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CUH
Ospidéal Ollscoile Chorcaí
Cork University Hospital

SAMPLE TRANSPORTATION

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1 Policy Statement

Laboratory Medicine, Cork University Hospital (CUH), ensures that samples are transported in a manner which does not pose a threat to the health and safety of those coming in contact with the sample, while minimising deterioration of the sample through the implementation of this sample transportation procedure.

2 Purpose

The purpose of this procedure is to set out the safe working practices for all staff engaged in the transport of clinical samples. It is to be regarded as a reference guide to good practice.

The safe transport of clinical samples while still retaining patient confidentiality and sample integrity is of paramount importance. Laboratory Medicine receives several thousand samples a week for analysis. Samples are received from internal and external sites. In addition samples may also be sent from the CUH laboratories to referral laboratories for analysis.

3 Scope

This procedure is in operation throughout Laboratory Medicine when transporting samples to, from and within CUH.

4 Legislation/Related Policies

1. Safety, Health and Welfare at Work (Biological Agents) Regulations 1994 and 2013.
2. Safety, Health and Welfare at Work (Biological Agents) (Amendment) Regulations 1998.
3. International: European agreement concerning the international carriage of dangerous goods by road (ADR) Packaging Instruction 650 of ADR: 2007, 2011.
4. International Air Transport Association (IATA) Dangerous Goods Regulations (2011, 2017, 2018)
5. Ireland: Carriage of Dangerous Goods by Road Regulations: 1998: 2004 (S.I. No 29 of 2004): 2010 (S.I. No 616 of 2010): 2011 (S.I. No 349 of 2011): 2013 (S.I. No 238 of 2013): 2015 (S.I. No 343 of 2015): 2017 (S.I. No 282 of 2017).
6. PPG-CUH-PAT-31: Laboratory Medicine User Handbook
7. PPG-CUH-PAT-927 Information on use of the Neuropathology Department
8. PPG-CUH-PAT-37: Sample Reception Procedure
9. PPG-CUH-PAT-13: Procedure for the identification and control of nonconformities, corrective action and preventive action.

10. Departmental procedures for dealing with biological spillages
    Blood Transfusion: LI-C-BTR-BIOSPIL
    Haematology: INS-CUH-PAT-520
    Laboratory Reception: INS-CUH-PAT-520
    Biochemistry: INS-CUH-PAT-186
    Microbiology: INS-CUH-PAT-812
    Histopathology: INS-CUH-PAT-812
    Neuropathology: INS-CUH-PAT-100

5 Glossary of Terms and Definitions

ADR Regulations: Agrement Dangereux Routier (ADR) is the acronym given to the European Agreement concerning the International Carriage of Dangerous Goods by Road. In Ireland the ADR Regulations are enforced by the European Community (Carriage of Dangerous Goods by Road and Use of Transportable Pressure Equipment) Regulations 2011 to 2018.

Classification of infectious substances: For the purpose of packaging and transportation, infectious substances are divided into the following categories:

- Category A Infectious Substance: An infectious substance which is transported in a form that, when exposure to it occurs, is capable of causing permanent disability, life threatening or fatal disease to humans or animals. Such infectious substances can be readily transmitted from one individual to another, for which there is no effective treatment and preventative measures are not usually available.
  Category A infectious substance should be packaged in accordance to packing instruction P620 and labelled using the proper shipping name of **UN 2814 "INFECTIOUS SUBSTANCE AFFECTING HUMANS"** on the outside of the packaging.
- Category B Infectious Substance: Category B infectious substance is an infectious substance that does not meet the criteria of category A. These substances are assigned to UN 3373. The proper shipping name of **UN 3373 is "BIOLOGICAL SUBSTANCE, CATEGORY B"** and is packaged in accordance with Packaging Instructions P650.

Exposure: An exposure occurs when an infectious substance is released outside of the protective packaging, resulting in physical contact with humans or animals.

Infectious substances: Substances that are known or are reasonably expected to contain pathogens, such as bacteria, viruses, rickettsiae, parasites, fungi or prions. These substances include biological products e.g. vaccines, cultures, patient samples, genetically modified organisms and medical and clinical waste.

Patient samples: Any human material, including, but not limited to excreta, secreta, blood and its components, tissue and tissue fluid swabs

and body parts being transported for research, diagnosis, investigational purposes, disease treatment and prevention.

Primary container: The container into which the sample is collected, for example, in the case of blood, the primary sample is the vacutainer.

Secondary container: A plastic leak proof container into which the primary container is placed. Secondary containers usually contain absorbent material.

6 Roles and Responsibilities

Role	Responsibility
Laboratory Management:	• Will advise staff and users of the service on sample packaging and transportation requirements. • Ensure that this procedure is communicated to the users of the service.
Sender:	• Responsibility for the safe collection and packaging of clinical samples shall rest entirely upon the sender, it is therefore imperative that all areas where clinical materials are generated remain conversant with current regulations.
Staff	• To report any incident involving the receipt or delivery of samples which he /she becomes aware, involving the exposure to, or release of a biological agent likely to involve a risk to the health and safety of members of staff

7 Procedure

The sample transportation system in place must ensure the timely arrival of samples at the appropriate destination, in an optimal condition in a manner which does not pose a threat to the health and safety of persons coming in contact with the sample and in compliance with the relevant regulations. Samples are transported to Laboratory Medicine by hospital staff, general practitioners, patients, courier, taxis and the pneumatic tube in addition samples are transported from the Laboratory Medicine by couriers and taxis.

7.1 Internal Transportation of Samples

It is important that care is taken when collecting and handling clinical samples to ensure that the risk of infection to staff is kept to an absolute minimum. Due care must be observed at all times and never allowed to lapse at busy periods or because of a failure to maintain adequate supplies of bags or containers. Members of staff employed within the Hospital must not be put at risk because of ignorance, negligence or bad technique. Should there be a suspicion that a sample contains a Category A Infectious Substance, please contact the Laboratory Medicine for information on packaging instructions or refer to Appendix No III

1. Sample containers that are contaminated externally must not be sent to the laboratory.
2. Blood gas samples must never be sent to the laboratory with the needle still attached.
3. 24 hour urine containers may contain concentrated acid as a preservative- containers should be kept upright.
4. Samples must never be carried unprotected in the open hand or pocket. Samples must never be given to members of staff in this way.
5. Samples must be placed within the speci-bag that is attached to the request form, where applicable or equivalent such as sealed plastic bag.
6. Patient confidentiality must be observed where "sensitive" information is displayed on the request form by the use of envelopes or opaque plastic bags.
7. When sending several samples to the laboratory special sealable plastic bags or equivalent should be used (secondary protective carrier). Samples must never be sent in paper carrier bags.
8. Urgent samples that require immediate attention should be handed directly to laboratory staff or brought to the attention of the receiving department by means of a telephone call or utilising the urgent bags provided for GP specimens.
9. All in-patient samples destined for the Blood Transfusion Laboratory must be handed by portering or medical staff directly into the Blood Transfusion Laboratory. Blood Transfusion samples should be transported in the RED secondary carrier sample bags.
10. Boxes, racks and trays must be of such a design to allow for appropriate disinfection.
11. Never leave samples unattended in a public area.

7.1.1 Transport of Histological Samples

Samples may be taken in theater and placed in containers or buckets containing fixative (usually 10% Neutral buffered Formalin). These containers should be kept upright and closed properly while being transported to the Pathology Department.

-Instructions for the collection and delivery of samples to Neuropathology are outlined in procedure: PPG-CUH-PAT-927

In the event of Formalin spill of a histology sample contact the Histology Laboratory immediately and follow instructions as per :PPG-CUH-PAT-75

7.1.2 Portering Service

1. Laboratory samples are collected from theatres, wards, clinics and the blood room at regular intervals throughout the day (between 08.00-09.00 and 14.30p.m. Monday to Friday and Saturday: 10.00 am only Sunday: no collection). Ideally, samples should be taken to coincide with collection times.
2. The collection of urgent or out-of-hours samples must be organised at ward level by paging the porter on duty and are to be sent to the laboratory directly with the porter.
3. After the last daily collection at 14:30 (Monday to Friday) only charcoal swabs can be stored in the cabinet until the next collection. Charcoal swabs after the 10.00am Saturday collection are to be sent directly to laboratory with porter.
4. When sending any Microbiology specimens directly to laboratory with porter, the nurse firstly contacts the laboratory to alert them the specimen is on its way as follows:
   - **Monday to Friday before 17.00: Ring lab extension on 22505/22503**
5. **All other time: Bleep lab staff on #375**
6. Portering staff may come in accidental contact with materials that could be infectious. Portering staff should observe safe working practices and adhere to Model Rules for Portering Staff as outlined in Appendix VII, at all times.

7.1.3 Pneumatic Tube

The Pneumatic tube transport system is used to provide a safe efficient and rapid means of sending certain types of patient samples between hospital departments. The system is made up of a network of tubing, which connects several station terminals where appropriate samples may be received or placed for transfer. The samples are put into special transportation canisters for dispatch through the tubing system. The system is split into zones, which are under the control of a central microprocessor or stand-alone computer.

7.1.3.1 General Information

1. Canisters may be sent between any two stations in the system.
2. Samples must be placed in sealed plastic bags.
3. Material for transport must be loaded into the canister provided.
4. Transportation canisters have inbuilt microchips, so samples will automatically transfer to the appropriate destination.
5. It is possible to choose the destination of a canister. Destination codes for the various departments may be posted on the station. See Pneumatic Tube Transport System Destination Codes Appendix No I, for details.
6. Portering staff transport samples from locations which do not have the pneumatic tube facility.

7.1.3.2 Using the Pneumatic Tube

1. Place sample in plastic transportation bag and seal.
2. Place bag in transportation canister.
3. Close lid completely.
4. Pneumatic Tube Display reads: *"Scannermode".*
5. To send a canister to a designated destination use the following sequence:
   a. Fast Track Model: **Press B** and then the number **3**, Display reads *"Normalmode"* and: 1------; Normal model: **Press F2** and then number **3**; Display reads: *"Normalmode"*.
   b. Enter the 5 digit destination number for the required address/destination from the list as per Appendix No 1, or page through the pneumatic tube directory
   c. Alternatively when using the Fast Track Model: **Press A**, or when using the Normal model **Press F1** which displays the Directory. When using either model **Press number 6**> to scroll through the directory to find the required destination. **Press number 4** <, to scroll back through the directory.
6. Place the canister into dispatch leg of the pneumatic tube.
7. Canister will automatically dispatch when system is free.
8. Station display will revert back to scanner mode on completion of send.

Do not use for:

- Any glass containers

- Blood packs
- Blood products
- High-risk samples including respiratory samples which are known or likely to be positive for *Mycobacterium tuberculosis*.
- Samples that must be transported on ice
- Cerebrospinal fluid and other irretrievable samples
- Platelet function tests (PFA) –must be hand delivered.
- Blood Transfusion samples –must be hand delivered.
- ABG- must be hand delivered.

7.1.3.3 Receiving Samples

1. Canisters drop down to receiving tray.
2. Remove canister as soon as possible.
3. Remove samples carefully without excessive force, gentle tapping may be required and visually inspect packaging for possible leakages prior to opening. Return canister to appropriate destination by simply inserting the canister into the dispatch leg when it is free.
4. The system may also be used for the transportation of reports and requisition forms between selected departments.

7.1.3.4 On-Call

Bleep appropriate laboratory personnel and advise that samples have been sent to the appropriate Laboratory Department.

7.1.3.5 Trouble Shooting

The station located in Laboratory Reception is the control station for the Aerocom transport system. All error codes are displayed on this system. Contact APT directly, should a problem arise. This is a 24-hour service. Once contacted APT have access via a **MODEM** link to the pneumatic system.

Contact	Telephone Number
APT	01 8413005 /087 2580328

7.1.3.6 Error Codes

A limited number of error codes appear on the display window:

Error	Defect
ERR	Usually caused when the canister is placed in the tube before entering the destination. Enter code first then insert canister
ERR 3	Mechanical fault this may be caused by overfilled basket at a station somewhere in the system blocking the outlet tube.
ABS	Station is not available. Selected stations are deactivated outside routine hours.
Push followed by c in display window	Press C on keypad to reset system.
Red light flashing	Troubleshoot at control station in Laboratory Reception

7.1.3.7 Routine Maintenance

External Surface: The external features e.g. stations, auto-returns stations and lockable cabinets should be carefully wiped over with detergent wipes.

Canisters: Canisters can be disinfected by staff at any time by wiping with damp paper towel moistened with appropriate disinfectant such as Trigene, Tristel or hypochlorite (1,000ppm). Canisters must be fully dried before reuse.

7.1.3.8 Annual Maintenance / Service Contract

A scheduled annual calibration / service is maintained on a contract basis with APT. All visits are logged with the details of action noted and signed by the service engineer and the appropriate manager.

7.1.3.9 Spillage Containment / Clean-up Procedures

1. If sample canisters are received with indications of broken or leaking sample contents, the Laboratory Medicine Reception staff or department staff should assess the nature and extent of the spillage i.e. is spillage contained or uncontained.
2. The risks from spillage depend upon the type of agents involved, and the amount and nature of material spilled.
3. It is important to remember that saving the sample, which may not be repeatable, may be of utmost importance.
4. Generally, the leaking specimen will have contaminated all others in the same bag. The ward / location that sent the specimens is contacted and a list of the patients on whom fresh specimens are required is given to ward staff.

7.1.3.10 Contained Spillages

Leakage /spillage contained within the Transportation canister

Blood or body fluids, which contain gross blood:

- Once a spill has been identified don personal protective equipment.
- The transportation canister should be opened within the confines of class I microbiological safety cabinet.
- The sample(s) should be dealt with as per departmental spillage instruction.

Body Fluid spillage e.g. Faeces or urine samples:

- Wipe gross contamination from the transportation canister using absorbent disposable towels.
- Dispose of paper towels as clinical waste.
- The canister can now be cleaned with detergent and warm water or detergent wipes.

Sputum samples or samples where there is a possibility of *Mycobacterium tuberculosis*

- The transportation canister should be opened within the confines of a microbiological safety cabinet.
- Immerse the transportation canister directly into a freshly prepared solution of Tristel disinfectant or drench with ready to use Tristel duo foam and allow to act for 30 seconds

Rinse and dry canisters thoroughly after disinfection.

7.1.3.11 Spillage within the Pneumatic Tube Transportation System - not contained within a transportation canister

If sample canisters are received with indications of external contamination it is necessary to act immediately to prevent further contamination of the pneumatic tube transportation network.

7.1.3.12 Contamination Protocol

1. Pneumatic Tube system can be shut down using the control panel located in Laboratory Medicine Laboratory Reception. Contact APT immediately phoning 01 8413005 or 087-2580328 to isolate the appropriate amount of the pneumatic tube network to prevent further contamination of the network.
2. Confirm the extent and nature of the spillage.
3. APT should check the system control to confirm the route of the suspected carrier and all transactions thereafter. Advise persons who have been in contact with other contaminated carriers of the incident that contamination protocol has been initiated.
4. Once the contaminated run has been identified and isolated from use, APT personnel will proceed with disinfection as follows:
   a. Wear appropriate personal protective equipment.
   b. Using the cleaning canister provided, remove the coloured lid and place sponge/foam inside canister.
   c. Soak with an appropriate disinfection solution this will depend on the nature of the biological agent involved in the spillage refer to step 7.1.3.10 above.
   d. Send the cleaning canister along the contaminated run, with the coloured cap uppermost when loaded into the send station.
   e. If necessary repeat depending on the severity of the contamination.
   f. When the decontamination process is completed remove the sponge/foam from the canister and discard as clinical waste.

7.2 Packaging of Samples for transport to the Laboratory Medicine CUH and from CUH to outside Agencies

It is the responsibility of the person sending samples to and from the laboratory to adhere to the following sample packaging instruction, to ensure that samples sent to the laboratory do not present a risk to anyone coming in contact with the sample while being transported or on receipt in the laboratory.

1. The external transportation of samples by road is governed by the 2007 ADR regulations, these regulations set standards for the classification, packaging and labelling of potentially hazardous substances for national and international transportation.
2. Infectious substances are subject to detailed transport guidelines **and legislation**, directed towards ensuring that these goods are carried under optimum conditions for the safety of persons, property and environment.
3. The triple packaging system must be adhered to, the packaging should consist of the following three components:
   a. Primary receptacle: A primary watertight, leak-proof receptacle containing the sample. The receptacle is packaged with enough absorbent material to absorb all fluid in case of breakage.
   b. Secondary packaging: A second durable, watertight, leak-proof packaging to enclose and protect the primary receptacle(s)
   c. Outer packaging: Secondary packaging are placed in outer transportation packaging with suitable cushioning material. Outer packaging protect their contents from outside influences, such as physical damage, while in transit. The smallest overall external dimension shall be 10 X 10 cm
4. The majority of samples sent to and from the laboratory fall into Category B Biological Substance and must be packaged according to Packaging Instruction P650 as detailed in appendix II.

5. Samples assigned to Category A (See Appendix IV for details) are packaged and labelled in accordance with packaging instruction P620- refer to Appendix III. Only approved couriers may transport UN2814 'Category A' goods. Exemptions: Under ADR 2007 regulations, when cultures of *M. tuberculosis, S.dysenteriae* type 1 and *verotoxigenic E. coli are* transported for diagnostic or clinical purposes, they may be classified as infectious substances Category B, i.e. they can be packaged as P650 and are not subject to any other requirements of ADR. However, this same exemption does not apply to International Air Transport Association (IATA) or maritime regulations, so if these cultures require transport by air or sea they must be carried by approved UN2814 couriers.

6. Transport of samples by air must comply with the IATA Restricted Articles Regulations, and any additional requirements of the individual carrier. Documentation required by IATA includes a Shipper's Certificate for Restricted articles, which requires content, nature and quantity of

infectious material to be disclosed- Refer to Appendix VIII.

7. A patient sample may be EXEMPT from the ADR regulations if there is minimal likelihood that pathogens are present based on professional judgement. Judgement should be based on the known medical history, symptoms and individual circumstances of the source, human or animal, and endemic local conditions. Examples of samples which may be exempt based on this judgement includes: **blood/urine tests to monitor cholesterol, blood glucose levels, hormone levels, or prostate specific antibodies (PSA), tests to monitor organ function (kidney, liver, heart), for humans and animals with non infectious diseases, therapeutic drug monitoring; those conducted for insurance or employment purposes and are intended to determine the presence of drugs or alcohol; pregnancy test; biopsies to detect cancer; and antibody detection in humans or animals.** Additionally, because of the low hazard presented by the following substances these are exempt:
   a) Substances that do not contain infectious substances or will not cause disease in humans or animals
   b) Substances containing microorganisms that are not pathogenic to humans or animals
   c) Substances in a form in which any pathogens present have been neutralised or inactivated such that they no longer pose a health risk
   d) Environmental samples (including food and water samples) that are not considered to pose a significant risk of infection
   e) Blood and/or blood components collected and shipped for the purposes of transfusion and/or transplantation
   f) Dried blood spots and faecal occult blood screening tests
   g) Decontaminated medical or clinical wastes.

7.3 Transport of Samples by Courier or Taxi:

1. Samples transported to the laboratory by courier, taxi or car are classified as UN 3373 Biological Substance Category B and must be packaged and marked in accordance with Packaging Instruction P650- Refer to Appendix II for further details. Patient samples once properly packaged and labelled are not subject to any other requirements of ADR and any method of transportation can be used.
2. Generally couriers and taxis utilise transportation boxes during transportation and the boxes must fulfil the following criteria:
   a. The transport box/pouch must be made of smooth impervious material such as plastic or metal, which can easily be disinfected or cleaned.
   b. The transport box/pouch must be capable of being secured.
   c. The box/pouch must retain liquid in the event of leakage of a sample.
   d. The box must clearly label with the UN 3373 diamond shaped mark and the proper shipping name 'Biological Substance, Category B'. Emergency contact telephone number in case of emergency e.g. If there is leakage of samples or if the box is found unattended. **The**

label must clearly state that the box must not be opened or tampered with by unauthorised personnel.

3. Samples that are being carried in a vehicle must be carried separate to the driver or passengers i.e. in the back of a van or boot of a car.
4. Safe working practices as described in ***Model Rules for Transport Drivers*** shall be observed at all times, see Appendix V.

7.4 Transportation Systems Utilised By CUH

7.4.1 Packaging Requirements

All samples leaving the Laboratory Medicine for referral to other laboratories or clinicians MUST adhere to the triple packaging system as per section 7.2. Details of Packaging Instruction P650 for Biological substance, Category B are contained in Appendix II. A list of biological agents classified as Category A are contained in Appendix IV and details of Packaging Instruction P620 for UN2814 Category A substances are contained in Appendix III. Only approved couriers may transport UN2814 Category A goods. Eurofins Ireland is the courier service to be contacted if Infectious substances Category A require transportation.

7.4.2 Transport Arrangements in Cork City

Transportation arrangements for samples to other hospitals within Cork City are as follows:

Mercy University Hospital daily collection from Laboratory Medicine Reception by Corrigan Couriers (between 13:00 to 15:00pm)
Bon Secours daily collection in the afternoon, but additional collection can be arranged by the sending Department with Pathology Department, Bon Secours if required.

Contact the Portering Service on EXT 22103, delivery services outside of above can be arranged if necessary during normal working hours (9:00 to 17:00 pm).

7.4.3 Transport within Ireland and outside Ireland

7.4.3.1 Eurofins Lablink formerly Biomnis Logistics

Packaging Procedure for Eurofins

1. Ensure specimen lids are securely in place, reinforce with adhesive tape such as parafilm.
2. Place the primary receptacle in zip lock bag with sufficient absorbent material such as tissue for the samples in event of leak and place in secondary container such as screw cap plastic transport container or Eurofins secondary transport bag.
3. Screw the lid on tightly/close the zip
4. When using screw cap secondary container it is necessary to place this into the outer cardboard mailing box with appropriate UN3373 markings.

5. The accompanying laboratory request forms must be placed between the secondary container and the cardboard box: or placed separate to the samples when using the Eurofins secondary transport bag.
6. When sending Category A infectious substance an emergency contact information sheet must be included. The emergency contact information sheet should include the following: an itemised list of contents: the type of pathogen present in the sample: sender and recipients details: emergency 24 hour contact name and telephone number. Sarstedt boxes and Eurofins Secondary Transport Bag are specifically for Category B substances, when sending Category A substance ensure to use appropriate transport container available within the individual Department carrying appropriate markings UN 2814 "CATEGORY A, INFECTIOUS SUBSTANCE AFFECTING HUMANS". The sarstedt transportation packaging or equivalent meets the ADR requirement for road transportation, however, labels are available from Eurofins with the appropriate markings UN 2814 "CATEGORY A, INFECTIOUS SUBSTANCE AFFECTING HUMANS"- please ensure to cover the UN 3373, Biological Substance Category B.
   When a Category A, Infectious Substance is being sent internationally including UK, IATA approved containers must be used available from Eurofins.
7. Seal the mailing box with tape.
8. If transportation of frozen samples is required, Eurofins courier provides appropriate packaging, for transportation. Refer to Appendix IX for complete details if sample is being transported outside Ireland.
9. The mailing box or secondary transportation container , must be clearly labelled with both the recipients and senders details including senders contact phone number in case of emergency. Both the Sender and Recipient labels can be pre-made and affixed to the appropriate area of the mailing box.
10. Complete the Bio Track collection form electronically (See Appendix X for details) and attach to the outside of the specimen package or place into the designated pouch on the secondary transport bag available from Eurofins. Leave the package in the designated area of the laboratory for collection by the Eurofins courier. Collected daily (Monday to Friday) at approximately 13.00pm.

7.4.3.2 First Direct Courier

If Infectious substances Category A requires urgent transportation ie. Out of hours or at weekends, First Direct Medical couriers are available by contacting 01-8271419. Samples must be packaged in accordance with Packaging Instruction P620 and Transportation Documentation for the company completed.

7.4.3.3 DX Tracked Sample Service

The DX sample boxes meet the requirements for Packaging instruction P650 which are used for the transportation of Biological substance, Category B. The DX courier system does not transport samples which are assigned UN 2814 "INFECTIOUS SUBSTANCE, CATEGORY A"

1. Packaging Procedure for DX Tracked Samples

a. Screw cap primary receptacles must be reinforced with adhesive tape such as parafilm.
b. 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 sheet must be placed in the bubble wrap pouch, with the primary receptacle(s) -the absorbent sheet supplied is sufficient for 50mL of liquid.
c. Seal the bubble wrap pouch and place it into the secondary container.
d. Screw the lid on tightly.
e. Place the secondary container into the cardboard box.
f. The accompanying laboratory request forms and emergency contact information sheet must be placed between the secondary container and the cardboard box.
g. Tuck in the lid and affix the security seal where indicated.

Addressing

a. Write your sender's details on the DX Tracked Sample label which is attached to the box, in the area indicated. This should include hospital/ laboratory/ site name, DX number, Exchange and must include the sender's 24-hour contact name and telephone number (complete with international area codes), which is necessary in the event of an emergency. Complete the recipient's details, including full DX address and number. Both the Sender and Recipient labels can be pre-made and affixed to the appropriate area taking care not to obscure or remove the barcode number.
b. If the samples are being sent to England, Scotland or Wales, it is necessary to affix a GB Shipment Sticker underneath the DX Tracked Sample label on the box.

Dispatch Record

a. Peel-off miniature sticker containing the individual 12-digit tracking number, from the bottom of the DX Tracked Sample label.
b. Affix this sticker to your record book or the first column of the DX log Book provided and complete the despatch details.

2. **Posting**
   a. The box(s) up to a maximum of 5 can be posted into a CLEAR plastic sack, sealed and left in the Sample Exchange, which is located in the Biochemistry Corridor area of the laboratory, before 4:30 pm each week-day (Mon-Fri.) for pre 9:00am delivery within Ireland.
   b. For items travelling to the UK samples are usually only sent Mon-Weds.

3. **Tracking**
   a. The DX courier will sign on delivery of your DX Tracked samples at the recipients' Exchange.
   b. Delivery can also be confirmed by using the WebTrack facility at www.thedx.ie or to make an enquiry telephone customer support on (01) 8791700, quoting the 12-digit tracking number.

4. **Receiving DX tracked Samples**
   a. On receiving a tracked sample, break the Security Seal and open the cardboard box. Completely empty the blue top secondary container.
   b. Place the secondary container, lid and flattened cardboard box into the sack (red) for recycling to the DX Tracked Sample Service. Packaging must not be re-used by the receiver, but returned to DX for recycling and refurbishment in the sacks provided.
   c. Note: If the secondary container shows signs of damage or contamination, dispose of safely in accordance with local safety arrangements.

5. **To Order Further Supplies**
   a. The Re-Order form which is enclosed within each box of packaging must be completed and returned when placing an order with the CUH Procurement Department.
   b. As the packaging is returned to a recycling and refurbishment centre it is necessary to allow 10 working days for delivery of the order. The packaging is purchased in boxes of 20 (minimum order).
   c. If it is necessary to send samples to a DX Member in England, Scotland or Wales, in addition it is necessary to purchase GB Shipment stickers (packs of 20), at an additional cost.

7.4.3.4 Speedex Courier

Certain samples may require same day delivery service to Dublin; this service is operated by CUH Stores Department, weekdays (Monday to Friday) up to 11am. Notify stores in advance Ext. 22155, that a package for same day delivery is to be transported.

1. Follow packaging steps for Eurofins 7.4.3.1 and leave appropriately packaged to the CUH Stores Department by the allocated time for same day delivery.

7.4.3.5 DHL Courier Service

Follow the sample packaging steps from 7.4.3.1 Eurofins.
As this service is utilised infrequently the documentation for this service can be assessed from the Blood Transfusion Laboratory by prior arrangement.

Phone DHL 1890 725 725 to inform them that you have a sample for collection, (quote relevant account number- 309278463).

Place the packaged sample into the clear DHL plastic bag.

A DHL docket will need to be completed as follows and placed in the front pocket of the plastic bag on completion:

Part 2 Shippers account number 309278463
Contact name: Mr. Joe Bloggs
Shipper's reference: Microbiology Laboratory (or equivalent), Cork University Hospital.
Company name: Health Service Executive-South
Address: Microbiology Laboratory (or equivalent), Cork University Hospital Wilton, Cork Ireland.
Phone: 00353 214922505 (or equivalent)

Part 3: Company Name: consignee Laboratory i.e. National Virus Reference Laboratory
Delivery Address: Consignee address
Postcode:
Country: Ireland

Part 4: Total number of packages: Usually 1
Part 5: Full Description of contents: Medical Samples
Part 7: Signature and date: as appropriate

7.4.3.6 Out of Hours: Blood Bike South

Blood Bike South are available from 18:00 pm to 07:00am Monday to Friday and all day Saturday/Sunday and extends to Monday for bank holiday for transport within the Cork area and within Ireland. Contact switchboard to arrange delivery by BBS. The size of package to be transported may be limited by the BBS transport container which has the approximate dimensions of 30 cm cubed.

7.4.3.7 Other Courier Companies

Depending on the nature of the sample being transported and the destination, it may be necessary to engage other courier companies on demand. However any sample being transported MUST adhere to the triple packaging system as per section 7.2. Details of Packaging Instruction P650 for Biological substance, Category B are contained in Appendix II.

Each company will have relevant outside packaging and documentation for completion.

7.5 Protecting Samples from Deterioration

Samples should be transported to the laboratory for examination as quickly as is practicable to cause minimum deterioration to the biological material. Ambient temperature is generally adequate for most samples if the transport is only for a short period e.g. Less than 4 hours. Some analysis will have specific pre analytical requirements, such as maintenance at correct temperature, controlled conditions or immediate freezing see Pathology User Handbook PPG-CUH-PAT-31, for relevant details. The laboratory should be notified if it is envisaged that such samples will be received out of hours.

Some samples may need to be dispatched from the Laboratory Medicine frozen. Samples are maintained at -20^{o}C in the appropriate department until dispatch is required, Eurofins Logistics courier, has on board temperature controlled refrigeration facilities.

The following is a non exhaustive list of tests per department with specific pre analytical recommendations for examination:

Microbiology Department: Hepatitis C PCR, HIV Viral load, CMV PCR, EBV PCR, BK virus PCR must be centrifuged and frozen within 6 hours of venepuncture.
Blood Culture samples maintained at room temperature and transported to the Microbiology Department as quickly as possible within 4 hours.

Biochemistry: Samples on ice, Homocysteine requests (Pre analytical), Insulin Stress Tests (Endocrinology), Sweat tests (Immunology), Peritoneal Adequacy Tests, AGB tests (Main Laboratory) must be delivered immediately to the appropriate section as detailed.
Cryoglobulins: must be delivered directly to staff in Immunology @ 37^{o}C (thermos flask available).
CSF Spectrophotometry: samples must be hand delivered and light protected in a dark bottle.
Vitamin investigation A,E,K,B_1,B_6, Prrphorins and Methotrexate analysis must be light protected (tin foil)

Haematology: HIT screen, PAI1, ADAMTS13, Chromogenic factor VIII, Warfarin resistance gene and CSF for flowcytometry are only sent by prior arrangement with the laboratory and must be hand delivered (Please see relevant procedure for specific transport instructions).

Blood Transfusion:
Whole blood samples are suitable for 48 hours at 18-25^{o}C or for 7 days if stored at 4^{o}C. Patients with suspected or known Cold Haem-Agglutinin Disease should have samples transported immediately post venesection to the Blood Transfusion Laboratory. The blood should be transported by clenching the hand firmly around the sample to keep it as close as possible to body temperature. Alternatively samples can be transported in thermal flasks containing water at 37 ^{o}C. Flasks are available from Biochemistry Laboratory.

Histology:
Samples for frozen section must be brought directly to histology lab reception.

Cytopathology:
Samples for cytological examination should be transported to the laboratory as soon as possible. In the event of a delay, samples should be stored at 2-8^{o}C.

Neuropathology:

Sample	Transport to Neuropathology	Comment
Fresh neurosurgical biopsies for frozen section	Immediate delivery	
Muscle biopsy	Immediate delivery	Wrap in clingfilm if coming from external source
Nerve biopsy	Immediate delivery	Wrap in gauze very lightly moistened in normal saline if coming from external source
CSF for cytology	Immediate delivery	Store at 4^{o}C if delayed delivery
Query CJD CSF samples	Immediate delivery- double bag with Biohazard label	Stored at -20°C (held for transport)
Skin biopsy for fibroblast culture	Biopsy is taken into sterile culture medium and delivered	Stable in the culture medium at ambient temperature for up to 3 days (culture medium available in Neuropathology Laboratory)

7.6 Incident Reporting

1. Users of the service shall be encouraged to report any incidents during transportation that may affect the quality of the sample or the safety of personnel. These should be reported to the first line of contact – Laboratory Medicine Reception personnel, who will report to the appropriate department for further action.
2. Samples that arrive at the Laboratory Reception that are found to be leaking or otherwise contaminated the spillage should be removed in accordance with appropriate departmental spillage instruction. Consideration should be given to opening the package in a Biological Safety Cabinet, dependant on the nature of the samples.
3. All incidents which occur during sample transportation which may affect the integrity of samples or safety of personnel should be documented, investigated and followed up if required with the consignee. The Corrective Action / Preventive Action (CAPA) Management module in Q-Pulse or equivalent can be used to document the occurrence PPG-CUH-PAT-13: Procedure for the identification and control of nonconformities, corrective action and preventive action.

8 Implementation Plan

1. This document is implemented and controlled as per the laboratory's document control system PPG-CUH-PAT-1.
2. Any changes to the document are managed using the laboratory's change control system PPG-CUH-PAT-2.
3. When required, training is coordinated in accordance with the laboratory's training procedure PPG-CUH-PAT-3.

9 Revision and Audit

1. This document is revised as described in the laboratory's document control procedure PPG-CUH-PAT-1.
2. The test method performance is audited through:
   - On going test method validation as described in the laboratory's method validation procedure PPG-CUH-PAT-4 and/or
   - Internal audits including but not limited to those such as vertical audits, audits of turnaround times and witness audits as described in the laboratory's internal auditing procedure PPG-CUH-PAT-5.

10 References/Bibliography

1. International: European agreement concerning the international carriage of dangerous goods by road (ADR): 2007 and 2011
2. Ireland: Carriage of Dangerous Goods by Road Regulations: 1998: 2004 (S.I. No 29 of 2004): 2010 (S.I. No 616 of 2010): 2011 (S.I. No 349 of 2011): 2013 (S.I. No 238 of 2013), 2015 (S.I. No 343 of 2013), 2017 (S.I. No 282 of 2017).
3. Guidance on regulations for the Transport of infectious Substances 2015-2016
4. Advisory Committee on Dangerous Pathogens Second supplement to: Categorisation of biological agents according to hazard and categories of containment 2000 HSE Books 2000 /HSE Website www.hse.gov.uk

11 Appendices

Appendix I: Pneumatic Tube System Destination Codes
Appendix II: Packaging Instruction P650
Appendix III: Packaging Instruction P620
Appendix IV: Examples of infectious substances included in category A
Appendix V: Model Rules for Transportation Drivers
Appendix VI: Departmental Sample Referral Instructions
Appendix VII: Model Rules for Portering Staff
Appendix VIII: Sample Transport Dangerous Goods Note
Appendix IX: Transportation of Frozen samples by dry Ice Packaging Instruction 954 by Air (IATA)
Appendix X: Using the Eurofins BioTrak Collection and Tracking System

Appendix I: Pneumatic Destination Codes

22209	1C Ladybird	20514	Intermediate Care (Neonatal)
42424	1C Seahorse	22191	Laboratory Reception
20233	A & E	20310	M.S.S.W
22672	A.M.A.U	20562	Mat Phlebotomy
22528	Biochemistry	22505	Microbiology
22534	Biochemistry Rec	22503	Microbiology Rec
20884	CCU	44444	Oncology
20891	C.R.I.C.U	45454	Paediatric 1
20407	Cancer Ward 2C	20510	Paediatric ICU
20888	Cardio Thoriac	46464	Paediatric 2
20886	Cardiology	22415	Phlebotomy
20880	Cather Lab 1	22427	Rapid Transit
20881	Cather Lab 2	20889	Renal
21303	Chemotherapy	20883	Renal Dialysis
20892	CRC HDU	20885	Step Down Ward
20202	Day Theatre	20190	Spec Rec 2
20546	Delivery Suite	20890	Theatre
22529	Haem/Bio Sec Office	20633	Ward 2 East
22458	Endoscopy	20627	Ward 2 South
22541	Haematology	20661	Ward 3 East
22547	Haematology Rec	20649	Ward 3 South
22512	Histology	20887	Ward 3C
22230	I.T.U	20688	Ward 4 South

Advanced Pneumatic Technology Ltd Tel: 01 8413005

Appendix II: Packaging Instruction P650 (For infectious substances in Category B)

The triple packaging system is applicable even for local surface transport. The packaging shall be of good quality, strong enough to withstand the shocks and loadings normally encountered during transport. For surface transport there is no maximum quantity per package.

For air transport:

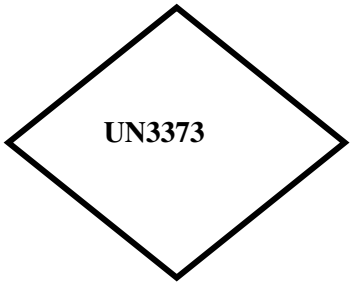
- No primary receptacle shall exceed 1 L (for liquids) or the outer packaging mass limit (for solids).
- The volume shipped per package shall not exceed 4 L or 4 Kg.

These quantities exclude ice, dry ice or liquid nitrogen when used to keep samples cold.

P650 PACKING INSTRUCTION P650

THIS PACKING INSTRUCTION APPLIES TO UN 3373

- The packaging shall be of good quality, strong enough to withstand the shocks and loadings normally encountered during carriage, including transhipment between vehicles or container, warehouses as well as removal from pallet or overpack for subsequent manual or mechanical handling. Packagings shall be constructed to prevent any loss of contents that may be caused under normal conditions by vibration or changes in humidity, temperature or pressure.
- Primary container* + secondary packaging* + outer packaging of which either the secondary or the outer packaging shall be rigid.
- Primary containers shall be packaged in secondary packagings so they cannot break, be punctured, or leak contents into secondary packaging. Secondary packagings shall be secured in outer packagings with suitable cushioning material.
- For transport the mark illustration 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.



- Packaged to be marked **"BIOLOGICAL SUBSTANCE, CATEGORY B"**, in letters at least 6mm high adjacent to the diamond shaped mark.
- At least one surface of the outer packaging must have a minimum dimension of 100 mm x 100 mm.
- For liquid substances
  (a) The primary receptacle(s) shall be leakproof;
  (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.
- For liquid substances suitable absorbent material must be placed between the primary receptacle(s) and the secondary packaging. Absorbent material must be of

sufficient quantity to absorb the entire contents of the primary receptacle, so its release does not compromise the integrity of outer packaging.

- 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.
- Refrigerated or frozen specimens: Ice, dry ice and liquid nitrogen:
  (a) When used, ice shall be placed outside the secondary packaging or in the outer packaging or an overpack. Interior supports shall be provided to secure the secondary packaging in the original position. If ice is used, the outside packaging or overpack shall be leakproof.
  (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.
- Completed Package must be capable of passing the 1.2 m drop test.
- Name, address and telephone number of the responsible party (for example as a label on the outside of each package).

Infectious substances assigned to UN 3373, which are packed and marked in accordance with this packaging instruction, are not subject to any other requirements of the regulations.

Appendix III: Packaging Instruction 620 (For infectious substances in Category A)

Infectious substances in Category A may only be transported in packaging that meets the UN class 6.2 specifications and complies with Packing Instruction P620 (PI602 air mode). Packaging instruction 620 generally requires more robust packaging than required for diagnostic samples. For surface transport there is no maximum quantity per package. For air transport the limits per package are as follows: a) 50 ml or 50 g for passenger aircraft b) 4 L or 4 Kg for cargo aircraft.

P620 PACKING INSTRUCTION P620

THIS PACKING INSTRUCTION APPLIES TO UN 2814

- Watertight primary container + watertight secondary packaging + a rigid outer packaging of adequate strength for its capacity, mass and intended use.
- For liquid substances suitable absorbent material must be placed between the primary receptacle(s) and the secondary packaging. If multiple primary containers are placed in a single secondary packaging, they must be either individually wrapped or separated so as to prevent contact between them.
- The smallest external dimension of the outer packaging must not be less than 100 mm.
- The primary container or the secondary packaging shall be capable of withstanding without leakage an internal pressure differential of not less than 95 kPa and temperatures in the range -40 ^{o}C to +55 ^{o}C.
- An itemised list of contents shall be enclosed between the secondary packaging and the outer packaging. When the infectious substance to be transported is unknown, but suspected of meeting the criteria for inclusion in category A, the words **"Category A infectious substance Affecting humans"** shall be shown in parentheses.
- Name, address and telephone number of the responsible party (for example as a label on the outside of each package).

Additional Requirements:

- Inner packaging containing infectious substances shall not be consolidated with inner packaging containing unrelated types of goods.
- Primary containers shall be of glass, metal or plastic. Positive means of ensuring a leakproof seal must be provided, eg. Heat seal. If screw caps are used, they shall be secured by positive means eg. Tape.
- Substances consigned refrigerated or frozen: refrigerant shall be placed around the secondary packaging(s) or alternatively in an overpack. The primary container and the secondary packaging shall maintain their integrity at the temperature of the refrigerant used.
- Plastic primary containers and secondary packaging must be capable of withstanding very low temperatures for substances consigned in liquid nitrogen
- Lyophilised substances may also be carried in primary containers that are flame-sealed; glass ampoules or rubber-stopped glass vials fitted with metal seals.

Appendix IV: Examples of infectious substances included in category A

Examples are in any form unless otherwise indicated.

UN number & proper shipping name: 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 hemorrhagic fever virus
Dengue virus (cultures only)
Eastern equine encephalitis virus (cultures only)
Ebola virus
**Escherichia coli*, verotoxigenic (cultures only)
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)
Herpes V 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)
Yellow fever virus (cultures only)
Yersinia pestis (cultures only)

UN number & proper shipping name: UN2900 infectious substances affecting

animals.
African horse sickness virus (cultures only)
African swine fever virus (cultures only)
Avian paramyxovirus Type 1-Newcastle disease virus (cultures only)
Bluetongue 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 pleuropheumonia (cultures only)
Peste des petitis ruminants virus (cultures only)
Rinderpest virus (cultures only)
Sheep-pox virus (cultures only)
Goat pos virus (cultures only)
Swine vesicular disease virus (cultures only)
Vesicular stomatitis virus (cultures only)

*For surface transport (ADR), when cultures of *Escherichia coli* (verotoxigenic), *Mycobacterium tuberculosis* and *Shigella dysenteriae* type 1 are intended for diagnostic or clinical purposes, they may be classified as infectious substances of Category B and be sent in accordance with Packaging Instruction P650.

Appendix V: Model Rules for Transportation Drivers

Model Rules for Transport Drivers

Patient samples are potentially hazardous and must be handled accordingly. Samples must be transported in manner to minimise potential health and safety risk and maintain integrity of the sample. Work carried out by Transport Drivers collecting and delivering samples may involve accidental contact with material that may be potentially infectious. The following guidelines should be observed at all times.

1. Samples should be transported directly and without delay to their destination
2. Cover any cuts, grazes or broken skin with a water proof dressing
3. Carry all samples in transportation boxes or equivalent, never in your hand or pockets
4. At no stage should the vehicle be left unlocked when samples are contained within
5. Samples being transported must be carried separate to the driver or passengers i.e. in the back of a van or boot of a car
6. Additionally samples must be transported separately to other goods being transported such as stationery etc.
7. Handle sample containers gently at all times
8. Always wash your hands at breaks, after any suspected contamination event and at the end of a work period
9. If a sample leaks in the transportation box or equivalent tell laboratory reception staff. The spillage will be dealt with by the appropriate department
10. If you spill the sample onto your clothes you must remove the item of clothing and then wash your hands and put on clean clothes. Report the accident to your supervisor.
11. If your vehicle breaks down or you have an accident, do not let anyone touch the samples unless they are emergency staff and are aware of the potential risks involved
12. Drivers must have gloves and biological spill kits available to them in their vehicle
13. Any delay in sample delivery, or untoward incident, shall be notified to laboratory staff who will document the event in accordance with the Corrective Action / Preventive Action Procedure.
14. Histology samples are to be brought directly to the lab. Transport boxes are only to be emptied by Histology staff. To avoid delays for Transport drivers, there are empty transport boxes available in Histology specimen reception.

Appendix VI: Specimen Referral Procedures and Instructions by Department

Microbiology:

1. Examination by Referral Laboratories Microbiology:PPG-CUH-PAT-705
2. Sample Management in Infectious Disease Serology: INS-CUH-PAT-1958

Pathology:

Referral Arrangements in pathology: PPG-CUH-PAT-675

Neuropathology:

Referral to Other Laboratories- PPG-CUH-PAT-956
Muscle biopsy- PPG-CUH-PAT-951
Cytological Examination of Fluids in Neuropathology- PPG-CUH-PAT-923
Skin Biopsy for Fibroblast Culture-PPG-CUH-PAT-987

Autoimmune:

Examination by Referral Laboratories: PPG-CUH-PAT-104

Clinical Biochemistry:

Laboratory Procedure for Referral Tests: PPG-CUH-PAT-190

Haematology:

Examination By Referral Laboratories, Haematology Referral: PPG-CUH-PAT-533

Blood Transfusion:

Laboratory Procedure for the Referral of Samples to External Laboratories: LP-C-BTR-REFER

Appendix VII: Model Rules for Portering Staff

1. Cover any cuts, grazes or broken skin with a water proof dressing
2. Carry all samples in the trays or boxes provided, never in your hand or pockets
3. Always wash your hands before meal breaks and at the end of a work period
4. If a sample leaks into a tray, bag or box inform Laboratory reception staff. They will deal with the spillage as per INS-CUH-PAT-520
5. If you drop and break a sample, do not touch it or try to clear it up. Stay with the sample to prevent other people touching it and send someone to the laboratory for help. If you spill the sample onto your work clothes, remove the contaminated clothing at once and then wash your hands and put on clean work clothes. Dispose of the contaminated clothing with the used coats from the laboratory. Do not take it home for laundering.
6. Handle sample containers gently at all times
7. Take care when carrying any waste or rubbish from the laboratory. Do not touch broken glass or needles, but tell you supervisor. Special 'sharps' containers are provided for glass, syringes and needles – these should be handled carefully
8. Only fully trained personnel may enter the mortuary body store. If you have to go there and are not fully trained, do not enter without the permission of the senior technician. They will explain about any special precautions that should be taken, e.g. wearing special protective clothing. Follow the instructions carefully.
9. Any delay in sample delivery, or untoward incident, shall be notified to laboratory staff who will document the event in accordance with the Corrective Action/ Preventive Action Procedure.

Appendix VIII: Sample Transport Dangerous Goods Note

(Applicable to the transport of Infectious Substances)

Consignor Details:
Name: Mr. Joe Bloggs
Institution: Cork University Hospital, Cork
Address: Wilton, Cork City, Ireland
Tel. No. 021-4922505
Signature:
Date:

Consignee Details:
Name:
Institution: National Virus Reference Laboratory
Address: University College Dublin
Tel. No.

UN No.: UN 2814
Proper Shipping Name: Infectious Substance Affecting Humans [Mycobacterium tuberculosis]

No. of Packages: 1

Appendix IX: Transportation of Frozen Samples Using Dry Ice Packaging Instruction 954 by Air (IATA)

This instruction applies to UN 1845, Carbon dioxide, solid (dry ice) on passenger aircraft and Cargo Aircraft Only.

The General Packing Requirements of P650 must be met.

Additional Packing Requirements

In packages:

(a) Must be in packaging designed and constructed to permit the release of carbon dioxide gas and to prevent a build-up of pressure that could rupture the packaging;

(b) The shipper must make arrangements with the operator(s) for each shipment, to ensure ventilation safety procedures are followed;

(c) The Shipper's Declaration requirements of Subsections are only applicable when the Carbon dioxide, solid (dry ice) is used as a refrigerant for dangerous goods that require a Shipper's Declaration;

(d) The following information, for the Carbon dioxide, solid (dry ice), must be contained in the "Nature and Quantity of Goods" box on the air waybill. The information should be shown in the following order:

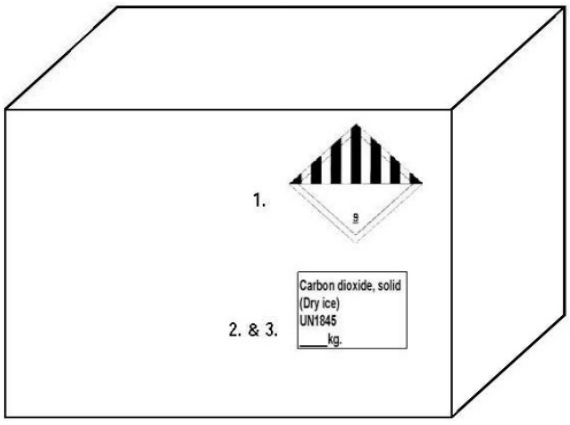
- UN 1845;
- proper shipping name (**Dry ice** or **Carbon dioxide, solid**);
- the number of packages; and
- the net weight of dry ice in each package.

(e) The net weight of the Carbon dioxide, solid (dry ice) must be marked on the outside of each package.

UN Number	Quantity per package Passenger aircraft	Quantity per package Cargo Aircraft Only
UN 1845, **Carbon dioxide, solid** or **Dry ice**	200kg	200kg

Packaging:

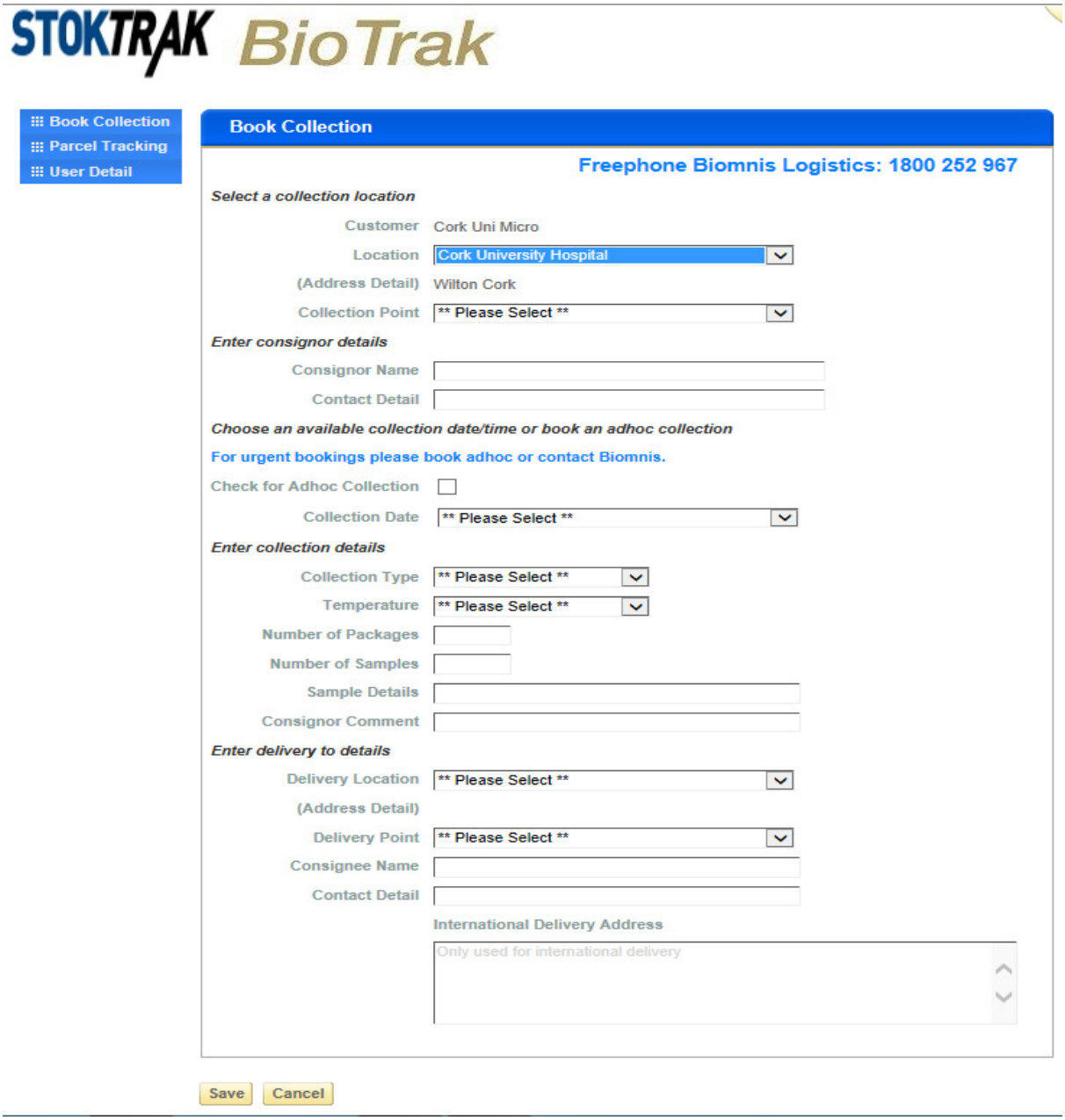
1. Packaging dry ice properly will minimize risk to personnel transporting material. The explosion hazard will be eliminated with a package designed to vent gaseous carbon dioxide. Suffocation and contact hazards will be greatly reduced by labelling the package correctly, so that those who come in contact will be aware of the contents.



Appendix X: Using the Eurofins Biotrak Specimen Collection and Tracking System.

Sending a Sample by Eurofins

1. Double click on the icon on desktop or select biotrak.eurofins.ie Book Collection. The following window will open for completion:



2. Select a collection point – select appropriate laboratory from drop down menu
3. Complete consignor name
4. Contact details (optional)
5. Check Adhoc Collection if package is urgent
6. Collection date : YYYY-MM-DD 13:00 KERRY 01, next
7. Select Collection type: standard, infectious, international, international infectious

8. Select temperature that is required for transportation
9. Enter No. of packages
10. Enter No. of samples (optional)
11. Sample details (optional)
12. Consignor Comment (optional)
13. Select Delivery Location : International, freetext international delivery into the address box below provided : Within Ireland select from menu Dublin area 9initail addresses), rest of Ireland further on.
14. Select Delivey point (Laboratory)
15. Consignee name (optional)
16. Contact detail (optional)
17. Click on Save at bottom left hand side
18. Select Print labels – these are for outside of the packaging
19. Print label/delivery note.

Tracking a Specimen

1. Book Collectio, hover over icon
2. Select second option overview
3. From the list which appears find your required package using date and delivery address
4. Copy the Booking ID on the left hand side next to magnifying glass search option
5. Go back to Parcel tracking and paste the Booking ID into the space provided and press go
6. The page will populate with the booking ID information and the latest status for your package is viewable.