

Lessons Learned Returned Dry Ice Shipment



What Happened?

An onboarding laboratory researcher shipped a package containing non-regulated biological material (protein sample) on dry ice. **The package was returned the next day by the courier** (i.e. FedEx), citing issues with the box marking and labeling. The box was also improperly packaged.

The FedEx acceptance checklist on the package noted the following issues:

- Shipper and consignee name and address were not marked on the package.
- The net weight (in metric units) of dry ice was not written on the package.
- The Class 9 hazard label and the proper shipping name for dry ice were on two different surfaces of the package.

EHS was notified by the employee of the package rejection. Trained EHS staff reviewed the shipping requirements with the researcher, and shipped the package on the laboratory's behalf. A summary of the issue and follow-up actions were provided to the Principal Investigator and the researcher. All identified potential shippers in the laboratory completed the next available Biological Material and Dry Ice Shipment Training.



Why Did This Happen?

- The researcher had not received training on how to ship dry ice and/or biological materials.
- The researcher did not know that **dry ice is a regulated dangerous good** (specifically when transported via air), and its use for shipping must abide by federal regulations.
- The researcher was unaware of WCM's available tools and resources (e.g. training courses, hands-on assistance, and guidance from EHS).
- The Laboratory Safety Coordinator left the institution during the laboratory's onboarding process, which created a disconnection in the dissemination of applicable safety information and resources for the laboratory staff.

Lessons Learned

- Training is required** for shippers of biological material and dry ice per the International Air Transport Association (IATA) and the United States Department of Transportation (US DOT). Training must be completed every 2 years to maintain certification.
- Dry ice is a regulated **dangerous good** because it has several inherent hazards: *over-pressurization* (off-gassing of carbon dioxide

Image of package (above) and of FedEx Dry Ice Acceptance Checklist (below) detailing issues with the package.



Environmental Health and Safety

TEL 646-962-7233 WEB weill.cornell.edu/ehs EMAIL ehs@med.cornell.edu

Weill Cornell Medicine | 402 East 67th Street, Room LA-0020 | New York, NY 10065



in a sealed, non-venting container), *suffocation* (displacement of oxygen by CO₂ in areas with a recirculating air supply), and *contact* (frostbite).

- Laboratory Safety Coordinators should be designated and educated on EHS programs. The [Laboratory Safety Orientation EHS Update](#) is an informative resource for new LSCs and onboarding staff.
- For more information, please consult the shipping resources available on the EHS website:
 - [WCMC EHS Shipping Webpage](#)
 - [Biological Materials and Dry Ice Manual](#)
 - [Liquid Nitrogen Dry Shipper Update](#)
 - [Dangerous Goods Assessment Form](#)
 - [Biological Material and Dry Ice Shipments Training](#)