of other states may have a different interpretation of Dangerous Goods regulations.

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TRANSPORT OF INFECTIOUS SUBSTANCES UN 2814, UN 2900 and UN 3373

REVISION 6

CONTENTS

Current legal text(s):

Air

Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO)

The Air Navigation Order 2009 SI 3015 provides the legal basis for the Air Navigation (Dangerous Goods) Regulations 2002 (SI 2786) (As amended)

Road and Rail

European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (2009 No 1348) (As Amended)

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations (Northern Ireland) 2010

Maritime

International Maritime Dangerous Goods Code (IMDG)

The Merchant Shipping (Dangerous Goods and Marine Pollutant) Regulations 1997 (SI 2367)

1 INTRODUCTION:

Most of the transport of Substances of Division 6.2 involves the routine and frequent transport of specimens to and from hospitals, clinics, laboratories and research establishments etc. for analysis. Those involved in their transport will find guidance here on classification, packaging, and labelling

This part provides guidance on the current requirements. It will be of use to consignors/shippers, operators, regulators etc., and has been produced with the assistance of the Dangerous Goods European Aviation Liaison Group and the World Health Organization.

Terminology

Note: **1** This part includes references to "UK competent authorities". These are the Department for Transport (DfT) for land (i.e. road and rail) modes of transport; Civil Aviation Authority (CAA) for air; the Maritime and Coastguard Agency (MCA) for sea.

2 The term consignors/shippers includes healthcare staff such as doctors, nurses, dentists etc.

All transport modes have requirements for the carriage of infectious substances i.e. substances which are known or reasonably expected to contain pathogens which are

defined as micro-organisms (including bacteria, viruses, rickettsiae, fungi), plasmids and other agents such as prions, which can cause disease in humans or animals

This guidance explains the requirements contained in the UN Model Regulations for the Transport of Dangerous Goods; the latest revision of this non-mandatory set of regulations came into effect from 1 January 2013 and the Modal Regulations (See "Applicability" below).

Applicability

	Domestic	International
Air (ICAO)**	1 January 2013	1 January 2013
Road and rail (ADR and RID)**	1 July 2013	1 July 2013
Sea (IMDG)**	1 January 2014	1 January 2014

***** See Appendix G for details of what these mean***

Scope of this document and consignor's (shipper's) duties

It is the duty of a suitably-qualified person to assign a candidate infectious substance to the appropriate Category (if any) for transport purposes. Such professional judgment is necessary for classification and the assignment of a UN Number and Proper Shipping Name.

2 CURRENT CLASSIFICATION REQUIREMENTS

For the purposes of transport, infectious substances are classified as either Category A or Category B:

Category A is a pathogen which is transported by any mode in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease to humans or animals.

Materials containing Category A must be consigned/shipped as either UN2814 INFECTIOUS SUBSTANCE AFFECTING HUMANS or UN2900 INFECTIOUS SUBSTANCE AFFECTING ANIMALS only, as appropriate. A pathogen that affects both humans and other animals is assigned to UN2814. An indicative list of substances assigned to Category A can be found in **Appendix A**. The list is not exhaustive. Infectious substances, including those containing new or emerging pathogens, which do not appear in the list but which meet the same criteria of severity must be transported as a Category A infectious substance.

In addition, if there is any doubt as to whether or not a pathogen falls within this category, it must be transported as a Category A infectious substance. Clinical wastes containing Category A infectious substances shall be assigned to UN2814 or UN2900 as appropriate.

Category B is an infectious substance that does not meet the criteria for inclusion in Category A and must be consigned/shipped as UN3373.

For the purpose of guidance, UN3373 could be deemed to include patient specimens of human or animal material including, but not limited to, excreta, secreta, blood and its components, tissue and tissue fluid swabs, and body parts being transported for purposes such as research, diagnosis, investigational activities, disease treatment or prevention

To help you further on classification please note the following:

[1] A flow-chart for the classification of infectious substances is given in **Appendix B.**

[2] Examples of scenarios involving the transport of infectious substances are at **Appendix C.**

[3] For guidance on classification of samples known or suspected to contain the avian influenza virus, please see "DfT Dangerous goods guidance note 12: Avian Influenza Virus". **see;**
http://www.dft.gov.uk/pgr/freight/dgt1/road/guidance/guidance/guidancenonclass7/

[4] For Guidance on Swine Flu see **Appendix F.**

3 EXEMPTIONS FROM THE REGULATORY PROVISIONS

1. Substances which do not contain infectious substances or substances which are unlikely to cause disease in humans or animals are not subject to (the specific modal requirements) unless they meet the criteria for inclusion in another class.

2. Substances containing microorganisms which are non-pathogenic to humans or animals are not subject to the specific modal requirements unless they meet the criteria for inclusion in another class.

3. Substances in a form that any present pathogens have been neutralized or inactivated such that they no longer pose a health risk are not subject to the specific modal requirements unless they meet the criteria for inclusion in another class.

4. Environmental samples (including food and water samples) which are not considered to pose a significant risk of infection are not subject to the specific modal requirements unless they meet the criteria for inclusion in another class.

5. Dried blood spots, collected by applying a drop of blood onto absorbent material, or faecal occult blood screening tests;

6. Blood or blood components which have been collected for the purposes of transfusion or for the preparation of blood products to be used for transfusion or transplantation and any tissues or organs intended for use in transplantation are not subject to (the specific modal requirements).

7. Human or animal specimens for which there is minimal likelihood that pathogens are present are not subject to (the specific modal requirements) if the specimen is transported in a packaging which will prevent any leakage and which is marked with the words “Exempt human specimen” or “Exempt animal specimen”, as appropriate.

PLEASE NOTE THE FOLLOWING INFORMATION BELOW FOR FURTHER

GUIDANCE ON EXEMPTION [6] ABOVE.

It is the opinion of UK authorities that exemption 6 can only apply to substances which are known not to contain pathogens (for example following testing or action taken to neutralise or inactivate any pathogens present). Expert medical advice in the United Kingdom is that it is not always possible to determine which human or animal samples contain pathogens to some degree and consequently it cannot be assumed that, for example, a blood sample taken for the purposes of cholesterol level testing, will necessarily be exempt from the requirements.

It is therefore strongly recommended that unless it is known or reasonably believed to contain infectious substances of Category A, all human or animal material should be regarded as UN 3373; failure to do so may result in the inadvertent consignment of Category B infectious substances not in compliance with modal regulations, for which legal penalties may result.

4 CURRENT PACKAGING, MARKING, LABELLING AND DOCUMENTATION REQUIREMENTS

Once classified, infectious substances must be packaged for transport in accordance with the relevant Packing Instructions.

Category A substances must be transported in accordance with Packing Instruction 620 and are not addressed further here. Because further modal provisions apply, e.g. packaging, labelling, documentation and training requirements, readers MUST refer to the appropriate modal texts;

Category B These are transported in accordance with Packing Instruction 650 but with this packing instruction transport requirements vary between air and other modes.

PLEASE REMEMBER:

Additional provisions apply for Category A substances concerning security, training, documentation and labelling. It is therefore important that users of this guidance refer to modal texts for full information

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Packing Instruction 650 is shown below;

Please note that;

[1] Differences for air are underlined;

[2] Additional guidance on how to comply with this packing instruction is also provided and this is highlighted.

P650 PACKING INSTRUCTION

This packing instruction applies to UN 3373.

(1) The packaging shall be of good quality, strong enough to withstand the shocks and loadings normally encountered during transport, including transhipment between transport units and between transport units and warehouses as well as any removal from a pallet or overpack for subsequent manual or mechanical handling. Packagings shall be constructed and closed to prevent any loss of contents that might be caused under normal conditions of transport by vibration or by changes in temperature, humidity or pressure.

Individual primary receptacles and the secondary packages should be tightly closed and sealed with tape or other means to prevent leakage ("Ziplock"® bags would meet this requirement).
Outer packagings should be securely closed by means such as clasps, catches or tape.

(2) The packaging shall consist of at least three components:
(a) a primary receptacle;
(b) a secondary packaging; and
(c) an outer packaging
of which either the secondary or the outer packaging shall be rigid.

The **outer packaging** must be rigid

Road vehicles which collect from surgeries, clinics etc are often fitted with box (es) into which the collected item is placed. Such boxes may be considered to constitute the outer packaging. Collected items must consist of a primary receptacle and a secondary packaging.
Note: It is quite common that the samples when completely packaged may have more than three components there is no definition of which "layer" of packaging is the secondary.

(3) Primary receptacles shall be packed in secondary packagings in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents into the secondary packaging. Secondary packagings shall be secured in outer packagings with suitable cushioning material. Any leakage of the contents shall not compromise the integrity of the cushioning material or of the outer packaging.

If a specimen is contained in another dangerous substance (see 13 below), it must be ensured that the cushioning material is compatible with the dangerous substance.

(4) For transport, the mark illustrated below shall be displayed on the external surface of the outer packaging on a background of a contrasting colour and shall be clearly visible and legible. The mark shall be in the form of a square set at an angle of 45° (diamond-shaped) with each side having a length of at least 50 mm; the width of the line shall be at least 2 mm and the letters and numbers shall be at least 6 mm high. The proper shipping name "BIOLOGICAL SUBSTANCE, CATEGORY B" in letters at least 6 mm high shall be marked on the outer package adjacent to the diamond-shaped mark.

The mark must be placed on the outer so that it is readily visible. Where road vehicles collect from clinics, surgeries etc,. it is recommended that this mark is at least 100mm square to ensure visibility.

No colour is specified for this marking.

(5) At least one surface of the outer packaging shall have a minimum dimension of 100 mm × 100 mm.

(6) The completed package shall be capable of successfully passing the drop test referred to in the specific modal requirements at a height of 1.2 m.
Following the appropriate drop sequence, there shall be no leakage from the primary receptacle(s) which shall remain protected by absorbent material, when required, in the secondary packaging.

The drop tests are determined according to the type of packaging material.(see Appendix D)

The test must be of a complete package as prepared for transport: i.e. the primary receptacles must be filled with a substance that represents the infectious substance (e.g. water) and absorbent/cushioning material must be in place

The test may be carried out by consignors/shippers and a record must be kept. The use of accredited testing facilities is not required.

(7) For liquid substances

(a) The primary receptacle(s) shall be leakproof;

The primary receptacle must not contain more than 1 litre

(b) The secondary packaging shall be leakproof;

(c) If multiple fragile primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated to prevent contact between them;

(d) Absorbent material shall be placed between the primary receptacle(s) and the secondary packaging. The absorbent material shall be in quantity sufficient to absorb the entire contents of the primary receptacle(s) so that any release of the liquid substance will not compromise the integrity of the cushioning material or of the outer packaging;
See (3) above. Examples of cushioning material include cotton wool, vermiculite.

(e) The primary receptacle or the secondary packaging shall be capable of withstanding, without leakage, an internal pressure of 95 kPa (0.95 bar).

There is no defined test method for determining an internal pressure. For surface journeys (land and sea) a record of continuous use of a particular packaging e.g. plastic bag, without known leakage, would meet this requirement. For air transport a statement of compliance supplied by a manufacturer would be acceptable.

Note.— The capability of a packaging to withstand an internal pressure without leakage that produces the specified pressure differential should be determined by testing samples of primary receptacles or secondary packagings. Pressure differential is the difference between the pressure exerted on the inside of the receptacle or packaging and the pressure on the outside. The appropriate test method should be selected based on receptacle or packaging type. Acceptable test methods include any method that produces the required pressure differential between the inside and outside of a primary receptacle or a secondary packaging. The test may be conducted using internal hydraulic or pneumatic pressure (gauge) or external vacuum test methods. Internal hydraulic or pneumatic pressure can be applied in most cases as the required pressure differential can be achieved under most circumstances. An external vacuum test is not acceptable if the specified pressure differential is not achieved and maintained. The external vacuum test is a generally acceptable method for rigid receptacles and packagings but is not normally acceptable for:
— flexible receptacles and flexible packagings;
— receptacles and packagings filled and closed under an absolute atmospheric pressure lower than 95 kPa.

(f) The outer package must not contain more than 4 litres; this quantity excludes ice, dry ice or liquid nitrogen used to keep the specimen cold.

(8) For solid substances

(a) The primary receptacle(s) shall be siftproof;

(b) The secondary packaging shall be siftproof;

"Siftproof" means impermeable to dry contents.

(c) If multiple fragile primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated to prevent contact between them;

(d) If there is any doubt as to whether or not residual liquid may be present in the primary receptacle during transport then a packaging suitable for liquids, including absorbent materials, shall be used.

It is recommended that any cushioning material should be capable of absorbing liquids.

	Except for packages containing body parts, organs or whole bodies, the outer package must not contain more than 4kg. This quantity excludes ice, dry ice or liquid nitrogen when used to keep specimens cold.
	Whole bodies are subject to separate rules and advice from airlines should be sought.

(9) Refrigerated or frozen specimens: Ice, dry ice and liquid nitrogen

(a) When dry ice or liquid nitrogen is used to keep specimens cold, all applicable requirements of (the specific modal requirements) shall be met. When used, ice or dry ice shall be placed outside the secondary packagings or in the outer packaging or an overpack. Interior supports shall be provided to secure the secondary packagings in the original position after the ice or dry ice has dissipated. If ice is used, the outside packaging or overpack shall be leakproof. If solid carbon dioxide(dry ice) is used, the packaging shall be designed and constructed to permit the release of carbon dioxide gas to prevent a build-up of pressure that could rupture the packagings and the package (the outer packaging or the overpack) shall be marked “Carbon dioxide, solid” or “Dry ice”;

NOTE – additional requirements apply for the carriage of dry ice by air. It is impractical to reproduce all of these in this guidance, consequently the ICAO Technical Instructions must be consulted for further details.

It is very important to follow these procedures carefully. Placing refrigerants in the wrong place can lead to serious accidents.

(b) The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the refrigerant used as well as the temperatures and the pressures which could result if refrigeration were lost.

Note: certain packaging materials become brittle at very low temperatures, particularly plastics.

(10) When packages are placed in an overpack, the package markings required by this packing instruction shall either be clearly visible or be reproduced on the outside of the overpack.

(11) Infectious substances assigned to UN 3373 which are packed and marked in accordance with this packing instruction are not subject to any other requirement in (the specific modal requirements) .	except for the following: a) the name and address of the shipper and of the consignee must be provided on each package. b) the name, address and telephone number of a person responsible must be provided on a written document (such as an air waybill) or on the package; Note: When the shipper or consignee is also the “person responsible” as referred to in b) above, the name and address need be marked only once in order to satisfy the name and address marking provisions in both a) and b), above.
	b) classification must be in accordance with 2.6.3.2; *See Part 2 of this guide.*
	c) the incident reporting requirements in 7.4.4 must be met; and *An operator responsibility.*
	d) the inspection for damage or leakage requirements in 7.3.1.3 and 7.3.1.4 must be met; *An operator responsibility.*

	e) passengers and crew members are prohibited from transporting infectious substances either as, or in, carry-on baggage or checked baggage or on their person.
	It is recommended that substances should not be carried on any form of passenger transport other than an individual sample carried by a patient.
	f) passengers and crew members are prohibited from transporting infectious substances either as, or in, carry-on baggage or checked baggage or on their person. *Note.— When the shipper or consignee is also the "person responsible" as referred to in b), the name and address need be marked only once in order to satisfy the name and marking provisions in both a) and b).*
(12) Clear instructions on filling and closing such packages shall be provided by packaging manufacturers and subsequent distributors to the consignor or to the person who prepares the package (e.g. patient) to enable the package to be correctly prepared for transport.	
This information can be printed on the packaging or provided in a leaflet. It is particularly important that this is provided to patients who are responsible for sending their own samples.	
(13) Other dangerous goods shall not be packed in the same packaging as Division 6.2 infectious substances unless they are necessary for maintaining the viability of, stabilizing or preventing degradation or neutralizing the hazards of the infectious substances. A quantity of 30 ml or less of dangerous goods of Class 3, 8 or 9 may be packed in each primary receptacle containing infectious substances (provided these substances meet the requirements of 1;2.4.2 and 1;2.4.3 of the Technical Instructions). When these small quantities of dangerous goods are packed with infectious substances in accordance with this Packing Instruction, no other requirements in (the specific modal requirements) need be met.	
Additional Requirement Alternative packagings for the carriage of animal material may be authorized by the competent authority of the country of origin in accordance with 4.1.8.7	

5 AIR PASSENGER PROVISIONS

Infectious substances in Category A or B are not permitted for transport in carry-on or checked baggage and must not be carried on the person.

6 EMERGENCY RESPONSE PROCEDURES (CATEGORY A AND B)

The following guidance is primarily of use by operators in the event that a package containing infectious substances (of either Category A or B) is involved in an incident resulting in spillage.

Mitigation procedures:

- Isolate spill or leak area immediately in all directions.
- Keep unauthorised personnel away.
- Obtain identity of substance involved if possible and report the spill to the appropriate authorities.
- Do not touch or walk through spilled material.

- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Be particularly careful to avoid contact with broken glass or sharp objects that may cause cuts or abrasions that could significantly increase the risk of exposure.
- Damaged packages containing solid CO_2 as a refrigerant may produce water or frost from condensation of air. Do not touch this liquid as it could be contaminated by the contents of the package.
- Liquid nitrogen may be present and can cause severe burns.
- Absorb spilled materials with earth, sand or other non-combustible material while avoiding direct contact.
- Cover damaged package or spilled material with damp towel or rag and keep wet with liquid bleach or other disinfectant. Liquid bleach will generally effectively inactivate the released substance.

PLEASE NOTE: Clean-up or disposal should only be carried out or supervised by a person who has undertaken appropriate training?

First Aid:

• Move exposed person(s) to a safe isolated area. **CAUTION: Exposed person(s) may be a source of contamination**
Call emergency medical services
• Remove and isolate contaminated clothing and shoes.
• .In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes
• Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
• For further assistance, contact the appropriate public health authority.
• Ensure that medical personnel are aware of the substances involved, and take precautions to protect themselves.
If appropriate, report the accident or incident 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

INDICATIVE EXAMPLES OF INFECTIOUS SUBSTANCES ASSIGNED TO CATEGORY A

These entries are for infectious substances carried **in any form**, unless otherwise indicated.

Note: **The following list is not exhaustive**. Infectious substances, including those containing new or emerging pathogens, which do not appear in the following list but which meet the same criteria, **must** be transported as a Category A infectious substance. In addition, if there is doubt as to whether or not a pathogen falls within this category it **must** be transported as a Category A infectious substance.

UN2814 INFECTIOUS SUBSTANCES AFFECTING HUMANS

Bacillus anthracis (cultures only)
Brucella abortus (cultures only)
Brucella melitensis (cultures only)
Brucella suis (cultures only)
Burkholderia mallei - Pseudomonas mallei – Glanders *(cultures only)*
Burkholderia pseudomallei – Pseudomonas pseudomallei (cultures only)
Chlamydia psittaci - avian strains (cultures only)
Clostridium botulinum (cultures only)
Coccidioides immitis (cultures only)
Coxiella burnetii (cultures only)
Crimean-Congo haemorrhagic fever virus
Dengue virus (cultures only)
Eastern equine encephalitis virus (cultures only)
Escherichia coli, verotoxigenic (cultures only) *****
Ebola virus
Flexal virus
Francisella tularensis (cultures only)
Guanarito virus
Hantaan virus
Hantavirus causing haemorrhagic fever with renal syndrome
Hendra virus
Hepatitis B virus (cultures only)
Herpes B virus (cultures only)
Human immunodeficiency virus (cultures only)
Highly pathogenic avian influenza virus (cultures only)
Japanese Encephalitis virus (cultures only)
Junin virus
Kyasanur Forest disease virus
Lassa virus
Machupo virus
Marburg virus
Monkeypox virus
Mycobacterium tuberculosis (cultures only) *****
Nipah virus
Omsk haemorrhagic fever virus
Poliovirus (cultures only)
Rabies virus (cultures only)

Rickettsia prowazekii (cultures only) *Rickettsia rickettsii* (cultures only) Rift Valley fever virus (cultures only) Russian spring-summer encephalitis virus (cultures only) Sabia virus *Shigella dysenteriae type 1 (cultures only)** Tick-borne encephalitis virus (cultures only) Variola virus Venezuelan equine encephalitis virus (cultures only) West Nile virus (cultures only) Yellow fever virus (cultures only) *Yersinia pestis* (cultures only)

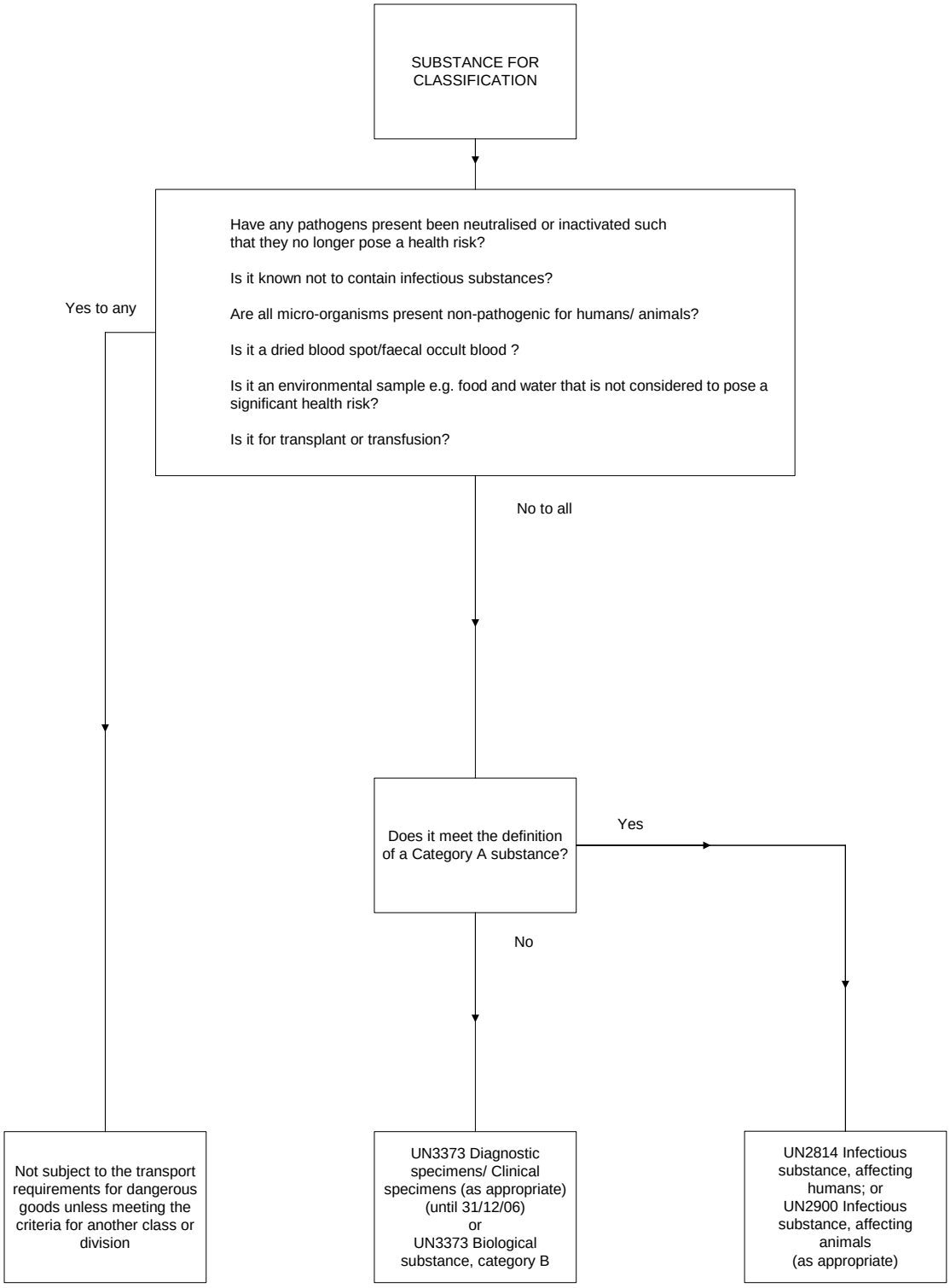
*For land modes only(RID/ADR), when cultures are intended for diagnostic or clinical purposes, they may nevertheless be classified as Category B.

UN 2900 INFECTIOUS SUBSTANCE AFFECTING ANIMALS only

African swine fever virus (cultures only) Avian paramyxovirus Type 1 - Velogenic Newcastle disease virus (cultures only) Classical swine fever virus (cultures only) Foot and mouth disease virus (cultures only) Lumpy skin disease virus (cultures only) *Mycoplasma mycoides* - Contagious bovine pleuropneumonia (cultures only) Peste des petits ruminants virus (cultures only) Rinderpest virus (cultures only) Sheep-pox virus (cultures only) Goatpox virus (cultures only) Swine vesicular disease virus (cultures only) Vesicular stomatitis virus (cultures only)

APPENDIX B

FLOWCHART FOR THE CLASSIFICATION OF INFECTIOUS SUBSTANCES



APPENDIX C

SCENARIOS INVOLVING THE TRANSPORT OF INFECTIOUS SUBSTANCES

1. A blood sample known or reasonably suspected to contain EBOLA VIRUS

   or

   Culture of a clinical specimen taken from a cow in a herd known to be affected by FOOT AND MOUTH DISEASE.

   UK Guidance: UN2814 or UN2900 as appropriate.

   ***Reason*:** Pathogens in Category A are responsible for causing serious disease in humans or animals and are capable of posing the greatest risk in transport. Consequently they require the most restrictive packaging.

2. A blood sample taken from a patient known or suspected to have a Category B pathogen, such as HEPATITIS B or HIV,

   or

   Culture of a clinical specimen for diagnosis taken from a cow in a herd known to be affected by BOVINE TUBERCULOSIS.

   UK Guidance: UN3373.

   Reason: Pathogens assigned to Category B may be responsible for causing disease in humans or animals, but the conditions in transport are such that the likelihood of the disease being contracted from a sample in transport is extremely remote.

3. Non-cultured form of a pathogen listed in Category A as being in a cultured form, e.g.Clostridium botulinum

   UK Guidance: UN 3373

   ***Reason**: Pathogens listed as being in a cultured form in Category A are* unlikely to cause infection in non-cultured form, and can consequently be classified as a Category B infectious substance.

4. Specimens other than those known or reasonably suspected to contain a Category A infectious substance e.g. those sent for testing for Cholesterol or HIV (blood), diabetes (urine), bowel cancer (faecal).

   UK Guidance: UN3373

   ***Reason**:* In this example it is assumed that the sample has not been inactivated or neutralised. Consequently, unless it can be categorically stated that no pathogens are present or those that are present do not pose a health risk, it is suggested that to avoid an inadvertent breach of regulations, UN3373 should be assigned.

5. Specimen containing a Category A or B infectious substance, treated so as to inactivate or neutralise the pathogens such that they no longer pose a health risk.

UK Guidance : Not subject to the transport requirements for dangerous goods, unless meeting the criteria for another class or division.

Reason*:* Any pathogens that may have been present no longer pose a health risk in transport.

APPENDIX D

PACKAGE TESTING REQUIREMENTS FOR P650

i. Samples must be subjected to free-fall drops onto a rigid, non-resilient, flat, horizontal surface from a height of 1.2 metres. Where the samples are in the shape of a box, five must be dropped in sequence:

1) flat onto the base;
2) flat onto the top;
3) flat onto the longest side;
4) flat onto the shortest side;
5) onto a corner.

Where the samples are in the shape of a drum, three must be dropped in sequence:

6) diagonally onto the top chime, with the centre of gravity directly above the point of impact;
7) diagonally onto the base chime;
8) flat onto the side.

Following the appropriate drop sequence, there must be no leakage from the primary receptacle(s), which must remain protected by absorbent material in the secondary packaging.

Note: While the sample must be released in the required orientation, it is accepted that for aerodynamic reasons the impact may not take place in that orientation.

ii. If the test sample includes an outer packaging constructed of fibreboard, the sample must be subjected to a water spray that simulates exposure to rainfall of approximately 5 cm per hour for at least one hour. It must then be subjected to the test described in i. above.

iii. If the test sample includes an inner or outer packaging constructed of plastic, the sample must be conditioned in an atmosphere of –18°C or less for a period of at least 24 hours and within 15 minutes of removal from that atmosphere be subjected to the test described in i. above. Where the sample contains dry ice, the conditioning period may be reduced to 4 hours.

iv. Where the packaging is intended to contain dry ice, a test additional to that specified in i., ii. or iii. must be carried out. One sample must be stored so that all the dry ice dissipates and then be subjected to the test described in i. above.

Swine Flu

Instructions for shipments of swine influenza A (H1N1) specimens and virus isolates to WHO Collaborating Centres for influenza

Safe transport of pandemic influenza A (H1N1) 2009 virus cultures, isolates and patient specimens as Biological Substance, Category B

Updated: March 2010

Based on current knowledge, the characteristics of pandemic influenza A (H1N1) 2009 virus do not warrant its classification, for transport purposes, as infectious substance, Category A.

Consequently, and according to applicable international transport regulations, WHO advises that pandemic (H1N1) 2009 virus cultures, isolates or patient specimens can be safely transported as **"BIOLOGICAL SUBSTANCE, CATEGORY B",** assigned to **UN 3373**.

Nevertheless, WHO continues to support shipments to WHO Collaborating Centres for influenza from places where outbreaks continue to occur. Requests for assistance with shipments can be addressed by email directly to GISN@who.int.

Shippers should be reminded that no specific training is required for shipping Category B substances. However, if the shipment includes other dangerous goods such as **liquid nitrogen** or **dry ice**, shippers must be trained appropriately in the transport of those goods. Shippers should also be aware that individual airlines may apply their own policies which may be stricter than applicable international transport regulations.

For further assistance, guidance to assist shippers with classifying, documenting, marking, labelling and packaging infectious substances: ***A guide for shipping infectious substances*** is published at;
http://www.who.int/ihr/infectious_substances/en/index.html.

Additional information can be found in the WHO document ***Guidance on regulations for the transport of infectious substances***, available at;
http://www.who.int/ihr/publications/who_hse_ihr_20100801/en/