Folkhälsomyndigheten
PUBLIC HEALTH AGENCY OF SWEDEN

Packing samples correctly

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About this publication

The transport of infectious substances is associated with certain risks. Therefore, there are international and national regulations governing what may be sent, as well as how the goods must be packaged and otherwise handled.

"Packing samples correctly" is a translation of the Swedish document “Packa provet rätt” which is a compilation of the provisions for transport of infectious substances found in the regulations for transport of dangerous goods by road (ADR-S) and by air (IATA-DGR). It serves as a practical guide for the transport of samples sent to the Public Health Agency of Sweden for microbiological analysis and is intended for those using this service.

"Packing samples correctly" can also be used as support for other transport of infectious substances but is not an exhaustive account of all provisions concerning such transport. It is always the sender's responsibility to ensure that the goods are correctly classified, packaged, labeled, and accompanied by the correct documentation. For further guidance, contact your dangerous goods safety adviser (DGSA).

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Definitions

- ADR-S: The Swedish version of the Agreement Concerning the International Carriage of Dangerous Goods by Road.
- Cultures: The result of a process by which pathogens are intentionally propagated (cultivated).
- Dangerous goods: A collective term for substances and articles that, due to their hazardous properties, may cause harm to humans, the environment, or property if not handled correctly during transport.
- Dangerous goods safety adviser (DGSA): A person responsible for ensuring the prevention of damages during the transport of dangerous goods under the operational management's responsibility. More information on the DGSA's role is found in Appendix 2.
- Exempt human specimen: Human samples for which there is minimal likelihood that pathogens are present. Corresponding samples from animals are referred to as exempt veterinary specimens.
- IATA-DGR: The International Air Transport Association (IATA) Dangerous Goods Regulations, applicable to all member airlines of IATA. These regulations include additional requirements beyond ICAO-TI. The air transport provisions described in "Packing samples correctly" are based on IATA-DGR.
- ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air, applicable in Sweden and internationally. PostNord requires that infectious substances in Category B (UN 3373) comply with this regulation, as air transport may be used even for certain domestic postal operations.
- Infectious substances: Substances which are known or are reasonably expected to contain pathogens.
- Infectious substances, Category A: 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 in otherwise healthy humans or animals.
- Infectious substances, Category B: An infectious substance which does not meet the criteria for inclusion in Category A.
- Patient samples: Samples collected directly from humans or animals, including, but not limited to, excreta, secreta, blood and its components, tissue, swabs, biopsies, and body parts for research or diagnostic purposes, examination, treatment, or prophylaxis.
- Pathogens: Microorganisms (including bacteria, viruses, parasites, fungi) and other agents such as prions, which can cause disease in humans or animals.
- Transport: The movement of goods by all means of transportation (including non-motorized vehicles). Loading, unloading, storing, and other handling related to transport are included in the term.

Classification

The purpose of classification is to determine whether the substance to be transported is dangerous goods. Based on the properties of the substances, they are divided into different classes and assigned a four-digit UN number. Proper classification and UN number assignment are critical as they form the basis for choosing packaging, labeling, and documentation.

Infectious substances

The classification of infectious substances is based on the WHO document Guidance on regulations for the transport of infectious substances, which is revised every two years. A quick guide (Figure 1) is available to assist with classification.

Substances which are known or are reasonably expected to contain pathogens must be classified as Class 6.2 infectious substances. Pathogens are defined as microorganisms (including bacteria, viruses, parasites, fungi) and other agents such as prions, which can cause disease in humans or animals. Infectious substances are divided into two categories, A and B, depending on the risk they pose during transport. The category determines the UN number assigned to the substance, which in turn dictates the applicable provisions for carriage.

Infectious substances, Category A

Infectious substances must be classified as Category A if they are transported in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals.

Substances containing or reasonably expected to contain pathogens meeting the criteria for Category A in humans are assigned to UN 2814 Infectious substance, affecting humans.

Note that the classification not only depends on how dangerous the pathogen is but also on the nature of the substance containing the pathogen, including the quantity and concentration, which affect the risk.

Examples of pathogens classified as Category A and assigned to UN 2814 are listed in Tables 1a, 1b, and 1c. Pathogens in Table 1a must always be classified as Category A. Those in Table 1b are classified as Category A when transported in concentrated forms, such as cultures (e.g., incubated blood culture bottles or pure streaks from bacterial cultures). If sent in less concentrated forms, such as samples collected directly from patients, they may be classified as Category B.

For pathogens listed in Table 1c, an exemption in the dangerous goods transport regulations for transport on road and railway allows cultures of these pathogens to be classified as Category B if they are intended for clinical or diagnostic purposes. However, if the cultures are sent by air or sea or for purposes such as research, they must be classified as Category A.

Table 1a. Examples of pathogens classified as Category A, UN 2814, both as patient samples and cultures (cultivated material).

All Risk Group 4 Viruses (i)	**Certain Risk Group 3 Viruses (i)**
Crimean-Congo hemorrhagic fever virus	Flexal virus
Ebola virus	Hantaan virus
Guanarito virus	Hantavirus causing hemorrhagic fever with renal syndrome
Hendra virus	Kyasanur forest disease virus
Junin virus	Omsk hemorrhagic fever virus
Lassa virus	
Machupo virus	
Marburg virus	
Nipah virus	
Sabia virus	
Variola virus (Smallpox)	

(i) Classification according to chapter 11 in AFS 2023:10 Risker i arbetsmiljön

Table 1b. Examples of pathogens classified as Category A, UN 2814, in culture (cultivated material) but classified as Category B in patient samples.

Viruses	**Bacteria**	**Fungi**
Chikungunya virus	Bacillus anthracis	Coccidioides immitis
Dengue virus	Brucella abortus	
Tick-borne encephalitis virus (TBE virus)	Brucella melitensis	
Hepatitis B virus	Brucella suis	
Herpes B virus	Burkholderia mallei	
Highly pathogenic avian influenza virus	Burkholderia pseudomallei	
HIV	Chlamydophila psittaci	
Japanese encephalitis virus	Clostridium botulinum	
MERS coronavirus	Coxiella burnetii	
Monkeypox virus	Francisella tularensis	
Poliovirus	Rickettsia prowazekii	
Rabies virus	Rickettsia rickettsii	
Rift Valley fever virus	Yersinia pestis	
Russian spring-summer encephalitis virus		
SARS coronavirus 1		
SARS coronavirus 2		
Venezuelan equine encephalitis virus		
West Nile virus		
Yellow fever virus		

Table 1c. Pathogens that, when in culture, are intended for diagnostic or clinical purposes and may be classified as infectious substances in Category B (UN 3373) for road and rail transport. In all other cases, they must be classified as Category A (UN 2814):

Bacteria
Escherichia coli, verotoxigenic
Mycobacterium tuberculosis
Shigella dysenteriae Type 1

In the regulations there is a list corresponding to Table 1b for pathogens that only affect animals. Materials which are known or reasonably expected to contain these pathogens are classified as Category A and assigned to UN 2900 Infectious substance, affecting animals only.

Please note that the pathogens listed in the tables are examples. When transporting pathogens not included in the tables, the shipper (sender) must classify them based on the criteria for Category A and B using the examples in the tables as guidance. If the pathogens meet the criteria for Category A, they must be classified accordingly. This also applies to new or emerging pathogens.

It is also important to note that classification may vary depending on the material, as shown in Table 1b. Use the examples in Tables 1a and 1b to interpret the criteria. For instance, Lujo virus, which causes a severe disease resembling Lassa fever but with a higher mortality rate, should be classified as Category A for both patient samples and cultures. Another example could be a culture containing Hepatitis C virus, a virus that pose risks similar to Hepatitis B virus. Since Hepatitis B virus is listed in Table 1b, cultures of Hepatitis C virus should be classified as Category A, while patient samples should be classified as Category B.

Infectious substances, Category B

Infectious substances which do not meet the criteria for inclusion in Category A is classified as Category B and assigned to UN 3373 Biological substance Category B. This applies to:

- Patient samples and cultures which are known or reasonably expected to contain pathogens that are less hazardous than those listed in Tables 1a-c. For example, both a patient sample and a culture of seasonal influenza would be classified as Category B.
- Patient samples which are known or reasonably expected to contain pathogens listed in Tables 1b and 1c. For example, a blood sample from a patient with suspected Yellow Fever.
- Cultures of pathogens listed in Table 1c that are transported by road or railroad for diagnostic or clinical purposes. the tables. For example, a culture of Mycobacterium tuberculosis that are sent by road transport to another laboratory for detection of drug resistance.

Medical and clinical wastes

Specific UN numbers with dedicated provisions exist for infectious wastes in each category. The provisions for infectious wastes are not covered in this publication.

Exempt human specimen

Human samples for which there is minimal likelihood that pathogens are present can be transported as Exempt human specimen. Examples include serum samples for antibody titer testing related to vaccination or screening samples from individuals without known or suspected infectious diseases. Exempt human specimens are not subject to dangerous goods transport regulations if they are packaged and marked according to the instructions provided on page 17.

Samples from humans with suspected or known infection may only be classified as exempt human specimens if there is minimal likelihood of pathogens being present at the source of the sample.

Inactivated pathogens

Pathogens and materials containing, or reasonably expected to contain, pathogens that have been inactivated using a validated method are not classified as dangerous goods and are therefore not subject to dangerous goods transport regulations.

Inactivated samples should be packaged in a manner that prevents leakage, preferably following the packaging instructions for Exempt human specimens but without the labeling.

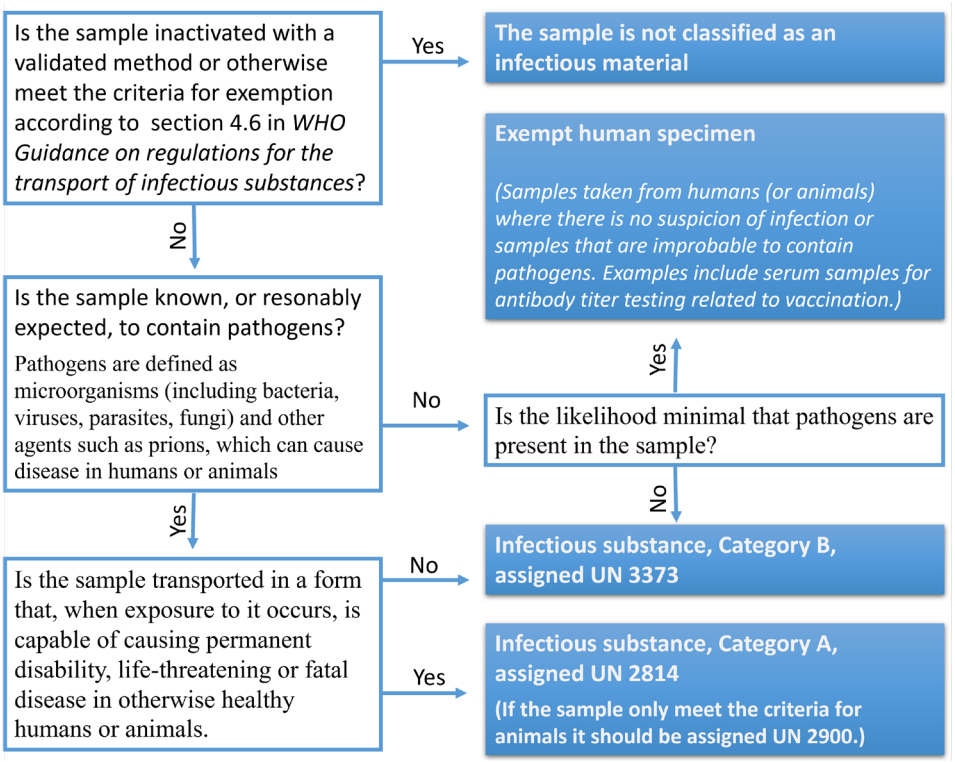
Exemptions according to WHO's Guidance on regulations for the transport of infectious substances section 4.6

The following are exempt from dangerous goods transport regulations:

- Blood, blood products, and organs intended for transfusion or transplantation.
- Patient samples for fecal occult blood screening.
- Dried blood spots.

Flowchart for classification of human samples

Figure 1. Flowchart for classifying human samples.



Regulations for transport

General provisions

Unless otherwise specified in the specific sections, the following apply:

Disinfection

Ensure that external surfaces of the packaging are clean of contamination with pathogens. Packages that may have become contaminated during handling must be disinfected with a disinfectant effective against the relevant pathogens.

Packaging

The packages must be of good quality and strong enough to withstand the shocks and strain normally encountered during transport. They must be constructed and sealed in a way that prevents leakage under normal transport conditions. In case of leakage, it must not compromise the package's function.

The packaging must be comprised of at least three layers. The infectious substance is placed in an inner container termed the primary receptacle which is then placed in a second layer termed the secondary packaging. The secondary packaging is then placed in a third layer termed the outer packaging.

The primary receptacles must, if needed, be secured within the secondary packaging to prevent them from moving within the secondary package. Likewise, the secondary package must be secured within the outer package.

Marking and labeling

The outer packaging must be clearly marked in such a way that the marking does not fall off or fade. The text must be at least 6 mm high (at least 12 mm high for dangerous goods with a net weight exceeding 30 kg or a net volume exceeding 30 liters). Outer packaging containing primary receptacles with a liquid volume exceeding 50 ml must be marked with directional arrow labels on two opposite sides.

Labels must be at least 100 x 100 mm, unless otherwise specified in the specific sections, and must comply with the requirements outlined in the regulations. Marking and labeling should, whenever possible, be placed adjacent to each other on the same side of the package (this does not apply to directional arrows). A single marking or label should be placed in such a way that its all placed on one side.

For transport security reasons, the name of the pathogen should not be written on the packaging.

Regulations for the transport of UN 2814 Infectious substances affecting humans

Requirements for dangerous goods safety adviser (DGSA)

For the transport of UN 2814, both shippers and carriers must have a DGSA registered with the Swedish Civil Contingencies Agency (MSB). More information about DGSA requirements is available in Appendix 2.

Requirements for security plan

For transport of UN 2814 infectious substances, the shipper and the carrier must have a security plan in accordance with the transport security requirements (Section 1.10 in ADR-S or Section 1.7.4 in IATA-DGR). The purpose of the plan is to minimize the risk of theft or unauthorized handling of the shipment.

Training requirements

Individuals involved in the transport of infectious substances classified as UN 2814 (e.g., shippers, carriers and consignees) must be trained in the requirements for handling dangerous goods as appropriate to their responsibilities and duties (refer to Section 1.3 in ADR-S or Section 1.5 in IATA-DGR). The training must also cover transport security. Drivers involved in road transport must hold a valid ADR certificate.

Packaging requirements

The packaging must consist of the following:

1. **Primary** receptacle**:** one or more leak-proof containers (e.g., plastic tubes or blood culture bottles). Effective sealing measures, for example tape-reinforced screw caps, must be used.

   If multiple primary receptacles are placed in one secondary packaging, they must be wrapped individually or otherwise separated to avoid contact with each other.

   Except for solid samples, absorbent material sufficient to absorb the entire contents must be placed between the primary receptacle and the secondary packaging.

2. **Secondary packaging**: a leak-proof secondary container.

3. **Outer Packaging:** a rigid outer container with minimum external dimensions of 100 mm in all directions (meaning height, length and width must all be 100 mm or more).

   Both the secondary and outer packaging must be designated for Class 6.2 by an accredited test laboratory. Designated packages are marked with a designation marking for Class 6.2, such as:

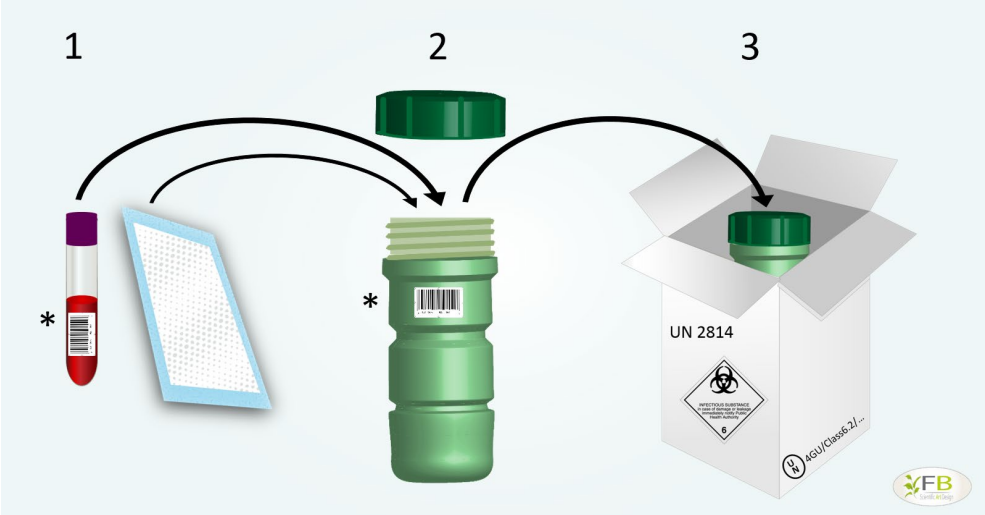
   

   4GU/Class 6.2/12/S/SP-319508

For air transport, a detailed contents list in English (e.g., a laboratory requisition) must be placed between the secondary and outer packaging.

When samples are transported with passenger aircraft, the total content of an outer package is limited to 50 ml (g). Larger amounts, up to 4 liters (kg) in an outer package, is allowed by cargo aircraft only. The packaging must then be labeled with a "Cargo Aircraft Only" label (see IATA-DGR 7.4.2).

Figure 2. Example of packaging for a sample classified as UN 2814 for road transport



Note: Samples sent to the Public Health Agency of Sweden for analysis must be labeled with a sample ID (e.g., barcode or personal identification number) on both the primary receptacle and the secondary packaging.

Marking and labeling requirements

For road transport the outer packaging must be labeled, to the extent possible on the same side, with:

- The text “UN 2814”.
- Label Class 6.2 (as seen on right side). For small packages a minimum size of 50 x 50 mm is accepted).

For air transport: The outer packaging must be labeled to the extent possible on the same side, with:

- The text “UN 2814”.
- The text “Infectious substance, affecting humans”.
- Label Class 6.2 (minimum size: 50 x 50 mm for small packages).
- Net weight or volume of the sample.
- Shipper’s name and address.
- Consignee’s name and address.
- The text “Responsible person” followed by name and telephone number of the such.

Transport documentation requirements

For road transport, the shipment must be accompanied by dangerous goods transport document, including:

- In the order listed: “UN 2814 Smittförande ämne, som påverkar människor”, followed by the pathogen's full biological name in parentheses. If the pathogen is unknown, write “misstanke om smittförande ämne i kategori A” within the parentheses. Then “6.2” (the label number), “(E)” (the tunnel restriction code), and number and type of packages and total net quantity.
- Shipper’s name and address.
- Consignee’s name and address.
- Responsible person’s name and phone number (to answer questions in case of an incident).

An example of a dangerous goods transport document can be found in Appendix 3. For domestic transport within Sweden, the document must be written in Swedish. For international transport originating in Sweden, the information must be given in Swedish and in either English, German, or French. A copy of the document must be retained by both the shipper and the carrier for at least three months.

For air transport, a Shipper’s declaration written in English is required. This must be submitted in two signed copies to the carrier. The shipper must retain a signed copy for at least three months. For road transport to the airport for onward air transport, the shipper’s declaration may replace the dangerous goods transport document for the road transport. More information about the shipper’s declaration is available at IATA.com.

Carrier requirements

Please note that UN 2814 is not allowed to be sent via regular postal services (Postnord). Transport must be carried out by a carrier that fulfill requirements regarding training, DGSA and security plan described above.

Regulations for the transport of UN 3373 biological substance, Category B

Packaging requirements

The packaging must consist of:

1. Primary receptacle: one or more leak-proof receptacles (e.g., a plastic tubes).

   If multiple fragile primary receptacles are placed in one secondary packaging, they must be wrapped individually or otherwise separated to avoid contact with each other.

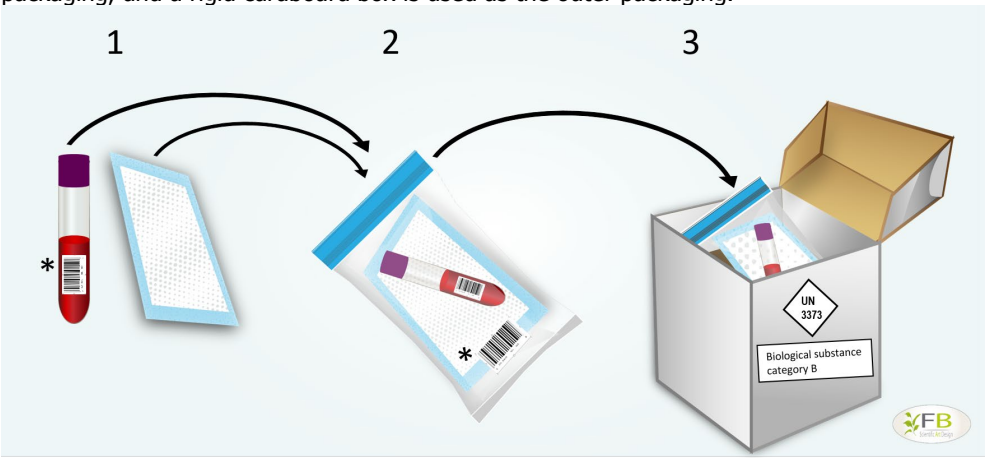
   For liquids, absorbent material sufficient to absorb the entire contents must be placed between the primary receptacle and secondary packaging.

2. Secondary packaging: a leak-proof secondary container, such as a sealed plastic bag or transport sleeve.
3. Outer packaging: at least one side of the outer package must be at least 100 mm x 100 mm. For example, the height of the outer package can be 20 mm if both the length and width are at least 100 mm.

For road transport, either the secondary or outer packaging must be rigid. For air transport or postal shipments, the outer packaging must be rigid. Primary receptacles or secondary packaging must withstand an internal pressure of 95 kPa.

The content of a single primary receptacle must not exceed 1 liter (kilogram), and the total content of an outer package must not exceed 4 liters (kilogram) for air or postal transport.

Figure 3. Example of packaging for a sample classified as UN 3373 for postal or air transport. In this example, a plastic bag with a secure tape seal is used as the secondary packaging, and a rigid cardboard box is used as the outer packaging.



Note: Samples sent to the Public Health Agency of Sweden for analysis must be labeled with a sample ID (e.g., barcode or personal identification number) on both the primary receptacle and the secondary packaging.

Marking and labeling requirements

For road transport (within Sweden): The outer package must be labeled, to the extent possible on the same side, with:

- "Biologiskt ämne, Kategori B".
- Label UN 3373 (minimum size: 50 x 50 mm).

For air and postal transport: The outer package must be labeled, to the extent possible on the same side, with:

- "Biological substance, Category B."
- Label UN 3373 (minimum size: 50 x 50 mm).
- Shipper's name and address.
- Consignee's name and address.
- The text "Responsible person" followed by name and telephone number of the such. If this information is included in the air waybill, it is not required on the package).

Transport documentation requirements

No dangerous goods transport document or shipper's declaration is required for UN 3373.

For air transport, a detailed contents list in English (e.g., a laboratory requisition) must be placed between the secondary and outer packaging. This is not required for postal shipments.

Carrier requirements

Substances classified as UN 3373 can be sent via regular postal services (e.g., Postnord) within Sweden. Since 2017, Postnord explicitly requires that all goods classified as UN 3373 comply with the packaging instructions PI650 in ICAO-TI. This means that the air transport instructions mentioned above must be followed. For postal shipments outside Sweden, other regulations may apply.

Regulations for the transport of exempt human specimens

Packaging requirements

The packaging must consist of:

1. Primary receptacle: one or more leak-proof containers.

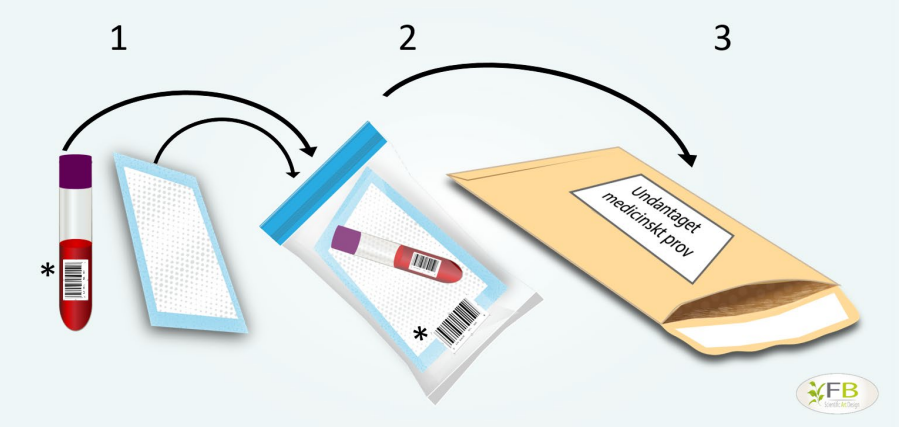
   If multiple fragile primary receptacles are placed in one secondary packaging, they must be wrapped individually or otherwise separated to avoid contact with each other.

   For liquids, absorbent material sufficient to absorb the entire content must be placed between the primary receptacle and the secondary packaging.

2. Secondary packaging: a leak-proof secondary container, such as a sample tube or a sealed plastic bag.

3. Outer packaging: at least one side of the outer package must measure at least 100 mm x 100 mm. For example, the height of the outer package can be 20 mm if both the length and width are at least 100 mm.

Figure 4. Example of packaging for a sample classified as exempt human specimen: a sealed plastic bag as secondary packaging and a padded envelope as outer packaging.



*Samples sent to the Public Health Agency of Sweden for analysis must be labeled with a Sample ID (e.g., a barcode label or personal identification number) on both the primary receptacle and the secondary packaging.

Marking and labeling requirements

For road transport (within Sweden) the package must be labeled with the text "Undantaget medicinskt prov" and for air transport with "Exempt human specimen."

Other requirements

No other provisions apply. No dangerous goods transport document or shipper's declaration is required for exempt human specimens.

Exempt human specimens may be shipped using regular postal services (e.g., Postnord) within Sweden, provided they are packaged and labeled as described above.

Regulations for the transport of refrigerated and frozen samples

For air transport shippers of dry ice must have appropriate training.

Packaging requirements

When samples classified as infectious substances or exempt human specimens are shipped refrigerated or frozen, they must follow the packaging requirements for the applicable UN number. Cool packs, ice or dry ice must be placed around the secondary packaging or within an overpack (an enclosure that simplifies handling of multiple packages). The secondary packaging must be secured to remain in place as the ice melts or the dry ice sublimates. If ice is used, the outer packaging or overpack must be watertight.

Dry ice is classified as dangerous goods and must comply with specific provisions. The packaging must allow carbon dioxide gas from dry ice to escape to prevent damage to the packaging.

Marking and labeling requirements

For road transport: mark the package, to the extent possible on the same side as other markings and labels, with:

- The text “Dry ice, as refrigerant” or “Carbon dioxide, solid, as refrigerant”.

For air transport and postal shipments: mark the package, to the extent possible on the same side as other markings and labels, with:

- The text “UN 1845”.
- The text “Dry ice” or “Carbon dioxide (solid)”.
- Net weight of the dry ice in kilograms.
- Label Class 9 (minimum size: 100 x 100 mm).

If an overpack is used, all markings and labeling on the package (including the markings associated with the contents' UN number) must also be present on the overpack, along with the text ”Overpack”. This applies to both road and air transport. When multiple packages are placed in an overpack for air transport, the total net weight of dry ice must be stated on the overpack.

Documentation requirements

When dry ice is used for cooling dangerous goods that requires a shipper’s declaration, e.g., infectious substances, Category A, the dry ice must also be stated in the shipper’s declaration.

Carrier requirements

Dry ice may be shipped using regular postal services (e.g., Postnord) within Sweden, provided the ICAO-TI packaging instructions are followed in addition to the requirements for the contents.

Contact the Public Health Agency of Sweden

For questions or assistance regarding provisions for transport of infectious substances:

Primarily consult with the safety advisor for the transport of dangerous goods within your own organization. If any questions remain email or call the PHAS telephone exchange at 010-205 20 00 and ask for the dangerous goods safety advisor.

Biorisker@folkhalsomyndigheten.se

For questions or assistance regarding our analyses:

Call the customer support of the division of microbiology at 010-205 24 44 or send an email to kundtjanst.mikrobiologen@folkhalsomyndigheten.se.

In urgent matters:

Call the telephone exchange at 010-205 20 00. Open weekdays from 08.00 to 16.30**.** Outside these hours, the voicemail provides instructions for contacting the agency in urgent cases, such as matters related to emergency diagnostics.

Postal adress: Folkhälsomyndigheten, Provmottagningen, 171 82 Solna, Sweden

Delivery address: Tomtebodavägen 12 B, 171 82 Solna, Sweden (for emergency diagnostic samples, use the delivery address agreed upon with Clinical Microbiology on Duty).

Appendix 1: Quick reference guide

Requirement/Restriction	**UN 2814 Infectious substance, affecting humans**	**UN 3373 Biological substance, Category B**	**Exempt human specimen**
Training required under 1.3 in ADR or 1.5 in IATA-DGR	Yes	No	No
Safety adviser required	Yes	No	No
Security plan required	Yes	No	No
Allowed via Swedish postal services (Postnord)	No	Yes, if air transport regulations are followed	Yes
ADR certificate required for drivers	Yes	No	No
Packaging requirements	See page 12	See page 15	See page 17
Marking requirements	See page 13	See page 16	See page 17
Label requirements			None
Detailed contents list between secondary and outer packaging required	Yes, for air transport.	Yes, for air transport (but not postal shipments).	No
Dangerous goods transport document required	Yes, in Swedish (road transport)	No	No
Shipper's declaration required	Yes, in English (air transport) Two copies to the carrier and one copy to be kept by the shipper.	No	No
Maximum net volume (net amount) with air transport or postal services of UN 3373 Dry ice excluded	**In each outer package:** Passenger plane: 50 ml (g). Cargo plane: 4 L (kg)	**In each primary receptacle:** 1 L (kg) **In each outer package:** 4 L (kg)	No limitation

Appendix 2: Background

Why is it important to pack samples correctly?

For the patient: Ensuring that the sample reaches the laboratory intact and without delays.

For carrier personnel: Preventing exposure to infectious substances while handling shipments. Leaking packages can contaminate other goods and spread infections.

For receiving laboratory personnel: Allowing safe handling and opening of shipments without risk of infection.

Dangerous goods transport regulations

In Sweden, the transport of dangerous goods is regulated by the dangerous goods transport acts Lagen om transport av farligt gods (2006:263) and Förordningen om transport av farligt gods (2006:311), as well as by regulations specific to each of the four modes of transport;

- Road and off-road transport: Myndigheten för samhällsskydd och beredskaps föreskrifter om transport av farligt gods på väg och i terräng, ADR-S. These regulations are based on the ADR, a multilateral agreement between approximately fifty countries, including all EU member states.
- Rail transport: Myndigheten för samhällsskydd och beredskaps föreskrifter om transport av farligt gods på järnväg, RID-S. Similar to ADR-S, these regulations are based on a multilateral agreement.
- Sea transport: Transportstyrelsens föreskrifter om transport till sjöss av förpackat farligt gods, which incorporate the international IMDG Code into Swedish law.
- Air transport: Transportstyrelsens föreskrifter om transport av farligt gods med luftfartyg, which incorporate the international ICAO-TI into Swedish law. Additionally, all member airlines of the International Air Transport Association (IATA) require compliance with the IATA Dangerous Goods Regulations (IATA-DGR). While IATA-DGR meets all ICAO-TI requirements, it is stricter in certain aspects. Since a majority of the world's airlines are IATA members, adherence to IATA-DGR is practically mandatory.

Regulations are regularly revised, so always use the current edition.

Dangerous goods safety adviser (DGSA)

Entities that send or transport dangerous goods are legally mandated to appoint a Dangerous goods safety adviser (DGSA). The regulatory framework for DGSAs is

detailed in the Swedish Civil Contingencies Agency's (MSB) directive MSBFS 2015:9. For infectious substances, the DGSA requirement does not apply to UN 3373 or exempt human specimens. However, the requirement does apply to UN 2814 across all modes of transport. Additional exemptions exist in certain cases and are described in MSBFS 2015:9. To become a DGSA, one must pass an examination conducted by MSB, which can be specific to one or more modes of transport. The organization must notify MSB of its appointed DGSA.

The role of the DGSA is to work under the responsibility of the head of the entity, to prevent damages during the transport of dangerous goods and to ensure compliance with the dangerous goods transport acts. This involves developing tailored methods and procedures for tasks related to the transport of dangerous goods and to advise the business on the application of the regulations. If an accident involving dangerous goods occurs, the DGSA must submit a report on the incident to the management.

Appendix 3: Example of a dangerous goods transport document for UN 2814 (ADR-S)

An example of a dangerous goods transport document is provided for a shipment of two blood culture bottles suspected of containing Brucella melitensis, sent by road from “Universitetssjukhuset” to the Public Health Agency of Sweden. As the transport takes place within Swedish borders the transport document is written in Swedish.

Each blood culture bottle contains 15 ml of cultivated material (culture). The blood culture bottles are packaged, labeled, and marked according to the instructions on pages 1 and 12. Both Universitetssjukhuset and the carrier have a dangerous goods safety adviser and a security plan. The driver holds a valid ADR certificate.

The blood culture bottles are packed in two separate designated packaging’s, with the outer packaging made of fibreboard. The transport document is prepared in two copies: one is provided to the carrier, and the other is retained by Universitetssjukhuset for at least three months.

Godsdeklaration enligt ADR-S

Innehåll	Antal kollin	Typ av förpackning	Total nettomängd (vikt/volym)
UN 2814 SMITTFÖRANDE ÄMNE, SOM PÅVERKAR MÄNNISKOR (BRUCELLA MELITENSIS) 6.2, (E)	2 stycken	lådor av papp	30 ml

Avsändare	Mottagare
Namn UNIVERSITETSSJUKHUSET	Namn FOLKHÄLSOMYNDIGHETEN
Adress SJUKHUSVÄGEN 1 840 85 ORTEN	Adress TOMTEBODAVÄGEN 12B 171 82 SOLNA

Ansvarig person	
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The Public Health Agency of Sweden is an expert authority with responsibility for public health issues at a national level. The Agency develops and supports activities to promote health, prevent illness and improve preparedness for health threats. Our vision statement: a public health that strengthens the positive development of society.

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