

Welcome!

Thank you for attending Infectious Substances Class 6.2 Transportation Compliance Training. The training is required for all members of the campus community who may ship or transport materials that may have Class 6.2 hazardous characteristics.

The primary source of regulatory information is provided by the Department of Transportation (DOT) and the International Air Transport Association (IATA). The University of Nevada, Las Vegas (UNLV) may also dictate responsibilities for users of infectious substances. These regulations are thoroughly discussed within this manual.

Shipping regulations have been designed to aid the shipper with procedures which provide information on how to transport Dangerous Goods or Hazardous Materials safely.

Each person who offers infectious materials for transportation must know how to properly classify, package, mark, label, placard and document a shipment. All persons coming in contact with and directly affecting the safe transportation of the shipment must be trained.

In compiling information to include in this manual, several resources were used. Please note the following references:

- International Air Transport Association (IATA). "Dangerous Goods Regulations", 49th Edition. September 2007.
- SAFTPAK Inc. "Shipping Class 6.2 Dangerous Goods Compliance Training Reference Manual". 2008.
- University of Pennsylvania Environmental Health & Radiation Safety. "University of Pennsylvania Manual shipping Infectious Substances and Biological Materials". April 2007.

If you have any questions regarding the safe transportation of infectious materials, please feel free to contact the Department of Risk Management and Safety at 702-895-4226. We want you to feel comfortable and confident when handling these materials.

Enjoy the training.

2008
Risk Management and Safety

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The “Regulations”

The regulation for the transport of infectious materials is based upon the recommendations from the United Nations (UN). The International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA) have incorporated the UN conditions pertinent to air transport.

Safety is the most important aspect of transportation of Dangerous Goods. All that ship, transport, and accept a wide range of chemicals and other Dangerous Goods, including Infectious substances, must abide by the regulations established.

National authorities throughout the world publish various regulations with their own definitions. In the United States, the Code of Federal Regulations 49 CFR – Transportation established their authority from the Hazardous Materials Transportation Uniform Safety Act. New regulations can be found in the Federal Register that is published throughout the year.

Anyone who handles dangerous goods during the transportation process must follow the regulation and be properly trained.

Training

Training is required under all national and international regulations (IATA 1.5, ICAO 1.4.1, 49CFR 172.702).

Training is provided at no charge by UNLV to all faculty and staff if it is applicable to the individual job responsibility. Unless you have received the proper training, you shall not be involved in any part of the shipping process, other than to provide information and supplies to a trained person.

Please contact the Department of Risk Management and Safety if you feel you need training when it comes to shipping hazardous materials of a class or division other than Class 6 or Class 9.

A record of training must be kept on file for the duration of employment plus 90 days after an employee has left the organization. Training is valid for two years under IATA/ICAO and three years under DOT. At UNLV, every employee must be retrained every two years to retain authorization to ship hazardous materials.

Shipper's Responsibilities

In Section 1.3.1.1 of the Dangerous Goods Regulation (DGR) it reads, "A shipper must comply fully with these Regulations when offering a consignment of Dangerous Goods to an IATA Member, Associate Member Airlines and to airlines participating in IATA interline agreements for cargo. In addition, shippers must comply with any applicable regulations set forth by States of origin, transit and destination."

Complying with the regulation includes, but is not limited to, properly classifying, identifying, packing, marking, labeling, and documenting shipments of dangerous goods.

In addition, contact with the receiver may be necessary to ensure a proper and expeditious delivery. Overall, it is the responsibility of the responsible person and shipper to determine and adhere to all applicable regulations.

Receiver's Responsibilities

Those who receive materials or samples are obliged to inspect the package, inspect the documents, and close the shipping loop by informing the shipper that the package has arrived. They are also responsible for reporting any leakage and, if required, obtaining any import permits.

Limitations

Section 2.1 of the DGR lists hazardous materials that are forbidden for air transport travel. At this time, though, no Infectious substances are forbidden for transportation by air. However, not all carriers will carry certain Infectious substances. Therefore, it is important to consult the State and Operator variations.

Furthermore, exceptions to regulation may be made when the quantities of some dangerous goods are small. Unfortunately, this does not apply to materials classified in Class 6.2. Infectious substances must comply with all regulations.

International Shipments

Certain permits are required when importing and exporting Infectious substances to and from the United States. Permits are typically required to accompany all shipments of Infectious substances, animals, animal-derived materials, insects, etiologic agents, biological toxins, or genetically-modified organisms that cross international borders. These permits help to govern the transfer of biological materials to minimize or eliminate the possible threats to public health and agriculture.

Importing into the United States

An import permit may be required for shipments of infectious material even if no permit is required from the originating country. All shipments are reviewed by the U.S. Bureau of Customs and Border Protection. Prior to the shipment of materials, the following government agencies should be contacted to determine if a permit is required:

- CDC Permits: www.cdc.gov/od/eaipp/
- USDA Permits: www.aphis.usda.gov/vs/import_export.htm
- U.S. Fish and Wildlife Service Permits: <http://www.fws.gov/>

Import permits are issued only to the receiver of the shipment, who must be located in the United States.

The receiver is legally responsible for assuring that the shipper packages, labels, and ships the infectious material according to Federal (USPHS) and International (IATA) regulations. Shipping labels with the universal biohazard symbol, the address of the receiver, the permit number, and the expiration date, are also issued to the receiver with the permit. The receiver must send the labels and one or more copies of the permit to the shipper. The permit and labels inform the U.S. Customs Service and U.S. Division of Quarantine Personnel of the package contents.

Exporting from the United States

The export of a wide variety of infectious materials may require a license from the Department of Commerce. Information may be obtained by calling the Department of Commerce Bureau of Export Administration at 202-482-4811 or through the internet at:

www.bis.doc.gov/Licensing/

In addition, Risk Management and Safety recommends that the above government agencies be contacted for any additional permits.

Note: All shipments (imports and exports) may be opened and inspected at any time by authorized government entities. Please ensure the package is packaged safely and properly to ensure its intended delivery.

Steps to Ship Class 6.2

Most Infectious substances will follow the sequence listed below.

Classification of material
Select the Proper Shipping Name
Check and follow any Special Provisions
Select the Proper Packaging
Check the State and Operator Variations
Package the material
Mark and Label the package
Complete the proper Documentation

Each of these steps will be discussed below.

Classification of Material







The term “hazardous materials” is used when transporting certain materials within the United States. Internationally, this term is called dangerous goods. For the purpose of this course, these terms can be used interchangeably.

In general, hazardous materials and dangerous goods are articles or substances which are capable of posing a risk to health, safety, property or the environment.

There are nine different Classes of Dangerous Goods. Some classes are further divided into Divisions based on their different properties. The list on the following pages provides a description of each of the nine classes. Although this manual does not train on how to ship each of these classes, it is important to know their differences.

Class 1 Explosives

Class 1 is divided into 6 divisions:

1.1	Articles and substances having a mass explosion hazard. <ul style="list-style-type: none">• Black powder, Dry TNT	 A yellow diamond-shaped hazard label with a black explosion symbol at the top. Below the symbol, the text reads "EXPLOSIVE 1.1A 1".
1.2	Articles and substances having a projection hazard, but not a mass explosion hazard. <ul style="list-style-type: none">• Hand grenades, Rocket motors	 A yellow diamond-shaped hazard label with a black explosion symbol at the top. Below the symbol, the text reads "EXPLOSIVE 1.2C 1".
1.3	Articles and substances having fire hazard, a minor blast hazard, and /or a minor projection hazard. <ul style="list-style-type: none">• Aerial flares	 A yellow diamond-shaped hazard label with a black explosion symbol at the top. Below the symbol, the text reads "EXPLOSIVE 1.3C 1".
1.4	Articles and substances presenting no significant hazard. <ul style="list-style-type: none">• Ammunition, Fireworks	 A yellow diamond-shaped hazard label with the text "1.4 EXPLOSIVE B 1" in black.
1.5	Very insensitive substances having a mass explosion hazard. <ul style="list-style-type: none">• Explosive, blasting, type B or E	 A yellow diamond-shaped hazard label with the text "1.5 BLASTING AGENT D 1" in black.
1.6	Extremely insensitive articles that do not have a mass explosion hazard. <ul style="list-style-type: none">• Articles, explosive, extremely insensitive	 A yellow diamond-shaped hazard label with the text "1.6 EXPLOSIVE N 1" in black.

In addition to a division number explosives are assigned a letter code. These codes are termed compatibility group codes because they determine if packages of explosives may be loaded, stored or stowed together. These codes also indicate additional information about the explosive.

Explosives are highly regulated and must have prior approval of the Associate Administrator for Hazardous Materials Safety.

Class 2

Gases

Class 2 is divided into 3 divisions:

2.1 Flammable gas

- Butane, UN1011



2.2 Non-flammable, non
poisonous/toxic gas

- Carbon dioxide, UN1013



2.3 Poisonous/Toxic gas

- Ethylene oxide, UN1040



Class 3

Flammable and Combustible Liquids



Flammable and combustible liquids are classified based on their flash point and initial boiling point.

Class 4

Flammable Solids

Class 4 is divided into 3 divisions:

- 4.1 Flammable solid
Readily combustible which when transported may cause or contribute to fire through friction

- Matches, sulfur



- 4.2 Spontaneously combustible material
Substances liable to spontaneous heating under normal conditions to transport, or to heating up in contact with air, and then liable to catch fire

- Phosphorus, yellow, dry



- 4.3 Dangerous when wet material
Substances liable to become spontaneously flammable or give off flammable gases in dangerous quantities when interacting with water

- Sodium, Lithium



Class 5

Oxidizers and Organic Peroxides

Class 5 has 2 divisions:

5.1 Oxidizer (agents)

- Lithium nitrate, UN2722



5.2 Organic peroxide

- Organic peroxide type b, liquid, UN3101



Oxidizers may yield oxygen that could cause or contribute to the accelerated combustion of other materials.

Organic peroxides are materials which may exhibit one or more of the following properties:

- Liable to explosive decomposition
- Burn rapidly
- Sensitive to impact or friction
- React dangerously with other substances
- Cause damage to the eyes

Class 6

Poisonous or Toxic and Infectious Substances

Class 6 has 2 divisions:

6.1 Poisonous/Toxic substance

- Arsenic, UN1558



6.2 Infectious Substances



These materials are liable to cause injury or harm to human or animal health if swallowed, inhaled or absorbed through the skin.

6.2 Infectious Substances

These are substances known or reasonably expected to contain pathogens. Pathogens are defined as micro-organisms (including bacteria, viruses, parasites, fungi, etc) which can cause disease in humans or animals. Infectious substances shall be assigned to UN2814, UN2900, UN3291, or UN3373.

Infectious substances are divided into the following eight categories:

Category A – an infectious substance that can cause permanent disability or life-threatening or fatal disease in healthy humans or animals when one is exposed. An exposure occurs when an infectious substance is released outside of its protective packaging, resulting in physical contact with humans or animals. Classification must be based on the known medical history or symptoms of the source patient or animal, endemic local conditions, or professional judgment concerning the individual circumstances of the source human or animal. Category A poses a higher degree of risk than Category B.

The following table contains examples of Infectious substances included in Category A in any form unless otherwise indicated.

Infectious Substances, Category A Table

UN Number & Proper Shipping Name	Micro-organism
<p>UN 2814 Infectious substance, affecting humans</p>	<p> <i>Bacillus anthracis</i> (culture only) <i>Brucella abortus</i> (culture only) <i>Brucella melitensis</i> (culture only) <i>Brucella suis</i> (culture only) <i>Burkholderia mallei</i> – <i>Pseudomonas mallei</i> – Glanders (culture only) <i>Chlamydia psittaci</i> – avian strains (culture only) <i>Clostridium botulinum</i> (culture only) <i>Coccidioides immitis</i> (culture only) <i>Coxiella burnetti</i> (culture only) Crimean-Congo hemorrhagic fever virus Dengue virus (culture only) Eastern equine encephalitis virus (culture only) <i>Escherichia coli</i>, verotoxigenic (culture only) Ebola virus Flexal virus <i>Francisella tularensis</i> (culture only) Guanarito virus Hantaan virus Hantaviruses causing hemorrhagic fever with renal syndrome Handra virus Hepatitis B virus (culture only) Herpes B virus (culture only) Human immunodeficiency virus (culture only) Highly pathogenic avian influenza virus (culture only) Japanese Encephalitis virus (culture only) Junin virus Kyasanur Forest disease virus Lassa virus Machupo virus Marburg virus Monkeypox virus <i>Mycobacterium tuberculosis</i> (culture only) Nipah virus Omsk hemorrhagic fever virus Poliovirus (culture only) Rabies virus (culture only) <i>Rickettsia prowazekii</i> (culture only) Rift Valley fever virus (culture only) <i>Russian spring-summer encephalitis virus</i> (culture only) Sabia virus </p>

UN Number & Proper Shipping Name	Micro-organism
UN 2814 Infectious substance, affecting humans	<i>Shigella dysenteriae</i> type 1 (culture only) <i>Tick-borne encephalitis virus</i> (culture only) Variola virus Venezuelan equine encephalitis virus (culture only) <i>West Nile virus</i> (culture only) <i>Yellow fever virus</i> (culture only) <i>Yersinia pestis</i> (culture only)
UN 2900 Infectious substance, affecting animals	African swine fever virus (culture only) Avian paramyxovirus Type 1 – Velogenic Newcastle disease virus (culture only) Classical swine fever virus (culture only) Foot and mouth disease virus (culture only) Lumpy skin disease virus (culture only) <i>Mycoplasma mycoides</i> – Contagious bovine pleuropneumonia (culture only) Peste des petis ruminants virus (culture only) Rinderpest virus (culture only) Sheep-pox virus (culture only) Goatpox virus (culture only) Swine vesicular disease virus (culture only) Vesicular stomatitis virus (culture only)

Culture means an infectious substance containing a pathogen that is intentionally propagated. *Culture* does not include a human or animal patient specimen.

Please be aware that additional substance may be added to this list as new or emerging pathogens become known. In addition, if there is doubt as to whether or not a substance meets the criteria it shall be included in Category A.

Individuals shipping Infectious substances, Category A must notify the Department of Risk Management and Safety.

Category B – an infectious substance that is not in a form generally capable of causing permanent disability or a life-threatening or fatal disease in otherwise healthy humans or animals when exposure occurs. Infectious substances in Category B shall be assigned to UN3373.

Exceptions – biological materials that are not subject to shipping regulations. Exception materials are not excluded from triple packaging. Exceptions include:

- Substances which do not contain infectious substances or substances which are unlikely to cause disease in humans or animals.
- Substances containing micro-organisms, which are non-pathogenic to humans or animals.
- Substances in a form that any present pathogens have been neutralized or inactivated such that they no longer pose a health risk.

- Environmental samples (including food and water samples), which are not considered to pose a significant risk of infection, are not subject to these regulations unless they meet the criteria for inclusion in another class.
- Dried blood spots, fecal occult blood screening test, or blood or blood components which have been collected for the purpose of transfusion or the preparation of blood products to be used for transfusion or transplantation.
- Non-infectious material from human, animals or plants. Examples include non-infectious cells, tissue cultures, blood or plasma from individuals not suspected of having an infectious disease, DNA, RNA, or other genetic elements.
- Biological products including an experimental or investigational product or component of a product, subject to federal approval, permit, review or licensing requirements such as those required by the Food and Drug Administration or the USDA.

Note: *In determining whether a patient specimen has a minimal likelihood that pathogens are present, an element of professional judgment is required to determine if a substance is exempt under this paragraph. That judgment should be based on the known medical history, symptoms and individual circumstances of the source, human or animal. Examples include the blood or urine test to monitor cholesterol levels, blood glucose levels, hormone levels, or prostate specific antigens (PSA); tests required to monitor organ function such as heart, liver or kidney function for humans or animals with non-infectious diseases, or therapeutic drug monitoring; test conducted for insurance or employment purposes and are intended to determine the presence of drugs or alcohol; pregnancy tests; biopsies to detect cancer; and antibody detection in humans or animals.*

Biological Products – biological products are classified into one of the following two groups:

- Those which are manufactured and packaged in accordance with the requirements of appropriate national authorities and transported for the purpose of final packaging or distribution, and use for personal health care by medical professionals or individuals. Substances in this group are not subject to these regulations. Vaccines would be included in this group.
- Those which are not considered part of the above group and are known or reasonably believed to contain infectious substances. These materials must be shipped as either Category A or Category B as described above.

Genetically Modified Micro-organisms and Organisms – a micro-organism or organism genetic material has been purposely altered through genetic engineering in a way that does not occur naturally is a Genetically Modified Micro-organism or Organism. These materials are classified as Class 9 – Miscellaneous Dangerous Goods.

Medical or Clinical Waste – these substances are subject to shipping regulations. Please contact Risk Management and Safety for the proper procedures for handling medical or clinical waste.

Infected Animals – live animals that are intentionally infected must not be transported by air. Deceased animals may be assigned Category A or Category B.

Patient Specimens – materials collected directly from humans or animals. These specimens must be assigned to Category A or Category B as appropriate unless they comply with the following exception. Patient specimen for which there is a minimal likelihood that pathogens are present are not subject to these Regulations if the specimen is packed in packaging which will prevent any leakage and which is marked with the words “Exempt human specimen” or “Exempt animal specimen,” as appropriate.

Class 7

Radioactive Materials



Category I



Category II



Category III

Radioactive material is any material or substance which spontaneously and continuously emits ionizing radiation that can be harmful to human health. These radiations are undetectable to the human senses. However, they can be accurately detected and measured with special instruments.

For detailed training in shipping radioactive materials, please contact the Department of Risk Management and Safety.

Class 8

Corrosive Materials



Class 8 materials mean a liquid or a solid that causes full thickness destruction of human skin at the site of contact within a specified period of time.

Class 9

Miscellaneous Dangerous Substances or Articles



Miscellaneous dangerous goods are substances or materials which may present a danger during transport, and which are not covered under the other 8 hazard class definitions. They may be a *Marine Pollutant*, a *Hazardous Substance*, *Hazardous Waste*, or *Elevated Temperature Material*. These substances also include any material which has an anesthetic, noxious or other similar property which could cause extreme annoyance or discomfort to a flight crew member so as to prevent the correct performance of assigned duties.

Genetically modified micro-organisms or genetically modified organisms are included in this classification.

Material Safety Data Sheets

The use of Material Safety Data Sheets (MSDS) is mandated when using Hazardous Materials. Chemical manufacturers **MUST** develop an MSDS for each hazardous chemical they produce. Employers **SHALL** have an MSDS for each hazardous material they use.

No specific form is required by federal law. However, certain information is required to be included on each MSDS. This information includes:

- The identity of the material
- Physical and chemical characteristics
- Physical and health hazards
- Primary route(s) of entry
- The OSHA Permissible Exposure Limit (PEL); ACGIH Threshold Limit Value (TLV); and any other exposure limit used or recommended by the manufacturer
- Whether the chemical is listed in the NTP, the IARC, or OSHA
- Precautions of safe handling and use
- Recommended engineering controls
- Emergency and first aid response
- Date of preparation
- Name, address and telephone number of the chemical manufacturer

OSHA also encourages the use of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) adopted by the United Nations. The GHS includes criteria for the classification of health, physical and environmental hazards, as well as specifying what information should be included on labels of hazardous chemicals as well as safety data sheets. The United States was an active participant in the development of the GHS, and is a member of the UN bodies established to maintain and coordinate implementation of the system.



For any questions regarding chemical or Materials Safety Data Sheets, contact the Department of Risk Management and Safety.

Select the Proper Shipping Name

The Proper Shipping Names for hazardous materials are found in IATA 4.2 and 49CFR 172.101. These names are used on packaging and shipping documents to describe the material being shipped. In conjunction with the Proper Shipping Name, each material is assigned a UN Number to further distinguish among the many hazardous materials. Both the UN Number and the Proper Shipping Name are required for each shipment.

There are more than 3000 materials listed in IATA 4.2 and 49CFR 172.101. However, for the purposes of this class only six will be used.

UN 2814 Infectious substance, affecting humans (*technical name*)

UN 2900 Infectious substance, affecting animals (*technical name*)

UN 3373 Biological substance, Category B

UN 1845 Dry Ice

UN 3291 Regulated medical waste

UN 3245 Genetically modified micro-organisms or organisms

For **Category A Infectious substances**, there are only two Proper Shipping Names:

UN 2814 Infectious substance, affecting humans (*technical name*)

UN 2900 Infectious substance, affecting animals (*technical name*)

If a Category A Infectious substance affects both humans and animals, UN 2814 is used.

Technical Name must be a recognized name used in scientific and technical handbooks, texts or journals.

Check and follow any Special Provisions

Special Provisions may have an effect on the packaging or the way the shipment must be transported. Special Provisions are found in IATA 4.2 Column M and in 49CFR 172.101 Column 7.

The Special Provisions for Category A Infectious substances are listed below.

A81 (IATA) and A82 (DOT) – the quantity limits do not apply to body parts, organs or whole bodies. Transport in accordance with this S.P. must be noted on the Shipper's Declaration.

A140 (IATA) – for the purposes of documentation, the proper shipping name must be supplemented with the technical name. The technical name does not need to appear on the package. When the technical name is not known, the words “suspected category A infectious substance” must be shown on the documentation after the proper shipping name.

The other Proper Shipping Names may have Special Provisions that need to be consulted before shipping. Please remember to check and follow all Special Provisions.

Select the Proper Packaging

Once you have classified what your sample is, then you must pack the sample properly. In order to properly package the sample, you must follow the Packaging Instructions (PI) specified.

Biological materials that will be shipped must be packaged to withstand leakages, distress, various temperatures, pressure changes and other environmental circumstances that potentially can occur during transportation.

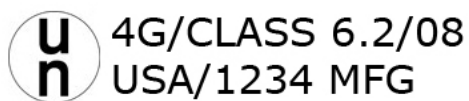
Category A Infectious substances must use IATA Packaging Instruction (PI) **602** and 49CFR 173.196. These requirements ensure that packages will arrive at their destination in good condition and present no hazard during transport.

The inner packaging shall be comprised of the following:

- **Primary receptacle**
 - Must be leak-proof
 - Capable of withstanding internal pressure producing a pressure differential of not less than 95 kilopascal (kPa)
 - Must be labeled with the name of contents
- **Secondary container**
 - Must be leak-proof
 - Absorbent material must be placed between the primary receptacle and the secondary container
 - If multiple fragile primary receptacles are placed in a single secondary container, they shall be either individually wrapped or separated so as to prevent contact between them
 - Biohazard label must be attached
 - Capable of withstanding internal pressure producing a pressure differential of not less than 95 kilopascal (kPa)

In addition, an itemized list of contents shall be enclosed between the secondary container and the outer container

The rigid **outer container** must be certified with a UN package certification mark.



UN: The UN symbol

4G: A number and letter designation specifying the type of package and material.

CLASS 6.2: Specifying an Infectious substance package

08: The last two digits of the year of manufacture

USA: The state (country) authorizing the package

1234 MFG: Name and address or symbol of the manufacturer

Packing and Labeling of Category A Infectious Substances (See Packing Instruction 602)

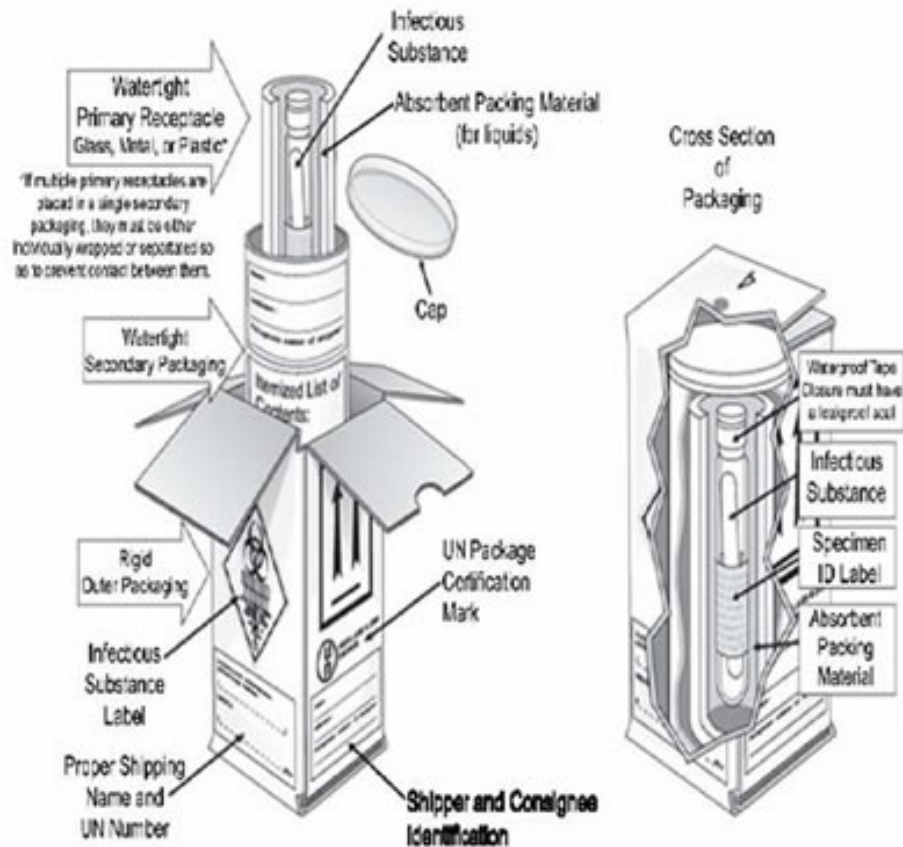


Image Taken from: <http://www.orc.msstate.edu/img/packing.jpg>

Category B Infectious substances must use IATA Packaging Instruction (PI) **650** and 49CFR 173.199.

Like Category A Infectious substances, the inner packaging shall be comprised of the following:

- **Primary receptacle**
 - Must be leak-proof
 - Capable of withstanding internal pressure producing a pressure differential of not less than 95 kilopascal (kPa)
 - Must be labeled with the name of contents
- **Secondary container**
 - Must be leak-proof
 - Absorbent material must be placed between the primary receptacle and the secondary container
 - If multiple fragile primary receptacles are placed in a single secondary container, they shall be either individually wrapped or separated so as to prevent contact between them
 - Biohazard label must be attached
 - Capable of withstanding internal pressure producing a pressure differential of not less than 95 kilopascal (kPa)

In addition, an itemized list of contents shall be enclosed between the secondary container and the outer container

The rigid **outer container** must be certified with a UN package certification mark.

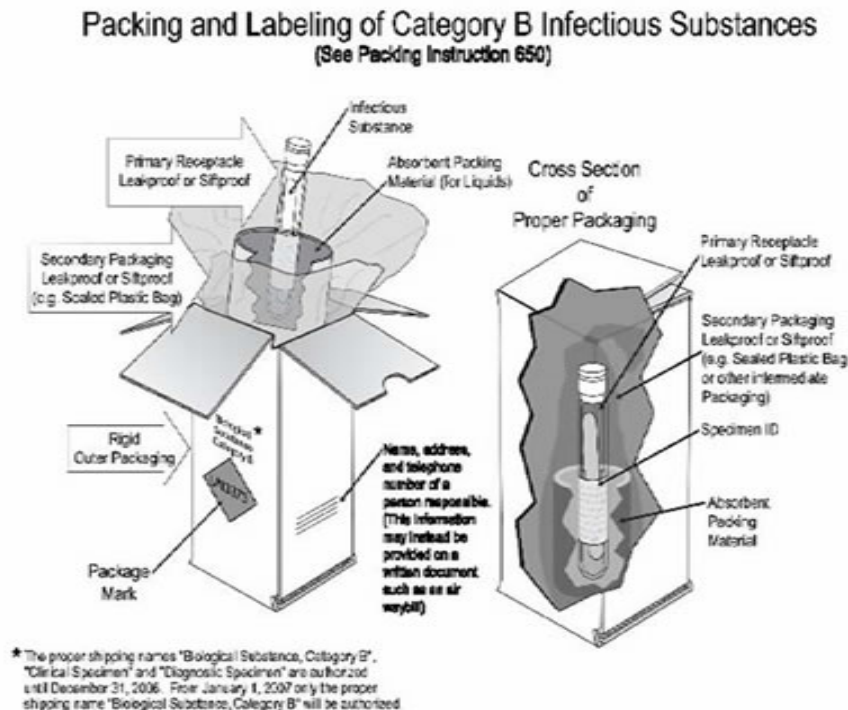


Image taken from: <http://www.orc.msstate.edu/img/categoryb.jpg>

Genetically Modified Micro-organisms or Organisms must comply with IATA Packaging Instruction (PI) **602** and 49CFR 173.196.

Patient Specimens are not subject to Regulations if there is minimal likelihood that pathogens are present. Packaging Instruction (PI) **650** is recommended.

If shipping a direct patient specimen, then the sample must be packaged to prevent any leakage (both primary and secondary containers) and must be marked with the words “Exempt human specimen” or “Exempt animal specimen.”

In addition, the outer packaging must be of adequate strength for its intended use and have a minimum dimension of 4in x 4in.

For liquids, absorbent material in sufficient quantity to absorb the entire contents must be placed between the primary receptacle and the secondary packaging so that, during transport, any release or leak of a liquid substance will not reach the outer packaging and will not compromise the integrity of the cushioning material.

When multiple fragile primary receptacles are placed in a single secondary packaging, they must be either individually wrapped or separated to prevent contact between them.

Biological Products are not subject to biological shipping regulations; however, they should be packaged to prevent leaking.

Materials which are known or believed to contain infectious substances and meet the criteria for Category A or Category B substances must be assigned to UN2814, UN2900 or UN3373, as appropriate.

Dry ice must be packed according to Packing Instruction (PI) **904** and special packaging must be purchased. The packaging must be leak-proof and the outer packaging must allow for the release of carbon dioxide gas when the solid dry ice sublimates. Dry ice must be placed outside the secondary packaging. Interior supports must be provided to secure the secondary container as the solid dry ice sublimates.

Packaging that is made to ship dry ice will already be labeled. If not, then dry ice is a miscellaneous hazard (Class 9) by IATA. The package must bear a Class 9 label and be marked with the proper shipping name, UN number, and net quantity of the dry ice.

Check the State and Operator Variations

The Packing Instructions will list state (country) and Operator variations that may impose additional restrictions to shipments. These variations are found in IATA 2.9 and should not be less restrictive than the stated Regulations.

The most commonly used variations at UNLV include those for the United States (USG) and Federal Express (FX).

Package the Material

Package the infectious substance using the criteria stated above.

Marking and Labels

Note: Please turn to Appendix A for examples of properly marked and labeled packages in each of the categories below.

When marking and labeling a package, the following items must be considered:

- Use United States hazard labels for shipments that originate in the United States
- Keep all required markings and labels on one face of the package if possible
- Hazard labels should be placed in the diamond-on-point orientation if on the outer package
- UN number, category and net weight (for quantity) should be marked adjacent to the corresponding hazard label
- Be sure to remove or completely cover any irrelevant marks or labels
- Do not write on or cover any portion of the hazard labels within the diamond portion of the label

For both Infectious substances in Category A and Category B, the following markings or labels must appear on the outer box:

- Shipper and consignee full name, address and telephone number
- Infectious substance label
- The appropriate UN Number and respective proper shipping name with technical name in parentheses
- The net quantity of infectious substance
- Name of person responsible for the shipment and a working telephone number
- If packaged with dry ice, a Class 9 label including UN1845, Dry Ice, and net weight label
- If shipping over 50 mL or 50g, then a Cargo aircraft label will need to be added
- UN certification seal (already on the box)
- Orientation label – a minimum of two on opposite sides

For **Genetically Modified Micro-organisms or Organisms**, the following markings or labels must appear on the outer box:

- Shipper and consignee full name, address and telephone
- UN 3245, Genetically modified micro-organism or organism, and net quantity in g or mL
- If packaged with dry ice, then a Class 9 label including UN1845, Dry Ice, and net weight label

Patient Specimens that have a minimal likelihood pathogens are present must be packaged in leak-proof primary and secondary containers as outlined above. On the outer package it must have the following words marked on it: "Exempt human specimen" or "Exempt animal specimen."

For **Dry Ice**, a Miscellaneous Hazard label (Class 9) must be used. Nothing should be written inside the label. A label with the UN 1845, Dry Ice and amount of dry ice in kg should be marked on the outer package. The outer packaging must allow for the release of carbon dioxide gas when the solid dry ice sublimates.

Note: Coordination is required between the shipper, the operator, and the consignee when shipping with Dry Ice.

Complete the Proper Documentation

The last step in shipping dangerous goods is to complete the documentation. A Shipper's Declaration of Dangerous Goods is required when shipping Category A Infectious Substances and Dry Ice. Shipments of Category B Infectious substances do not require a Shipper's Declaration.

A properly completed Shipper's Declaration of Dangerous Goods insures that those involved in the shipping process know what kind of dangerous goods are transported, how to properly load and handle them, and what to do if an incident or accident occurs.

IATA requires that a "Shipper's Declaration for Dangerous Goods" form and an "Air Waybill" be completed for each consignment of dangerous goods.

Some important points to note:

- The shipper is responsible for the completion of the Shipper's Declaration
- The **left and right margins** must have red hatchings (please see the following example)
- The wording must be in the English language
- **Two copies** of the Declaration form must be tendered to the Operator
- A Shipper's Declaration must be computer-generated; handwritten declarations are not acceptable
- Phone numbers are essential in proper documentation on the Shipper's Declaration. Many national authorities require a 24-hour emergency response number. The telephone number and the name of a responsible person is also required (IATA 8.1.6.11.4)
- Always print at least four copies of the Shippers Declaration: provide three to the carrier and keep one for your records for 2 years
- Sign and date each copy!
- A change can be made on the Shippers Declaration form as long as it is signed by the shipper with a full signature. No whiteout is allowed!

Once the Shipper's Declaration form is completed, contact Risk Management and Safety for final review and approval before shipping. You may fax the completed Shipper's Declaration to 702-895-4690.

SHIPPER'S DECLARATION FOR DANGEROUS GOODS				(Provide at least three copies to the airline.)		
Shipper <div style="text-align: center; font-size: 2em; border: 1px solid black; border-radius: 50%; width: 40px; margin: 0 auto;">1</div>				Air Waybill No. <div style="text-align: center; font-size: 2em; border: 1px solid black; border-radius: 50%; width: 40px; margin: 0 auto;">5</div> Page of Pages <div style="text-align: center; font-size: 2em; border: 1px solid black; border-radius: 50%; width: 40px; margin: 0 auto;">6</div> Shipper's Reference Number		
Consignee <div style="text-align: center; font-size: 2em; border: 1px solid black; border-radius: 50%; width: 40px; margin: 0 auto;">2</div>						
Two completed and signed copies of this Declaration must be handed to the operator				WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.		
<div style="border: 1px solid black; padding: 5px;"> TRANSPORT DETAILS This shipment is within the limitations of the following: (delete non-applicable) <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; text-align: center;">PASSENGER AND CARGO AIRCRAFT</div> <div style="border: 1px solid black; padding: 2px; text-align: center;">CARGO AIRCRAFT ONLY</div> </div> </div>				Airport of Departure <div style="text-align: center; font-size: 2em; border: 1px solid black; border-radius: 50%; width: 40px; margin: 0 auto;">4</div>		
Airport of Destination:				Shipment type: (delete non-applicable) <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px;">NON-RADIOACTIVE</div> <div style="border: 1px solid black; padding: 2px;">RADIOACTIVE</div> </div> <div style="text-align: center; font-size: 2em; border: 1px solid black; border-radius: 50%; width: 40px; margin: 0 auto;">7</div>		
NATURE AND QUANTITY OF DANGEROUS GOODS						
Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN of ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
8	9	10	11	12	13	14
Additional Handling Information <div style="text-align: center; font-size: 2em; border: 1px solid black; border-radius: 50%; width: 40px; margin: 0 auto;">15</div>						
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.				Name/Title of Signatory Place and Date <div style="text-align: center; font-size: 2em; border: 1px solid black; border-radius: 50%; width: 40px; margin: 0 auto;">16</div>		
Emergency Telephone Number				Signature (A typed signature may be used if the origin and destination are in the United States or its territories.)		
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1						

Filling out an IATA Shipper's Declaration

1. Enter the full name, address and telephone number of the **Shipper** packing the shipment. Please note that ***this person must be trained***. A phone number may be included but is not required.
2. Enter the full name, address and telephone number of the **Consignee** or recipient of the shipment. Again, a phone number may be included but is not required.
3. Cross out (with X's) either "Passenger and Cargo Aircraft" or "Cargo Aircraft Only" to indicate the **method** by which this shipment is traveling.
4. Enter the full name of the airport or city of **departure** and airport or city of **destination** in the appropriate boxes. The three-letter airport designation code is also acceptable. This information may be entered or amended by the accepting carrier. If you don't have this information, leave this area blank.
5. Enter the appropriate **Air Waybill** number filled out for this shipment. This information may be entered or amended by the accepting party.
6. Enter the appropriate **page numbers** of the Shipper's Declaration of Dangerous Goods.
7. Cross out "Radioactive" to indicate the shipment of **non-radioactive substance**. If radioactive material is being shipped, then contact the department of Risk Management & Safety for additional instructions.
8. Enter the **UN or ID Number**.
9. Enter the **Proper Shipping Name** exactly how it appears on the box. The technical name should be placed in parentheses. For example, "Infectious substance, affecting humans (Hepatitis B virus)."

Note: If shipping an infectious substance that is unknown but meets the criteria for inclusion in Category A, then the words "Suspected Category A Infectious Substance" must be shown in parentheses following the proper shipping name.
10. Enter **6.2** to designate the proper Hazard Class.
11. This section is **not applicable** to Infectious substance. If shipping **Dry Ice**, then enter III.
12. Enter the total **net quantity** of each material. Make sure you only use metric units. At the bottom of this column, indicate the type of outer package that the material is in. For example, "All packed in one fibreboard box."

Note: Do not use the spelling "fiberboard." Instead, use "fibreboard."
13. Enter the number of the appropriate **Packing Instruction** used. For Category A Infectious substances, use 602. If you are shipping with Dry ice, use 904.

14. Leave this column blank.

15. According to IATA 8.1.6.11.4, the name and telephone number of the person responsible for the shipment must be entered in the section titled “**Additional Handling Information.**” This area also includes the **24-hour emergency response number.**

This 24-hour number must be monitored at all times that the Hazardous Material is in transit. It must be monitored by a person who is knowledgeable of the hazards and characteristics of the Hazardous Material. This person must also have comprehensive emergency response and accident mitigation information or immediate access to someone who possess such knowledge and information.

Any other required notices for Category A substances are to appear here.

16. Enter the **name and title** of the person signing the Shippers Declaration. Please note that ***this person must be trained.***

Enter the **city** from where the shipment originated and the **date** the document was prepared.

The **signature** of the trained shipper goes here.

Completed Shipper's Declaration

SHIPPER'S DECLARATION FOR DANGEROUS GOODS				(Provide at least three copies to the airline.)		
Shipper John Doe University of Nevada, Las Vegas Microbiology Las Vegas, NV 89154 702-895-5555				Air Waybill No. 1234567890 Page 1 of 1 Pages Shipper's Reference Number		
Consignee Dr. Larry Smith University ABC Microbiology Atlanta, GA 01010 201-555-5555						
<i>Two completed and signed copies of this Declaration must be handed to the operator</i>				WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.		
TRANSPORT DETAILS						
This shipment is within the limitations prescribed for: <i>(delete non applicable)</i>				Airport of Departure <div style="text-align: center; font-size: 1.2em;">LAS</div>		
<div style="border: 1px solid black; padding: 2px;"> <div style="display: inline-block; text-align: center;">PASSENGER AND CARGO AIRCRAFT</div> <div style="display: inline-block; text-align: center; margin-left: 10px;"> XXXXXX XXXXXXXXXX XXXXXX </div> </div>						
Airport of Destination: Atlanta				Shipment type: <i>(delete non-applicable)</i> <div style="border: 1px solid black; padding: 2px;"> NON-RADIOACTIVE XXXXXXXXXX </div>		
NATURE AND QUANTITY OF DANGEROUS GOODS						
Dangerous Goods Identification						
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Pack- ing Group	Quantity and type of packaging	Packing Inst.	Authorization
UN 2814	Infectious substance, affecting humans (Hepatitis B virus)	6.2		30 mL	602	
UN 1845	Dry ice	9	III	3 kg All packed in one fibreboard box.	904	
Additional Handling Information Responsible Person: Dr. William Johnson 702-895-1234 24-hour Emergency Number: 1-555-555-5555						
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.				Name/Title of Signatory John Doe, Principal Investigator Place and Date University of Nevada Las Vegas / July 29, 2008 Signature <i>(A typed signature may be used if the origin and destination are in the United States or its territories.)</i> <div style="text-align: right; font-family: cursive;">John Doe</div>		
Emergency Telephone Number						
<small>FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1</small>						

IATA Air Waybill

Air Waybills are dedicated documents and accompany dangerous goods consignment for which a dangerous goods declaration is required. This document is completed by the shipper. Air waybills differ from courier to courier. Please be familiar with the following basic information.

In the "Handling Information" box, include the phrase "Dangerous Goods per attached Shipper's Declaration" or "Dangerous Goods per attached DGD." For shipments on a cargo aircraft, include the words "Cargo Aircraft Only" or "CAO."

FedEx Express USA Airbill		FedEx Tracking Number	Form I.D. No.	Sender's Copy
		829369757478	0200	
1 From <small>Please print and press hard.</small>				
Date		Sender's FedEx Account Number		
Sender's Name		Phone ()		
Company				
Address		Dept./Floor/Suite/Room		
City		State	ZIP	
2 Your Internal Billing Reference <small>First 24 characters will appear on invoice.</small>				
3 To				
Recipient's Name		Phone ()		
Company				
Address		We cannot deliver to P.O. boxes or P.O. ZIP codes.		
City		State	ZIP	
4a Express Package Service				
<input type="checkbox"/> FedEx Priority Overnight <small>Next business morning</small>		<input type="checkbox"/> FedEx Standard Overnight <small>Next business afternoon</small>		<input type="checkbox"/> FedEx First Overnight <small>Earliest next business morning delivery to select locations</small>
<input type="checkbox"/> FedEx 2Day <small>Second business day</small>		<input type="checkbox"/> FedEx Express Saver <small>Third business day</small>		<input type="checkbox"/> NEW FedEx Extra Hours <small>Later drop-off with next business afternoon delivery for select locations</small>
<small>FedEx Envelope rate not available. Minimum charge: One-pound rate.</small>				
4b Express Freight Service				
<input type="checkbox"/> FedEx 1Day Freight* <small>Next business day</small>		<input type="checkbox"/> FedEx 2Day Freight <small>Second business day</small>		<input type="checkbox"/> FedEx 3Day Freight <small>Third business day</small>
<small>* Call for Confirmation.</small>				
5 Packaging <small>* Declared value limit \$500</small>				
<input type="checkbox"/> FedEx Envelope*		<input type="checkbox"/> FedEx Pak* <small>Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak</small>		<input type="checkbox"/> Other Pkg. <small>Includes FedEx Box, FedEx Tube, and customer pkg.</small>
6 Special Handling				
<input type="checkbox"/> SATURDAY Delivery <small>Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes</small>		<input type="checkbox"/> SUNDAY Delivery <small>Available only for FedEx Priority Overnight to select ZIP codes</small>		<input type="checkbox"/> HOLD Weekday at FedEx Location <small>Not available with FedEx First Overnight</small>
<input type="checkbox"/> HOLD Saturday at FedEx Location <small>Available only for FedEx Priority Overnight and FedEx 2Day to select locations</small>				
Does this shipment contain dangerous goods?				
<input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes <small>As per attached Shipper's Declaration</small>		<input type="checkbox"/> Dry Ice <small>Dry Ice, 3, UN 1845</small>
<small>Dangerous Goods (incl. Dry Ice) cannot be shipped in FedEx packaging or with FedEx Extra Hours service.</small>				
7 Payment Bill to: <small>Enter FedEx Acct. No. or Credit Card No. below.</small>				
<input type="checkbox"/> Sender <small>Acct. No. in Section 1 will be billed.</small>		<input type="checkbox"/> Recipient		<input type="checkbox"/> Third Party
		<input type="checkbox"/> Credit Card		<input type="checkbox"/> Cash/Check
FedEx Acct. No.		Exp. Date		
Credit Card No.				
Total Packages		Total Weight		Total Declared Value†
				\$.00
<small>†Our liability is limited to \$100 unless you declare a higher value. See back for details.</small>				
8 Release Signature <small>Sign to authorize delivery without obtaining signature.</small>				
By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.				
Rev. Date 12/00 • Part #156915 • ©1994-2000 FedEx • PRINTED IN U.S.A. • GBFE 5/01				

Questions? Visit our Web site at fedex.com
or call 1-800-Go-FedEx® (800)463-3339.

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

Transporting Dangerous Goods by Vehicle

Dangerous Goods transported by ground should be properly packaged to prevent a significant risk to the health and safety of the community and the environment. When transporting dangerous goods, the health and safety of people, property and the environment should take priority. All applicable federal and state regulations, including the Department of Transportation (DOT) regulations pertaining to the transport of biohazardous materials apply.

Individuals transporting materials should not leave materials unattended. Additionally, they must take materials directly to its destination; no stops on the way.

Transporting culture material that is classified as Category A

When preparing a package to transport by vehicle, the infectious material should be packaged with the following components:

- a sealed primary receptacle
- a secondary package containing absorbent material (e.g. biohazard specimen bag)
- a rigid **outer container** that is UN certified

The primary receptacle and absorbent material should be placed in the secondary package container. The secondary package container should be sealed and placed in the rigid outer container that snaps close.

The rigid outer container that contains the infectious material should be labeled with a biohazard sticker, Class 6.2 Infectious substance label, and an emergency name and phone number. Documents that should accompany the infectious material are a Shipper's Declaration and a Material Safety Data Sheet for the agent that is being transported. The rigid outer container should be labeled with what it contains and whose material it is (e.g. "UN 2814 Infectious substance, affecting humans (*Bacillus anthracis*) – UNLV Laboratory").

Infectious substances should be transported inside a leak proof and shatterproof container that snaps. If possible, containers should be tied down to maintain minimal movement when placed in the vehicle. Containers should be placed in the trunk of the vehicle. If the trunk of the vehicle is not an option, then the container should be placed on the floor behind the passenger seat.

Upon receipt, inspect the container the materials are placed in for leakage or other damage; depending on the hazard of the material, individuals might want to consider opening the material in a Biological Safety Cabinet.

Transporting culture material that is classified as Category B

When preparing a package to transport by vehicle, the biological material should be packaged with the following components:

- a sealed primary receptacle

- a secondary package containing absorbent material (e.g. biohazard specimen bag)
- a rigid **outer container**

The primary receptacle and absorbent material should be placed in the secondary package container. The secondary package container should be sealed and placed in the rigid outer container that snaps close.

The rigid outer container that contains the biological material should be labeled with a biohazard sticker, UN 3373 label, and an emergency name and phone number. Documents that should accompany the biological material are a manifest and a Material Safety Data Sheet for the agent that is being transported. The rigid outer container should be labeled with what it contains and whose material it is (e.g. "Biological substance, Category B – UNLV Laboratory").

Biological substances should be transported inside a leak proof and shatterproof container that snaps. If possible, containers should be tied down to maintain minimal movement when placed in the vehicle. Containers should be placed in the trunk of the vehicle. If the trunk of the vehicle is not an option, then the container should be placed on the floor behind the passenger seat.

Upon receipt, inspect the container the materials are placed in for leakage or other damage; depending on the hazard of the material, individuals might want to consider opening the material in a Biological Safety Cabinet.

Transporting Patient Specimen

Patient specimens are human or animal materials collected directly from humans or animals and transported for research, diagnosis, investigational activities, or disease treatment or prevention. Patient specimens include excreta, secretions, blood and its components, tissue and tissue swabs, body parts, and specimens in transport media.

The same triple packaging procedure listed above should be used when transporting patient specimens. The rigid outer container that contains the material should be labeled with a biohazard sticker and an emergency name and phone number. Documents that should accompany the patient specimens are a manifest. The name on the rigid outer container should be labeled with an appropriate common name that identifies the package contents (serum, patient specimens, biological specimens, etc.) or "Biological substance, Category B".

Patient specimens should be transported inside a leak proof and shatterproof container that snaps. If possible, containers should be tied down to maintain minimal movement when placed in the vehicle. Containers should be placed in the trunk of the vehicle. If the trunk of the vehicle is not an option, then the container should be placed on the floor behind the passenger seat.

Upon receipt, inspect the container the materials are placed in for leakage or other damage; depending on the hazard of the material, individuals might want to consider opening the material in a Biological Safety Cabinet.

Transporting Exception Material

Some materials may be considered an “exception” when transported in a vehicle. These items include:

- Substances which do not contain infectious substances or substances which are unlikely to cause disease in humans or animals.
- Substances containing micro-organisms, which are non-pathogenic to humans or animals.
- Substances in a form that any present pathogens have been neutralized or inactivated such that they no longer pose a health risk.
- Environmental samples (including food and water samples), which are not considered to pose a significant risk of infection.
- Dried blood spots, collected by applying a drop of blood onto absorbent material, or fecal occult blood screening tests and blood or blood components which have been collected for the purposes of transfusion or for the preparation of blood products to be used for transfusion or transplantation.
- Non-infectious material from human, animals or plants. Examples include non-infectious cells, tissue cultures, blood or plasma from individuals not suspected of having an infectious disease, DNA, RNA, or other genetic elements.
- Biological products including an experimental or investigational product or component of a product, subject to federal approval, permit, review or licensing requirements such as those required by the Food and Drug Administration or the USDA.

The same triple packaging procedure listed above should be used when transporting exception material. The rigid outer container that contains the material should be labeled with a biohazard sticker and an emergency name and phone number. Documents that should accompany the material are a manifest. The name on the rigid outer container will be the name of the material it contains. For example, the name “Environmental Research Materials – UNLV Laboratory” may be used.

Materials should be transported inside a leak proof and shatterproof container that snaps. If possible, containers should be tied down to maintain minimal movement when placed in the vehicle. Containers should be placed in the trunk of the vehicle. If the trunk of the vehicle is not an option, then the container should be placed on the floor behind the passenger seat.

Upon receipt, inspect the container the materials are placed in for leakage or other damage; depending on the hazard of the material, individuals might want to consider opening the material in a Biological Safety Cabinet.

Accidents

In the event of an accident or emergency, please follow these steps:

- Call for emergency assistance
- Inform the emergency response team of what you are transporting

- Contact your Principal Investigator or supervisor who should then notify Risk Management & Safety within 48 hours

For more information regarding accident and insurance reporting and general UNLV vehicle use, please see Appendix E.

Things to Remember

- Make sure the person shipping is trained. Regulations must be followed or fines and jail time can occur if not followed. The person specified as the shipper is responsible.
- Make sure the hazardous material being shipped is identified, classified, marked and labeled correctly.
- Always have your training certificate on file and up to date.
- Attend training every 2 years for a refresher.
- Make sure an emergency phone number is listed on the Shipper's Declaration.
- After completing the Shipper's Declaration for Dangerous Goods, contact Risk Management and Safety for approval before the shipment is sent.
- Keep all Shipper's Declarations on file for 2 years.
- Contact the Risk Management and Safety department with any questions

Appendices

Appendix A: Examples of Outer Box Markings and Hazard Labels

Outer Box for Infectious substance, Category A

The diagram illustrates the required labeling for an outer box containing an infectious substance, Category A. The box is shown from a three-quarter perspective, highlighting the front and right side panels.

Front Panel Labels:

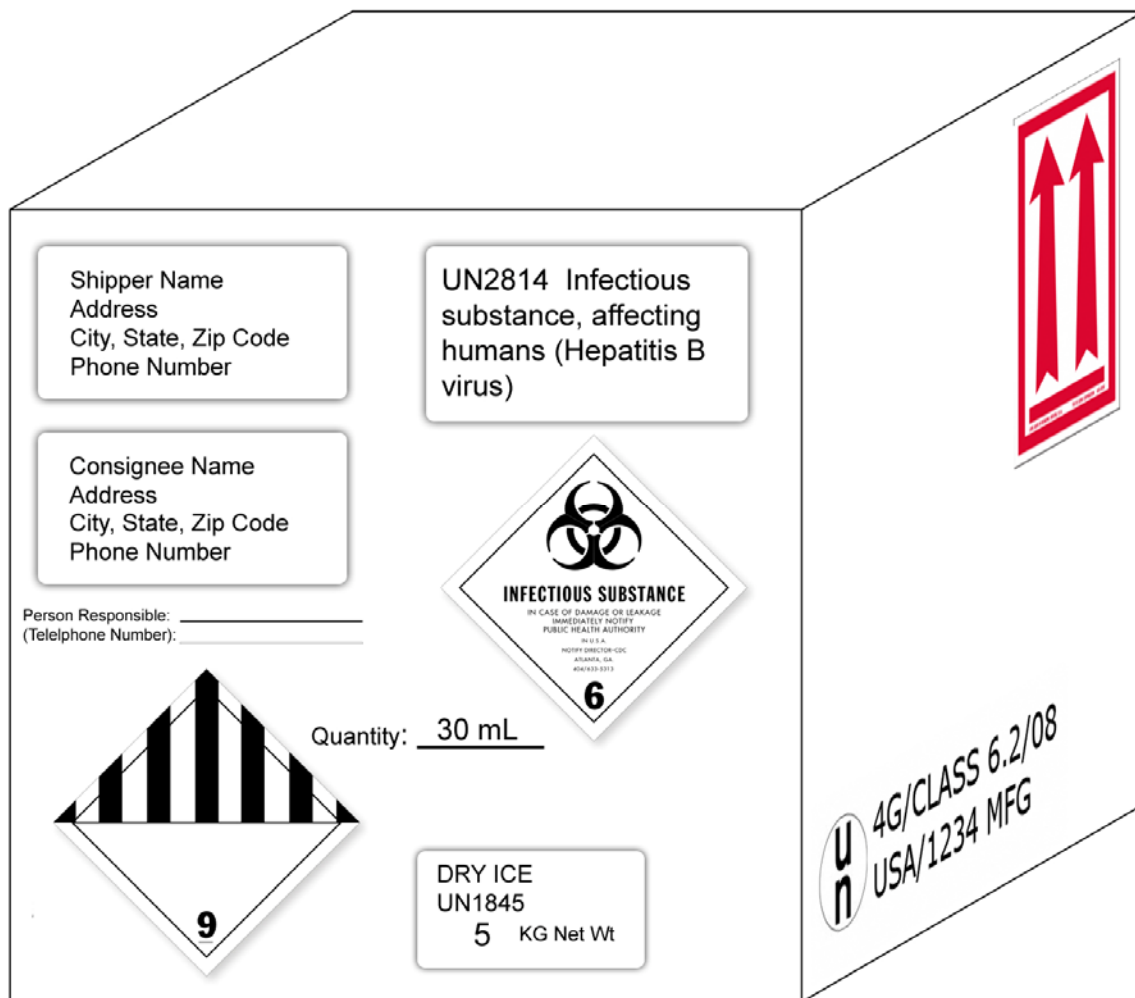
- Shipper Information:** A rectangular label containing the following fields:
 - Shipper Name
 - Address
 - City, State, Zip Code
 - Phone Number
- Consignee Information:** A rectangular label containing the following fields:
 - Consignee Name
 - Address
 - City, State, Zip Code
 - Phone Number
- Person Responsible:** A label with two lines for text: "Person Responsible: _____" and "(Telephone Number): _____".
- Quantity:** A label with the text "Quantity: 30 mL".
- UN2814 Label:** A rectangular label with the text "UN2814 Infectious substance, affecting humans (Hepatitis B virus)".
- Infectious Substance Label:** A diamond-shaped label featuring a biohazard symbol, the text "INFECTIOUS SUBSTANCE", and smaller text: "IN CASE OF DAMAGE OR LEAKAGE IMMEDIATELY NOTIFY PUBLIC HEALTH AUTHORITY", "IN U.S.A. NOTIFY HHS/ATSDR-CDC", "ATLANTA, GA", "484248-1011", and the number "6".

Right Panel Labels:

- Orientation Marking:** A red rectangular label with two upward-pointing arrows.
- UN Marking:** A circular "UN" symbol.
- Classification Marking:** The text "4G/CLASS 6.2/08" and "USA/1234 MFG" printed diagonally.

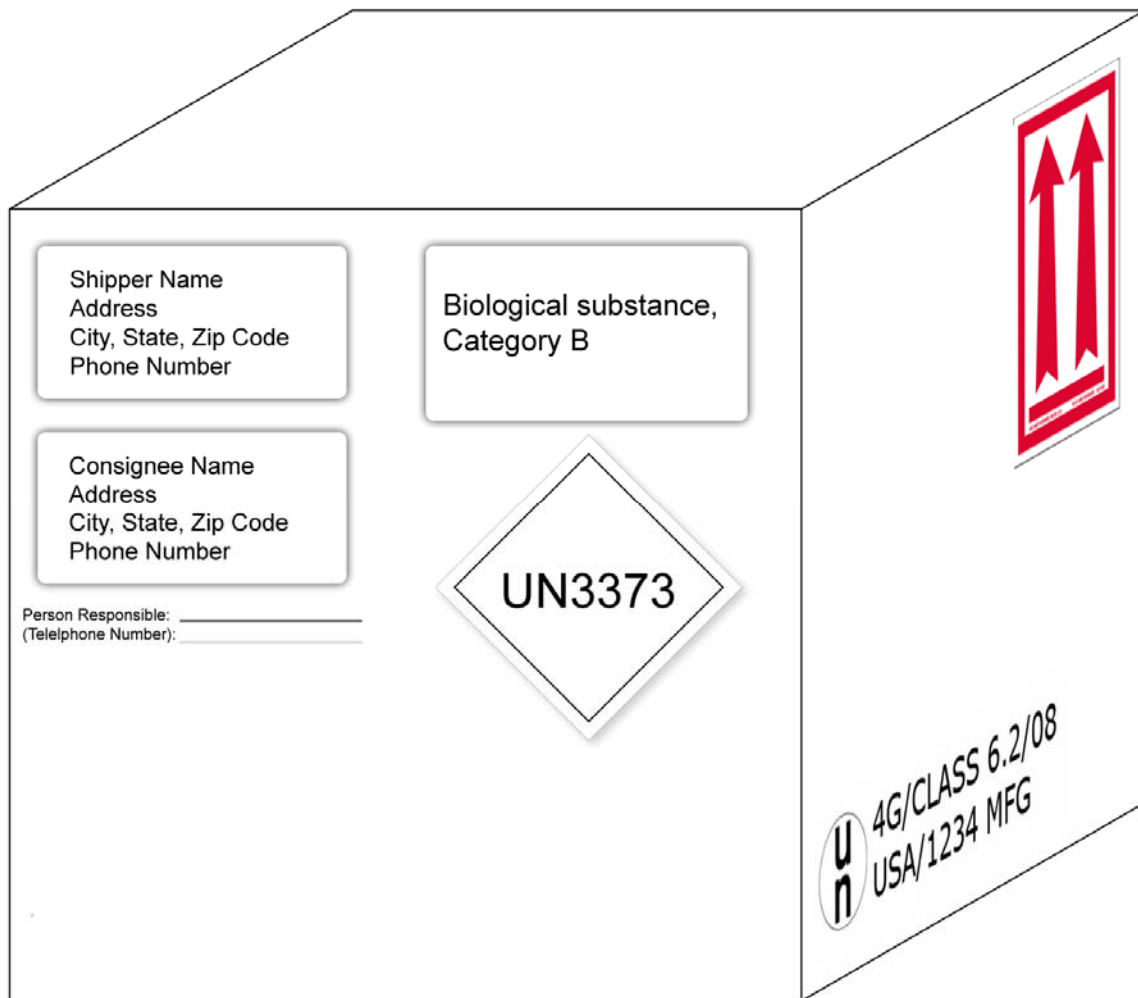
Please note: This package uses UN2814 as an example, although UN2900 may be used as appropriate.

Outer Box for Infectious substance, Category A with Dry Ice



Please note: This package uses UN2814 as an example, although UN2900 may be used as appropriate.

Outer Box for Biological substance, Category B



Outer Box for Biological substance, Category B with Dry Ice

The diagram illustrates the required labeling for an outer box containing biological substance, Category B, with dry ice. The box is shown from a three-quarter perspective, highlighting the front and right side panels.

Front Panel Labels:

- Shipper Information:** A rectangular label containing the following fields:
 - Shipper Name
 - Address
 - City, State, Zip Code
 - Phone Number
- Consignee Information:** A rectangular label containing the following fields:
 - Consignee Name
 - Address
 - City, State, Zip Code
 - Phone Number
- Person Responsible:** A line for the name and a line for the telephone number, labeled "Person Responsible: (Telephone Number):".
- Biological Substance Label:** A rectangular label with the text "Biological substance, Category B".
- UN3373 Label:** A diamond-shaped label with the text "UN3373".
- Dry Ice Label:** A rectangular label with the text "DRY ICE", "UN1845", and "5 KG Net Wt".
- Orientation Label:** A triangular label with a black and white striped pattern and the number "9" at the bottom.

Right Panel Labels:

- Upward Arrow Label:** A rectangular label with a red border and two red upward-pointing arrows.
- UN Label:** A circular label with the text "UN" and "4G/CLASS 6.2/08 USA/1234 MFG".

Outer Box for Genetically Modified Micro-Organisms or Organisms

Shipper Name
Address
City, State, Zip Code
Phone Number

UN3245 Genetically
modified micro-
organism

Consignee Name
Address
City, State, Zip Code
Phone Number

Person Responsible: _____
(Telephone Number): _____

Quantity: 5 g

9

UN 3245 4G/CLASS 6.2/08
USA/1234 MFG

↑↑

Outer Box for Genetically Modified Micro-Organisms or Organisms with Dry Ice

Shipper Name
Address
City, State, Zip Code
Phone Number

UN3245 Genetically
modified micro-
organism

Consignee Name
Address
City, State, Zip Code
Phone Number

Person Responsible: _____
(Telephone Number): _____

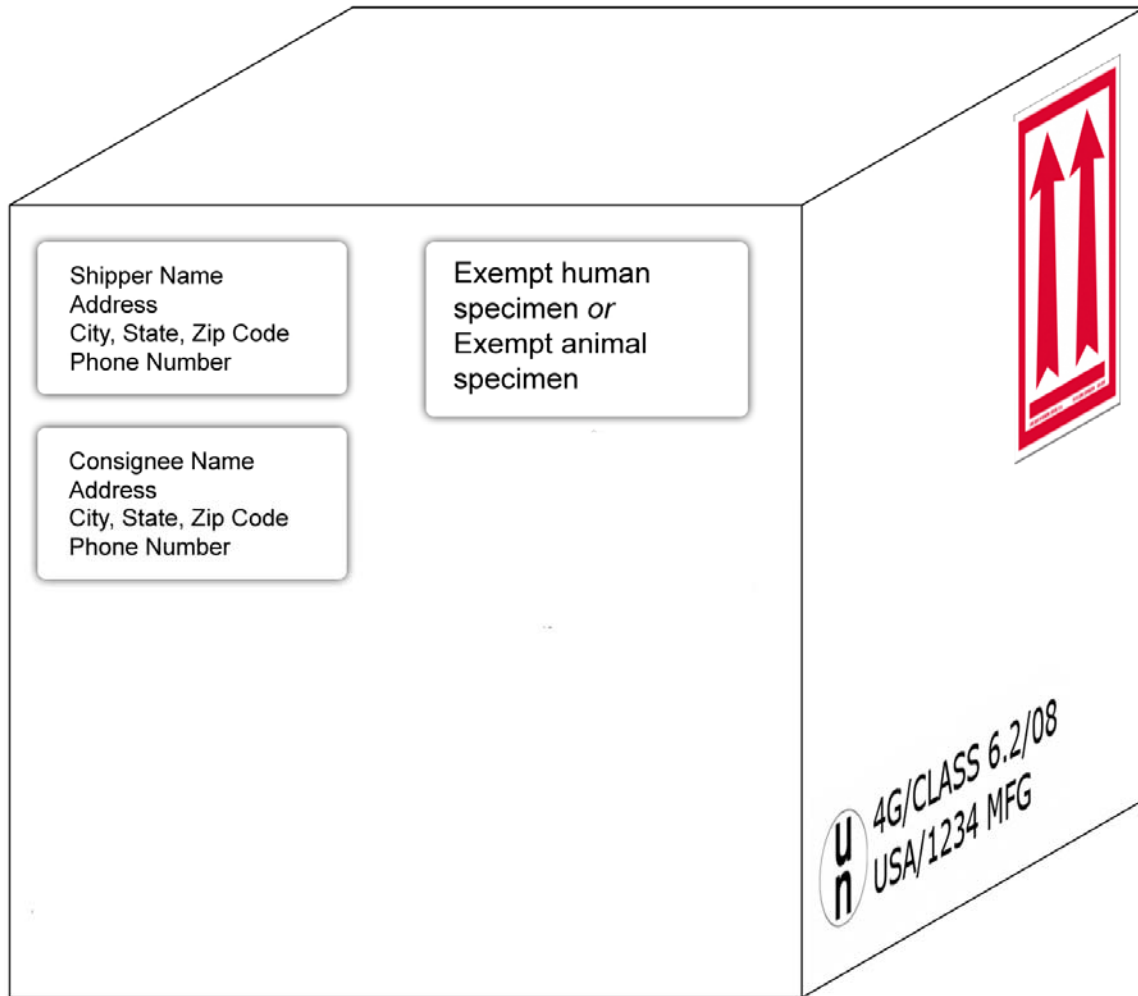
Quantity: 5 g

9

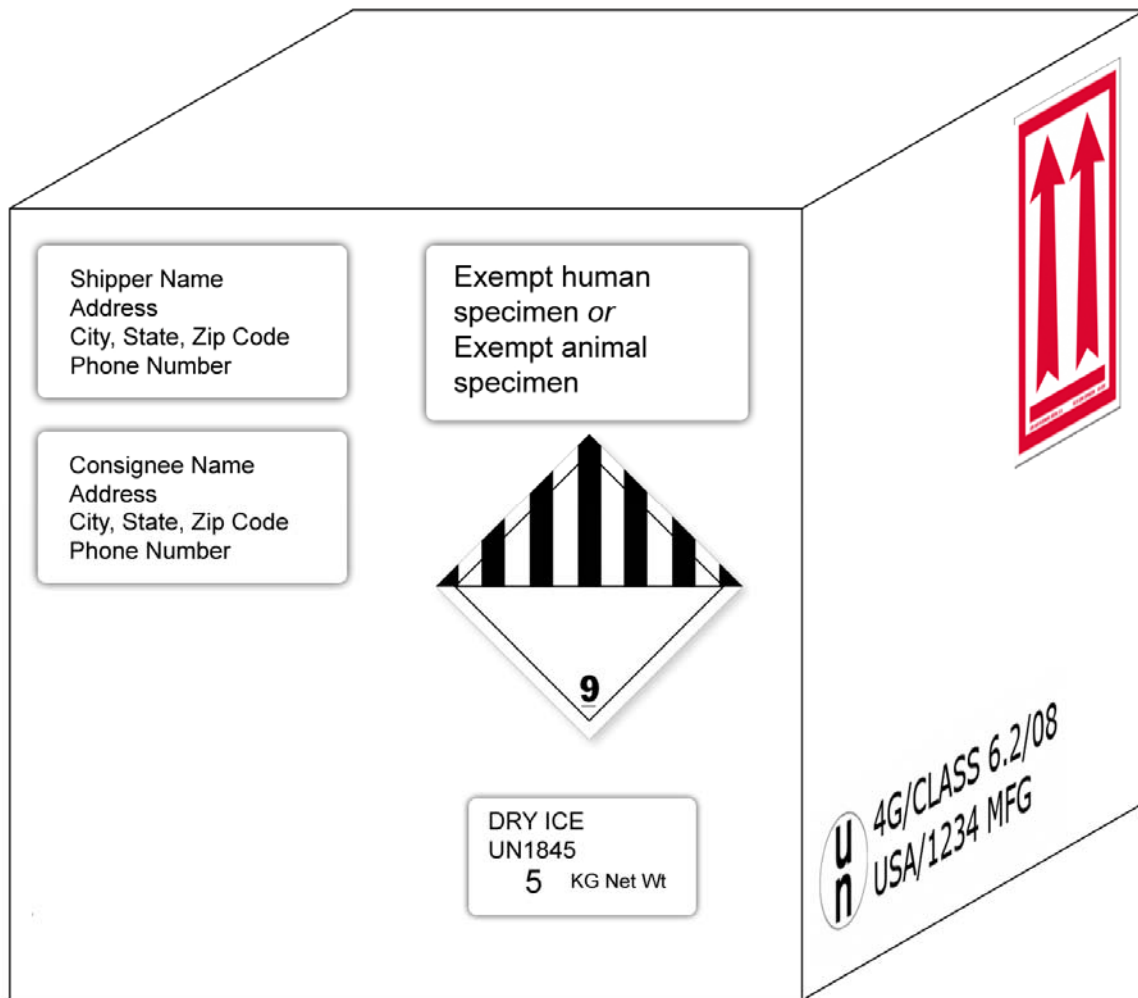
DRY ICE
UN1845
5 KG Net Wt

UN 4G/CLASS 6.2/08
USA/1234 MFG







Outer box for Patient Specimen



Outer box for Patient Specimen with Dry Ice



Appendix B: Markings and Labels Matrix

	<ul style="list-style-type: none"> • UN2814 Infectious substance, affecting humans (technical name) • Net Qty • Shipper address and phone number • Consignee address and phone number • Responsible person address and phone number 	<ul style="list-style-type: none"> • UN2900 Infectious substance, affecting animals (technical name) • Net Qty • Shipper address and phone number • Consignee address and phone number • Responsible person address and phone number 	<ul style="list-style-type: none"> • Biological substance, Category B • Shipper address and phone number • Consignee address and phone number • Responsible person address and phone number 	<ul style="list-style-type: none"> • UN3245 Genetically modified micro-organism • Net Qty • Shipper address and phone number • Consignee address and phone number • Responsible person address and phone number 	<ul style="list-style-type: none"> • UN1845 Dry Ice • Net Qty  <p>(use for air transport only)</p> 
Category A Infectious substance					
≤ 50 mL	•	•			•
≥ 50 mL	•	•		•	•
Category A Infectious substance with Dry Ice					
≤ 50 mL	•	•		•	•
≥ 50 mL	•	•		•	•
Category B Infectious substance					
			•		•
Category B infectious substance with Dry Ice					
			•	•	•
Genetically modified Organism or Micro-organism					
				•	•
Genetically modified Organism or Micro-organism					
				•	•

Appendix C: Proper Shipping Name Matrix

	UN Number	Class or Division	Hazard Label	PG	Packing Instruction	Max Net Qty/Package for Passenger	Max Net Qty/Package for Cargo Aircraft Only
Infectious substance, affecting animals (liquid)	2900	6.2	Infectious subst.	–	602	50 mL	4 L
Infectious substance, affecting animals (solid)	2900	6.2	Infectious subst.	–	602	50 g	4 kg
Infectious substance, affecting humans (liquid)	2814	6.2	Infectious subst.	–	602	50 mL	4 L
Infectious substance, affecting humans (solid)	2814	6.2	Infectious subst.	–	602	50 g	4 kg
Biological substance, Category B	3373	6.2	–	–	650	See Packing Instruction	See Packing Instruction
Dry Ice	1845	9	Miscellaneous	III	904	200 kg	200 kg
Genetically modified micro-organism or organism	3245	9	Miscellaneous	–	913	No limit	No limit

Appendix D: Vendor List

**Manufacturers of Certified Shipping Containers for Infectious substances,
Biological substances and Dry Ice**

Air Sea Atlanta
1234 Logan Circle
Atlanta, GA 30318
Phone: 404-351-8600
<http://www.airseaatlanta.com>

CARGOpak Corporation
3215-A Wellington Court
Raleigh, NC 27615
Phone: 800-266-0652
<http://www.cargopak.com>

EXAKT Technologies, Inc.
7416 N Broadway Ext., Suite E
Oklahoma City, OK 73116
Phone: 800-923-9123
<http://www.exaktpak.com>

HAZMATPAC, Inc.
5301 Polk St., Bldg 18
Houston, TX 77023
Phone: 800-923-9123
<http://www.hazmatpac.com>

Polyfoam Packers Corporation
2320 S. Foster Avenue
Wheeling, IL 60090
Phone: 888-765-9362
<http://www.polyfoam.com>

Source Packaging of New England, Inc.
405 Kilvert St
Warwick, RI 02886
Phone: 800-200-0366
<http://www.sourcepak.com>

All-Pak, Inc.
1195 Washington Pike
Bridgeville, PA 15017
Phone: 800-245-2283
<http://www.all-pak.com>

DG Supplies, Inc.
5 Boxal Drive
Cranbury, NJ 08512
Phone: 800-347-7879
<http://www.dgsupplies.com>

Fisher Scientific
2000 Park Lane Drive
Pittsburgh, PA 15275
Phone: 800-766-7000
<http://www.fishersci.com>

Inmark, Inc.
220 Fisk Drive S.W.
Atlanta, GA 30336-0309
Phone: 800-646-6275
<http://inmarkinc.com>

SAF-T-PAK, Inc.
10807-182 Street
Edmonton, Alberta, Canada T5S 1J5
Phone: 800-814-7484
<http://www.saftpak.com>

Therapak Corporation
1440 Arrow Highway, Unit A
Irwindale, CA 91706
Phone: 888-505-7377
<http://www.therapak.com>

Appendix E: Vehicle Use at UNLV

Vehicle Use

The information below is a summary of the insurance coverage, operation and maintenance responsibilities for vehicles used by faculty, staff and permissive users when performing UNLV business. Permissive users are people authorized to use UNLV vehicles who are not employees. The department head must approve in writing the use of UNLV vehicles by non employees "prior" to usage.

UNLV faculty and staff have four vehicle options available to use while performing business related activities:

- UNLV Vehicles
- State Motor Pool
- Rented Vehicles
- Personal Vehicle

Vehicle Requisitioning

- 1) All employees must have a valid driver's license of the appropriate class, as defined by the Nevada Department of Motor Vehicles, in their possession while operating a State vehicle. All State vehicles must be operating in a safe, courteous and responsible manner and in complete compliance with all motor vehicle traffic laws, including parking regulations.
- 2) State employees, board members and contract workers or volunteers may operate a State vehicle with the authorization of the hiring agency head prior to vehicle use. Any other people riding as passengers or driving vehicles is prohibited.

UNLV VEHICLES

OPERATION:

UNLV vehicles are specifically assigned to departments. These vehicles can operate on public highways as well as off-road use in Nevada or out-of-state. The regulations that govern operating UNLV vehicles can be found in the State Administrative Manual Chapter 1300. The latest version of the State Administrative Manual can be found online: <http://budget.state.nv.us/SAM24/SAM24.pdf>

INSURANCE COVERAGE:

UNLV / Nevada System of Higher Education (NSHE) is self-insured for Auto Property Damage also referred to as comprehensive & collision. The claims are administered by UNLV Risk Management and Safety. There is a \$300.00 department deductible when a UNLV vehicle is damaged while being operated on a regular public highway. There is a \$2,000 department deductible for damages to a UNLV vehicle as a result of an off-road accident.

UNLV / NSHE is also self-insured with the State of Nevada for auto liability coverage for bodily injury or property damage sustained by others resulting from the negligence of a

UNLV authorized user. There is no deductible for auto liability claims. The claims are administered by the State of Nevada Attorney General's Office with the limitations as noted in Nevada Revised Statute (NRS) 41 and can be found at: <http://www.leg.state.nv.us/NRS/NRS-041.html>

MAINTENANCE:

The departments are solely responsible for maintenance of their assigned vehicles. The Facility Department can assist maintaining UNLV vehicles. Departments will be charged back for the service provided. Information regarding routine maintenance can be found at: <http://facilities.unlv.edu/administrative/motorpool.html>

STATE MOTOR POOL VEHICLES

OPERATION:

State motor pool vehicles can be reserved from three locations in the State of Nevada:

Las Vegas	Reno	Carson City
7060 La Cienega	2550 Terminal Way	750 E King Street
Las Vegas, NV 89119	Reno, NV 89502	Carson City, NV 89701
(702) 486-7050	(775) 688-1325	(775) 684-1880
(702) 486-7042 fax	(775) 688-1309 fax	(775) 684-1888 fax

Regular operation of state motor pool vehicles is the same as for UNLV vehicles. Additional information regarding use of state motor pool vehicles can be located at: <http://www.motorpool.state.nv.us/webpages/rnohome.htm>

INSURANCE COVERAGE:

State Motor Pool vehicles are self-insured for Auto Property Damage also referred to as comprehensive & collision. The claims are administered by the State of Nevada Risk Management Office. There is a \$300.00 department deductible when a state motor pool vehicle is damaged while being operated on a regular public highway. The department will be charged back in full for any damages from the result of off-road usage. In other words, the department can use certain state motor pool vehicles off-road, but will be 100% responsible for any damages.

State Motor Pool is also self-insured with the State of Nevada for auto liability coverage for bodily injury or property damage sustained by others resulting from the negligence of a UNLV authorized user. There is no deductible for auto liability claims. The claims are administered by the State of Nevada Attorney General's Office with the limitations as noted in NRS 41.

MAINTENANCE:

The maintenance of state motor pool vehicles is the responsibility of the State of Nevada Department of Administration Motor Pool Division.

RENTED VEHICLES

OPERATION:

Faculty and staff shall rent vehicles when performing UNLV business with state contracted vendors. The list of state approved vendors can be located at: http://accountspayable.unlv.edu/Trvlman/ap_q.htm

Off-Road Use: Consistent with any other lease of a vehicle, and per the State of Nevada contract with rental vehicle vendors, regular passenger vehicles can operate only on public highways. To date, we have determined that Enterprise is the only vendor that allows off-road use of certain types of vehicles. When there is a need to operate a rented vehicle for off-road use, the departments have two options:

- Rent a vehicle from Enterprise which will include the added addendum indicating the department is 100% responsible for any auto property damages.
- Purchase commercial auto property damage insurance through Willis of Seattle, Inc. Call RMS at 895-5735 for information and assistance.

The “Rules of Operation” when renting vehicles with Enterprise can be found at: http://facilities.unlv.edu/administrative/forms/UNLV_rules_of_operation.pdf

UNLV personnel may “not” rent 15 passenger vans due to safety reasons.

INSURANCE COVERAGE:

State Contracted Vendors

The state contracted vehicle vendors provide first dollar Collision Damage Waiver and Liability Combined Single Limit insurance coverage of \$500,000 for normal use on public highways in all 50 states. Coverage is provided whether using a UNLV Diner’s Club credit card or personal credit card as long as the correct state contract number is used and the rental has been appropriately approved by existing UNLV / State policies. Therefore, never purchase the vendor insurance when renting from a state contracted firm.

Non-State Contracted Vendors

When the user is unable to rent a vehicle from a state contracted vendor, then it is imperative the user buy the Collision Damage Waiver and Liability insurance offered by the vendor.

As a reminder, the department will be responsible to pay for all damages to any rented vehicle if operating off-road.

The estimated cost for Commercial Auto Property Damage Insurance for off-road use would be approximately \$2.50 - \$3.00 for every \$100 of value of the vehicle for as long as the vehicle is rented. Some exclusion will apply. The steps to obtain this coverage would be to first verify if the rental vendor allows off-road use. The department must decide whether to purchase the off-road commercial insurance coverage or assume 100% of the risk for any off-road damages.

MAINTENANCE:

The maintenance of all rented vehicles is the responsibility of the rental vendors. Maintenance for long term leased vehicles is the responsibility of the department.

PERSONAL VEHICLES

OPERATION:

UNLV / NSHE does not restrict faculty and staff from using their personal vehicles when performing UNLV business but must meet appropriate requirements for travel approval.

INSURANCE COVERAGE:

The user's own auto insurance will be the primary coverage for auto property damage losses. UNLV / NSHE will reimburse up to \$500.00 for auto property damage losses from the result of an accident while performing UNLV business related duties.

Auto liability risks are covered by the user's own auto insurance coverage as the primary insurance even if on UNLV business. UNLV / NSHE / State of Nevada coverage would be excess or additional insurance coverage with certain limitations as set forth in [NRS 41](#).

The user's own auto insurance policy should be checked by the user to make sure that their insurance policy covers what they are transporting and does not have any exclusions.

MAINTENANCE:

The user is responsible for the maintenance for their vehicle.

INSURANCE & ACCIDENT REPORTING

ACCIDENT – Refers to any collision involving a State vehicle with a pedestrian(s), other vehicle(s) and / or other fixed or stationary object(s), whether or not any physical damage or bodily injury occurs.

INCIDENT – Refers to non-accident personal injury or physical damage; i.e., vandalism, window or body damage from flying objects, lost or stolen vehicle parts or accessories, vehicle body damage from tire snow chains, etc.

All accidents or incidents while on UNLV business must be reported within 48 hours to Risk Management & Safety. An accident report packet is located in the glove box. IF YOU ARE INVOLVED IN AN ACCIDENT, FOLLOW THESE PROCEDURES:

- 1) Stop at once.
- 2) Render aid to the injured.
- 3) Notify police, give exact location and advise if there are injuries. If the material you are transporting is released, then notify the police of the materials that are being transported.
- 4) Obtain name, address and vehicle license number of other party(s), and obtain names and addresses of all witnesses.
- 5) Complete police and State accident reports. DO NOT SIGN OR MAKE A STATEMENT AS TO RESPONSIBILITY / LIABILITY.
- 6) As soon as possible, notify your supervisor and complete a Vehicle Accident Report which can be found at: http://rms.unlv.edu/insurance/Docs/Form_2.pdf

Driver Responsibility

Driving on government business carries with it responsibilities. Observe all traffic laws and drive defensively. Failure to observe State Administrative Manual / Motor Pool policies while operating a State vehicle may subject the individual to liability for vehicle expenses incurred and / or revocation of State vehicle use privileges.

Appendix F: UNLV Hazardous Material Transportation Security Plan