

## SAMPLE PACKING AND SHIPPING




(Adapted from the LBL EH&S Chemical Hygiene and Safety Plan  
[http://www.lbl.gov/ehs/chsp/html/procure\\_trans.shtml](http://www.lbl.gov/ehs/chsp/html/procure_trans.shtml))

### Packaging Requirements:

- An inner receptacle and outer packaging are required (see photos depicted below).
- The inner receptacle must be:
  - Leak tight, securely closed and protected against damage. A screw type cap or other positive means of closure is required. Parafilm, aluminum foil and stoppers are prohibited.
  - Labeled with the identity of the material, its hazard. If the material is an engineered nanomaterial, then include the following words on the label:  
  

*“Nanoscale – This material’s toxicity, reactivity and other hazards may be greater than its macro-sized forms”*
  - Placed in a zip lock bag or equivalent to serve as “secondary containment” in the event of a leak.
  - Sealed in an outer package.
- The outer packaging must:
  - Be made of rigid material such as a cardboard, plastic or metal box or a pail.
  - Contain cushioning material to prevent breakage and to maintain each inner receptacle in an upright condition.
  - Be labeled with the name and phone number of the sender, and the name and phone number of the recipient (if different from the sender).

Note: multiple chemicals in the same outer package must be chemically compatible with each other.

Inner Receptacle with Positive Closure and Label	Zip Lock Bag to Contain Leaks/Spills	Outer Packaging
		

#### Hazard Communication:

- [Material Safety Data Sheet](#) must be developed and placed inside the outer package for all items requiring such.

#### Other Requirements for Staff hand carrying and transporting by vehicle:

- Maintain possession and control of the material at all times.
- Transport the material directly to its final destination with no intermediate stops.
- Using LBNL shuttle buses and other modes of public transit is prohibited.
- Keep hazardous materials in the car trunk or truck bed. Do not transport in the passenger compartment.
- DOT placarding is not required for vehicles provided that the quantity and classification criteria described in Scope and Application (above) are followed.

#### Requirements for Shipping by Common Carrier

The [OSHA Hazard Communication Standard](#) (29CFR1910.1200) requires MSDSs and container labeling for research samples and hazardous chemicals that are shipped from laboratories. There is no exemption based on size or volume. ➤ Consult the section entitled, [Control Procedures for Chemicals Produced in Laboratories and Shipped Off Site](#), for hazard communication requirements. ➤ LBNL also requires adherence to [PUB-3000, Section 5.8.13, Traffic and Transportation](#). Only qualified individuals in [Facilities Material Services](#) (ext. 5084) may pack and ship these materials off site. LBNL employees intending to send research samples and hazardous materials off site must:

- Label the material as described above. Also list the sender's address.
- Prepare a Material Safety Data Sheet to be shipped with the material. Consult the [LBNL Chemical Hygiene and Safety Plan Program Manager](#) (ext. 5286) for guidance.
- Coordinate pick up with [Facilities Material Services](#) (ext. 5084).
- Notify the recipient via email prior to transport. Maintain a copy of the email.

[Facilities Material Services](#) shall

- Arrange for pick up of the material.
- Pack the material in accordance with DOT and/or IATA regulations

Related documents and references:

- [DOE Order 460.1B, Packaging and Transportation Safety](#)
- [49 CFR 173.6, Materials of Trade Exceptions](#), DOT. A material of trade is a hazardous material transported in support of research being performed by an LBNL employee.
- [DOE Notice 456.1, The Safe Handling of Unbound Engineered Nanomaterials](#)
- [29CFR1910.1200, Hazard Communication](#), OSHA
- [LBNL Chemical Hygiene and Safety Plan](#)
- [PUB-3000, Section 5.8.13, Traffic and Transportation](#)