Transport of Diagnostic Specimens and Infectious Substances

A) Contents

B) Purpose and Scope

This document gives details of regulations and how to comply with them when transferring clinical material off site. Local procedures will dictate how these are interpreted and used but sections extracted from this document may be useful in preparing these. This guideline is intended as a quick reference for most situations within Lab. Medicine.

Infectious substances are now grouped into Category A and B transfers. Regulations apply to all carriage whether by air, road, sea, or mail. The instructions given in this document reflect ‘best practice’ and may not be legally required for all transfers.

C) Responsibility and Training Requirements

All staff should have received appropriate training in packaging of samples prior to transport within the laboratory, to other laboratories within the Directorate or to external laboratories.

Staff in clinical areas are responsible for packaging samples for transport to the laboratory. Appropriate user information is provided to these staff members.

D) Definitions

Infectious substances: 'substances which are known or are reasonably expected to contain pathogens which are defined as micro-organisms (including bacteria, viruses, rickettsiae, parasites, fungi) and other agents such as prions, which can cause disease in humans or animals.'

Cultures: 'the result of a process by which pathogens are amplified or propagated in order to generate high concentrations, thereby increasing the risk of infection when exposure to them occurs.'

Patient specimens: 'materials collected directly from humans, including but not limited to, excrete, secreta, blood and it's components, tissue and tissue fluid, swabs and body parts being transported for purposes such as research, diagnosis, disease treatment and prevention.'

Category A: 'An infectious substance which is carried in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease to humans or animals. Indicative examples of substances that meet these criteria are given in Appendix 1.

Category B: 'An infectious substance which does not meet the criteria for inclusion in Category A. In most cases in Laboratory Medicine this will include patient specimens.

Substances not subject to the regulations:

- Non Pathogenic micro-organisms
- Blood, blood components, tissues or organs for use in transfusion or transplants
- Samples (non-human or animal derived) where there is a low probability of infectious substance being present eg food screening samples, water, soil etc
- Material that has been treated to inactivate any infectious substances
- Decontaminated clinical waste

Note: In the UK it is recommended that all diagnostic samples not requiring Category A transport are assigned to Category B

E) Procedure

General

Unless specifically stated in this document all samples received by or despatched from Laboratory Medicine should comply with the following:

- Health and safety regulations for Hazard Group 2 pathogens apply unless the specimen is labelled 'High Risk' or Hazard Group 3 in which case those regulations apply.
- Specimens should be collected for transport to the laboratory with minimal delay and under conditions to preserve the viability of any potential organisms in the sample.
- Every sample must be enclosed in a suitable, leakproof, adequately labelled primary container and placed in a sealed plastic bag (primary containers should be CE marked). Where possible these should **not** be glass. Suitable containers are provided by the laboratory for users and details of container type are given in the electronic laboratory handbook.
- The request form should either placed in a separate pocket of the bag (inpatients) or is attached to the sealed plastic bag (GP samples).
- Sample and request form must contain ALL relevant patient information and comply with Directorate labelling criteria.

- 'Category 3' labels must be used where appropriate (see Directorate Guideline).
- Any labels and stickers used must be self-adhesive.
- Pins and staples should not be used, nor heat-sealed bags as sharp implements will be needed to open them.
- Most samples can be transported at ambient temperatures. If there is to be delay in transit samples, other than blood cultures, should be stored at 2 - 8ºC prior to transport.
- Plastic transit bags must not be re-used if any sample leakage is suspected.
- Reusable GP sample transport bags must be withdrawn from use, by Microbiology/Blood Sciences reception staff, and decontaminated with 5% Virusolve if any sample leakage is known or suspected.
- All un-bagged samples MUST be racked before transport between Laboratory rooms. The depth of the racks should be at least half of the size of the tube to prevent a blood specimen from easily falling out.
- Specimens that are unpacked and labelled in the specimen reception area (GO3) should be transported to analysers on the ground floor in suitable specimen racks. The depth of the racks should be at least half of the size of the tube to prevent a blood specimen from easily falling out.
- Samples that are to be transported between laboratory buildings must be contained within boxes with fixed lids
- Racks, trays and boxes used for transporting specimens must be of a design that permits adequate decontamination in case of leakage.
- Do not carry overfilled bags, boxes or carry too many racks or bags at a time as this could lead to accidents e.g. dropping infected material, or manual handling hazards. Trolleys are readily available to transport larger loads around the building and via the lift.
- Samples that are to be transported to the Serum Store MUST be contained within boxes with fixed lids.
- Known high risk samples for HIV Viral Load and HCV PCR/Genotype etc being transported to the Serum Store must be transported within a sealed container. DO NOT USE THE STAIRS
- Specimens should never be left unattended in a public place.
- Any incident resulting from a failure in a transport system should be recorded on Datix.
- Where containers and packaging are supplied to a patient for return, there should be clear instructions given to assist the correct packing and return process.
- Refer to relevant **COSHH** and **Risk Assessment** LMRA018

Transport from Clinical Areas

An air tube system is in place at both the Northern General Hospital and the Royal Hallamshire hospital which can be used to transport samples at that site. This cannot be used to transport samples between sites. Refer to SOP LMCP023.

Northern General Hospital (NGH) – The specimen collection team collects routine samples from regular pick-up points at scheduled times throughout the day. Areas not currently served by the specimen pick-up team and who do not have access to the air tube system should make their own arrangements to ensure samples arrive to the laboratory in a timely fashion.

Royal Hallamshire Hospital (RHH) - Routine samples are collected by the specimen relay team according to scheduled regular pick-up arrangements. This team collect from designated 'specimen collection' points on each ward/department at RHH, Jessop Wing, GUM and OHD.

Sheffield Children's Hospital and Weston Park Hospital – Served by regular taxi pick-ups throughout the day and evening periods (see Inter-Hospital Transport Timetable – LMTR007). Urgent specimens may be sent by taxi to the NGH at any time of the day or night.

Routine specimens from GPs – delivered direct to the Laboratory Medicine building at the NGH or to the laboratory reception on C Floor at the RHH by a hospital van service.

Samples delivered by hand or transported by hospital staff, patients or their representatives must adhere to these same general conditions.

Transport Between STH Laboratories

Samples that are delivered to one site but require testing at a different site are sorted prior to transfer and are transported on the next available van or taxi.

Transport Within the Laboratory Medicine Building

As far as possible, the sample lift should be used for transporting specimens between floors. When using the sample lift (dumb waiter), all specimens in primary bags must be placed in lidded boxes. The boxes must be placed behind the indicator line on the lift floor/shelf. Placing items too near the sample lift opening may result in the lift jamming or loss of specimens. Forms must also be placed in lidded boxes inside of the sample lift to avoid loss.

In the event that the sample lift is not used, samples should be transported safely and accompanied in the person lift. The stairs should not be used. The lift and trolleys should be used when transporting large numbers of samples.

The sample lift should be checked at the end of each day for specimens. Following this check, the sample lift will be left open on level 2 to ensure that it cannot be used until the following morning and that samples are not left in there overnight.

Specimens which have been un-bagged must be placed in racks. When using the sample lift, the racks must be placed in boxes which do not necessarily need to have lids. Samples should not be carried by hand.

Specimens must be placed appropriate workstation bowls to be transported from Microbiology Reception to other areas of the Microbiology/Virology laboratory.

Staff should notify the receiving section by phone if samples are to be transported between floors in the sample lift in bags/boxes. Staff in the receiving section should collect these samples as soon as possible.

Refer to Risk Assessment LMRA505.

Transport of Samples to Other Local Hospitals

An inter-hospital transport service is in place for samples delivered between STH and other local hospitals South Yorkshire (e.g. Barnsley, Rotherham, Doncaster, Sheffield Childrens). Samples should be packaged and

Transport of Samples to Other Laboratories using DX Category B Service

Where the receiving laboratory is using the DX system, specimens are sent using this service.

The DX Category B user guide can be found within the Q-Pulse document record for this document (LMCP046). This is no longer available on the DX webpage.

DX Category B Contents Checklist - IATA 650 compliant packaging:

- Cardboard box with DX tracked Specimen label attached
- Blue top secondary container
- 50ml absorbent sheet
- Bubble wrap pouch

Sending Samples via DX

1. Never put dry ice anywhere within this packaging.
2. Place the Category B specimen in a leakproof vial or similar leak-proof primary receptacle(s) – this must be either glass or plastic. Screw cap primary receptacles must be reinforced with adhesive tape. Individual specimens should be placed into plastic specimen bags. The maximum volume within a primary receptacle must not exceed 1 litre liquid or 1kg solid. **The combined volume of the primary receptacle(s) must not exceed 4 litres of liquid, or 4kg of solids.**
3. Place the primary receptacle(s) in the bubble wrap pouch. If more than one primary receptacle is to be placed into the secondary container, each should be individually wrapped. The absorbent material must be sufficient to absorb the entire contents of all primary receptacles. **The absorbent sheet must be placed between the bubble wrap pouch and the primary receptacle(s).** The absorbent sheet supplied is only sufficient for 50ml of liquid; additional absorbent must be used for higher volumes.
4. **Seal the bubble wrap pouch and place it into the secondary container.**
5. **Screw the lid on tightly.**
6. **Place the secondary container into the cardboard box.**
7. **An emergency contact information sheet** must be placed between the secondary container and cardboard box. The sheet must include:
    a. An itemised list of contents.
    b. The type of pathogen present in the sample.
    c. Your sender's and full recipient's details. These should include hospital/lab/site name, DX number and exchange.
    d. An emergency 23 hour contact name and telephone number.
8. Tuck in the lid and affix the **Security Seal** where indicated. Please do not use any other tape to seal the box.
9. **Write your sender's details** on the DX Tracked Specimen label attached to the box, in the area indicated. This should include the hospital/lab/site name, DX number and Exchange. In case of accident, **write complete emergency contact details** on the DX Tracked Specimen label, in the area indicated. This must include 24 hour contact name and telephone number, including STD code. **Complete the recipients details,** including full DX address. Do not write anywhere else on the box other than in the indicated spaces.
10. **Complete the relevant log book.**
    a. If using a hardcopy log book, affix the peel-off miniature sticker (containing the individual 12-digit tracking number) from the bottom of the DX Tracked Specimen label to the first column in the log book.
    b. If using an electronic log book, input the 12-digit tracking number from the bottom of the DX Tracked Specimen label in to the relevant column of the electronic log book.
    c. Complete the dispatch details as indicated. This acts as a record of the specimen you have sent.
11. Place the samples into a GREEN plastic sack and leave in the Specimen Exchange area for collection. Each sack must be sealed with a security seal.
12. The courier will sign on delivery of your DX Tracked Specimens to the recipient's Exchange.
13. Confirmation of delivery will be provided before 1pm on the day of delivery by fax or e-mail as selected at time of order. You can also confirm delivery via a WebTrack facility at: **http://www.thedx.co.uk/** If you wish to make an enquiry on a DX Tracked

Specimen, simply call Customer Support on **01753 654 654**, quoting your 12-digit tracking number.

Receiving Samples via DX

1. **PACKAGING MUST NOT BE RE-USED BY THE RECEIVER, BUT RETURNED TO DX FOR RECYCLING IN THE RED SACKS PROVIDED.**
2. On receiving a DX Tracked Specimen, break the Security Seal and open the cardboard box. Completely empty the blue top secondary container.
3. Place the secondary container, lid and flattened cardboard box into the **red** sack. **(If the secondary container shows signs of damage or contamination, please dispose of it safely). Seal sack with a security seal.**
4. The DX courier will collect the sack free-of-charge and return the packaging to a recycling and refurbishment centre.

Re-ordering Supplies from DX

Re-order supplies via Lab Med Stores. The team can be contacted on sth.laboratorymedicinestoresteam@nhs.net.

Transport of Samples to Other Laboratories using the Postal Service

For referral of specimens to locations not registered with Dx, the postal service is used. Only first-class post or datapost may be used and specimens must be packaged according to current regulations (see Appendices 2 and 3 for packaging instructions).

NB: cultures of Mycobacteria, Vero-toxigenic E.coli and *Shigella dysenteriae* type 1 **must not** be sent by post and must be sent by approved courier.

Category A Service

DX no longer provide a Category A Transport service. The laboratory is able to use two couriers to transport these specimens, Topspeed or Medical Services (Lewis Day/Citisprint). Boxes for transportation are still provided by DX.

DX Category A Packaging Contents Checklist - IATA 602 compliant packaging:

- Cardboard box with Category A Specimen label attached
- Orange top secondary container
- 50ml absorbent sheet
- Bubble wrap pouch
- Security Seal

To send a Category A samples, follow the instructions below:

1. NEVER PUT DRY ICE ANYWHERE WITHIN THIS PACKAGING
2. Place the Category A Infectious specimen in a leak proof vial or similar leakproof primary receptacle – this must be either glass or plastic. Screw cap primary receptacles must be reinforced with adhesive tape. Individual specimens should be placed into plastic specimen bags. **The maximum quantity per package 50ml of liquid or 50g of solids.**
3. Place the primary receptacle(s) in the bubble wrap pouch. If more than one primary receptacle is to be placed into the secondary container, each should be individually wrapped. The absorbent material must be sufficient to absorb the entire contents of all primary receptacles. **The absorbent sheet must be placed between the bubble wrap pouch and the primary receptacle(s).** The absorbent sheet supplied is only sufficient for 50ml of liquid.
4. Seal the bubble wrap pouch and place it into the secondary container.
5. Screw the lid on tightly.
6. Place the secondary container into the cardboard box.

7. An emergency contact information sheet must be placed between the secondary container and cardboard box. A copy of the booking request form will supply the relevant information which must include:
    a. An itemised list of contents.
    b. The type of pathogen present in the sample: (e.g. UN2814 Infectious Substance Affecting Humans Rabies virus).
    c. Your sender's and full recipient details. These should include hospital/lab/site name, and full postal address.
    d. An emergency 24 hour contact name and telephone number.
8. Tuck in the lid and affix the **Security Seal** where indicated. Please do not use any other tape to seal the box.
9. Emergency contact information sheets can be found in LMCP049, Laboratory Procedures for Handling Specimens from Patients at Risk of Infection with Category 4 Viruses, Appendix D
10. Complete the Proper Shipping Name label on the box by describing the type of pathogen present e.g. UN2814 Infectious Substance Affecting Humans (Rabies virus)
11. **Write your sender's details** on the Category A Specimen label attached to the box, in the area indicated. This should include the hospital/lab/site name and full postal address. Do not write on the box.
12. In case of accident, **write complete emergency contact details** on the Category A Specimen label, in the area indicated. This must include STD code.
13. **Complete the recipients details,** including full postal address. Outer packaging labels can are available in LMCP049, Laboratory Procedures for Handling Specimens from Patients at Risk of Infection with Category 4 Viruses, Appendix D. These can be printed out and affixed to the box.
14. Complete the log book.
    a. If using a hardcopy log book, affix the peel-off miniature sticker (containing the individual 12-digit tracking number) from the bottom of the Category A Specimen label to the first column in the log book.
    b. If using an electronic log book, input the 12-digit tracking number from the bottom of the DX Tracked Specimen label in to the relevant column of the electronic log book.
    c. Complete the dispatch details as indicated. This acts as a record of the specimen you have sent.
15. Request the collection
    a. Follow the procedures outlines in LMCP049, Laboratory Procedures for Handling Specimens from Patients at Risk of Infection with Category 4 Viruses, Action Card 6 which details how to arrange a collection.
    b. **CATEGORY A SPECIMENS MUST ALWAYS BE DISPATCHED VIA THE SPECIALIST CATEGORY A CARRIER AND NOT THROUGH THE NORMAL DX SPECIMEN NETWORK.**
16. On receipt, the specified name at the reference lab should then contact the referring laboratory or Consultant to confirm arrival. The courier will also contact the sender by text / email to confirm delivery.

Packaging suppliers

- DX Specimen Transport
- Post Office (Safebox)
- Sarstedt (T Box)
- DGP Group
- Versapak

F) References and Related Documents

LMRA505
LMRA018
LMCP023
LMTR007
LMTR002

(note that once approved, the following documents can be deactivated – HSST005, LMCP519, LMCP046, VIGP056).

G) Appendices

Appendix 1: Indiactive examples of infectious substances included in Category A

INDICATIVE EXAMPLES OF INFECTIOUS SUBSTANCES INCLUDED IN CATEGORY A In any form unless otherwise indicated	
UN Number and name	**Micro-organism**
UN No. 2814 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 hemorrhagic 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
	Hantaviruses causing hantavirus pulmonary 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 hemorrhagic fever virus
	Poliovirus (cultures only)
	Rabies virus
	Rickettsia prowazekii (cultures only)
	Rickettsia rickettsii (cultures only)
	Rift Valley fever virus
	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
	West Nile virus (cultures only)
	Yersinia pestis (cultures only)

** Exemption currently in place allowing cultures for **diagnostic or clinical** purposes to be transported as Category B by recognised courier but NOT by Royal Mail

Micro-organisms listed as 'cultures only' need only be sent as Category A when in the form of a culture, the same organism in a clinical specimen can be sent as Category B.

Example:
Bacillus anthracis in culture must be sent as Category A
Bacillus anthracis in blood, on a swab or body part can be sent as Category B

Mycobacterium tuberculosis in culture can be sent as Category B (exemption)

Ebola virus in culture must be sent as Category A
Ebola virus in blood must be sent as Category A

Appendix 2: Packaging Instruction P620

Infectious substances in Category A and designated as UN 2814 or UN 2900 may only be transported in packaging that meets the United Nations class 6.2 specifications and complies with Packing Instruction P620 (PI602 air mode), which is reproduced below. **Using the DX Category A service complies with this requirement**.

P620 Packaging Instruction
This instruction applies to UN Nos. 2814 and 2900.
The following packagings are authorized provided the special packing provisions of **4.1.8** are met: Packagings meeting the requirements of Chapter 6.3 and approved accordingly consisting of: (a) Inner packagings comprising: (i) watertight primary receptacle(s); (ii) a watertight secondary packaging; (iii) other than for solid infectious substances, an absorbent material in sufficient quantity to absorb the entire contents placed between the primary receptacle(s) and the secondary packaging; if multiple primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated so as to prevent contact between them; (b) A rigid outer packaging of adequate strength for its capacity, mass and intended use. The smallest external dimension shall be not less than 100 mm.
Additional requirements: 1. Inner packagings containing infectious substances shall not be consolidated with inner packagings containing unrelated types of goods. Complete packages may be overpacked in accordance with the provisions of 1.2.1 and 5.1.2; such an overpack may contain dry ice. 2. Other than for exceptional consignments, e.g. whole organs which require special packaging, the following additional requirements shall apply: (a) Substances consigned at ambient temperatures or at a higher temperature: Primary receptacles shall be of glass, metal or plastics. Positive means of ensuring a leakproof seal shall be provided, e.g. a heat seal, a skirted stopper or a metal crimp seal. If screw caps are used, they shall be secured by positive means, e.g., tape, paraffin sealing tape or manufactured locking closure; (b) Substances consigned refrigerated or frozen: Ice, dry ice or other refrigerant shall be placed around the secondary packaging(s) or alternatively in an overpack with one or more complete packages marked in accordance with 6.3.1.1. Interior supports shall be provided to secure secondary packaging(s) or packages in position after the ice or dry ice has dissipated. If ice is used, the outer packaging or overpack shall be leakproof. If dry ice is used, the outer packaging or overpack shall permit the release of carbon dioxide gas. The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the refrigerant used; (c) Substances consigned in liquid nitrogen. Plastics primary receptacles capable of withstanding very low temperature shall be used. The secondary packaging shall also be capable of withstanding very low temperatures, and in most cases will need to be fitted over the primary receptacle individually. Provisions for the consignment of liquid nitrogen shall also be fulfilled. The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the liquid nitrogen; (d) Lyophilized substances may also be carried in primary receptacles that are flame-sealed glass ampoules or rubber-stoppered glass vials fitted with metal seals. 3. Whatever the intended temperature of the consignment, the primary receptacle or the secondary packaging shall be capable of withstanding without leakage an internal pressure producing a pressure differential of not less than 95 kPa and temperatures in the range -40 °C to +55 °C.

Appendix 3: P650 Packaging Instruction

The text of United Nations Packing Instruction 650, in use for the transport of infectious substances in Category B assigned to UN 3373 by all surface modes of transport is reproduced below. The shaded text on the right hand side indicates the International Civil Aviation Organisation (ICAO) variations to these instructions that apply to the transport by air from 2005. The various provisions mentioned are set out in the United Nations Model Regulations.

Use of 'recognised' Royal Mail, other postal transport packages or the DX system according to their instructions for use will satisfy these requirements.

P650 Packaging Instruction	
This packing instruction applies to UN 3373.	
	Variations applying to air transport from 2005
(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. Packaging 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.	
(2) The packaging shall consist of three components: (a) a primary receptacle, (b) a secondary packaging, and (c) an outer packaging **the secondary or the outer packaging to be rigid**	The outer packaging must be rigid.
(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.	
(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 must 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; 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 must be marked on the outer package adjacent to the diamond-shaped mark  	
(5) At least one surface of the outer packaging must have a minimum dimension of 100 mm × 100 mm.	
(6) The completed package shall be capable of successfully passing the drop test specified in the Regulations at a height of 1.2m. Following the test there should be no leakage from the primary containers which shall remain protected by absorbent material.	
(7) For liquid substances	

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

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

(f) The outer package must not contain more than 4 litres. This quantity excludes ice, dry ice or liquid nitrogen when used to keep specimens cold.

(8) For solid substances

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

(b) The secondary packaging shall be siftproof;

(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) Except for packages containing body parts, organs or whole bodies, the outer package must not contain more than 4 kg. This quantity excludes ice, dry ice or liquid nitrogen when used to keep specimens cold;

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

(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 these Regulations 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 carbon dioxide, solid (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 shall be marked “Carbon dioxide, solid” or “Dry ice”.

Note – additional requirements apply to carriage of dry ice by air – ICAO guidance should be consulted.

(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.

(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 these Regulations.

Infectious substances assigned to UN 3373 that are packed and marked in accordance with this packing instruction are not subject to any other requirement in these Instructions except for the following:

(a) the name and address of the shipper and consignee must be provided on each package

the proper shipping name, UN number and 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; *If these are the same only one is required* (b) classification must be in accordance with provision 2;6.3.2 of the ICAO Technical Instructions; (c) the incident reporting requirements in provision 7;4.4 of the ICAO Technical Instructions must be met; (d) the inspection for damage or leakage requirements in provisions 7;3.1.3 and 7;3.1.4 of the ICAO Technical Instructions; (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.
(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.	
Other dangerous goods must not be packed in the same packaging as Division 6.2 infectious substances unless they are necessary for maintaining the viability, stabilizing or preventing degradation or neutralizing the hazards of the infectious substances. A quantity of 30 ml or less of dangerous goods included in Classes 3 (flammable liquids), 8 (corrosives) or 9 (miscellaneous dangerous substances and articles) may be packed in each primary receptacle containing infectious substances (provided these 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 these Instructions need to be met.	