



This guideline has been prepared as an additional resource to assist in the classification of biological material for shipment. This guideline does not replace the requirement to complete the online training course, [Shipping Infectious Substances with or without Dry Ice](#), and is meant as a supplement to the course. The Biosafety Office at EHS has received several questions regarding how to classify commonly used research material and we have included these biologicals in the list below.

Category A Infectious Substances

Category A substances are infectious substances which are transported in a form that, when exposure to them occurs, is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals. These shipments must follow [Packing Instructions 602](#).

Infectious substances* that would be shipped in this category include:

- *Coccidioides immitis* (cultures only).
- *Francisella tularensis* (cultures only).
- Hepatitis B virus (cultures only).
- Herpes B virus (cultures only).
- Human immunodeficiency virus (cultures only).
- Rabies virus.

❖ **Human blood** may also fall into Category A; this classification requires professional judgment and is based on a patient's medical history, symptoms and the individual circumstances of the source. For example, blood that has been drawn from a severely ill patient whose travel history and/or potential exposures place him/her at risk of infection with viruses such as Ebola, Lassa, Rift Valley Fever, etc., would need to be shipped as a Category A substance.

*A listing of other Category A infectious substances is available in the [Shipping Infectious Substances with or without Dry Ice](#) training course.

Biological Substances Category B

Category B substances are infectious substances which do not meet the criteria for inclusion in Category A. These shipments must follow [Packing Instructions 650](#).

Biological material that would be shipped in this category includes:

- Adenovirus (replication competent).
- *E. coli*: Non K-12 derivatives that require biosafety level 2 containment.
- Human cell lines.
- Recombinant viral vectors (replication defective); including AAV, Adenovirus, FIV, HIV.

❖ **Human blood** may also fall into Category B; again, this classification requires professional judgment and is based on a patient's medical history, symptoms and the individual circumstances of the source. For example, if the blood has been drawn from a HepB/HIV-positive patient this blood would be classified as Category B (only cultures of HepB/HIV are Category A).

Exempt Shipments

Exempt human/animal specimens are specimens in which it is not likely that a pathogen is present. Professional judgment must be used; if you suspect the specimen may contain an infectious substance, it must be shipped accordingly. These shipments should be packaged using a [triple packaging system](#) and marked as “exempt human specimen.”

Exempt patient specimens include:

- Biopsies.
 - Dried blood spots.
 - Fecal occult blood screening test.
 - Specimens (blood, urine, tissue) being sent for antibody detection, organ function or therapeutic drug monitoring, pregnancy, drug, insurance, or employment test purposes, etc.
 - Tissues for transplant.
- ❖ **Human blood** may be exempt from shipping regulations. For example, blood taken from healthy patients that is not suspected to contain an infectious pathogen can be shipped as an exempt human specimen. Blood being shipped for tissue typing or transfusion, glucose, cholesterol, and hormone level testing, etc., would fall into this category.

Biological material that is not considered infectious can also be shipped as exempt. This material includes:

- K-12 derived *E. coli*.
- Mammalian (non-human) cell lines which have not been infected/transduced by a viral vector.
- Neutralized or inactivated pathogenic organism (formaldehyde/glutaraldehyde fixation or treatment with a disinfectant such as bleach).
- Non-infectious and non-toxic, pure DNA, RNA, or proteins (e.g., plasmids, primers, antibodies).