Dry Ice Shipping Awareness

The University of Michigan has received a recent notice from the Department of Transportation- Federal Aviation Administration (DOT-FAA) regarding an improperly packaged dry ice shipment. The package was not labeled or identified as containing dry ice. The package was identified during a random inspection at the UPS Sorting Facility. Unfortunately, this is not the first such occurrence. U-M has received notices of violation for shipping dry ice on previous occasions and has undertaken extensive outreach and training efforts to the campus community. Dry ice is often used when shipping samples which must remain at low temperatures. Dry ice is regulated as a dangerous good when shipped because of its off-gassing properties. Specifically, dry ice is solidified carbon dioxide and undergoes sublimation (changes from solid to gas) at normal atmospheric conditions. The off-gassing of carbon dioxide can lead to the displacement of oxygen resulting in asphyxiation. Additionally, if improperly packaged (i.e., not vented), the off-gassed carbon dioxide can pressurize a container, potentially resulting in the container exploding. As a shipper, it is essential to assure that materials are properly classified and that all applicable regulatory provisions for the shipment are met. The impact of non-compliance could not only increase the risk of material release during the shipping process, but could result in refusal or return of packages which could be critical if the materials are temperature sensitive. It is essential that U-M protect the people and facilities that handle the university's hazardous materials shipments.

Training and certification are required for all individuals involved in any aspect of shipping dry ice packages, including packaging materials, labeling of packages, or preparing/ signing shipping paperwork. U-M OSEH offers this training for shippers of dry ice and certain biological materials; please note that shippers of chemicals and other hazardous materials must contact OSEH for assistance. For questions or to sign up for training please contact OSEH at 647-1143 or www.oseh.umich.edu/research/shipping. In addition to training, compliance with shipping regulations requires that copies of shipping documents be retained by the shipper for two years and must be available for review upon request of federal inspectors and OSEH staff. Failure to complete training and failure to maintain shipping documents are two of the most frequently cited violations by the FAA. Financial penalties for violations can be steep and will be the responsibility of the department or unit.
New Requirements for Shipping Dry Ice Packages

The following is a summary of new requirements for shipping dry ice packages. Further information is available on the OSEH website [www.oseh.umich.edu/research/shipping](http://www.oseh.umich.edu/research/shipping).

**Don’t Guess – Weigh It**

Use a scale or other means to accurately weigh the amount of dry ice in the package. If a scale is not available, a measuring scoop used for filling the package with dry ice pellets can be used. You will weigh the amount of dry ice that the scoop holds. For instance, 1 scoop = 0.5 kg dry ice. The total amount of dry ice in the package will be multiplied by the number of scoops used to fill the package. Another method that can be used is to weigh the amount of dry ice that is filled to a designated line in a Styrofoam box. You will reuse this container with the same fill line to provide an accurate amount of the dry ice used in subsequent dry ice packages. Remember the weight entered for dry ice must be less than the total weight of the shipment.

**Class 9 Label**

A Class 9 label is required on dry ice packages. Do NOT write inside the diamond border of the label. After October 1, 2014, the label must NOT have a horizontal line. The old labels will become obsolete and will no longer be accepted by the carrier. Labels are available free of charge through OSEH or can be ordered through the FedEx website [www.FedEx.com](http://www.FedEx.com).

![New Label Required after 10/1/2014
Either label is acceptable](image-url)
New Minimum Marking Size

This requirement is in currently in place and must be followed.

- Dry ice packages that have greater than 30 kilograms (66 pounds) of dry ice require a 12 mm type or larger for the package marking UN1845.
- Dry ice packages that are greater than 5 kilograms (11 pounds) up to 30 kilograms (66 pounds) require 6 mm type or larger for the package marking UN1845.
- Dry ice packages that are less than 5 (11 pounds) kilograms only require that the package marking UN1845 to be of adequate size.

Note: If using a dry ice label with preprinted UN number, you must hand write the UN number to ensure appropriate marking size for the package quantity.

![Old label to become obsolete after 10/1/2014]

Horizontal line must not be visible in new label

Please contact OSEH at 647-1143 or www.oseh.umich.edu/research/shipping if you have any questions regarding these new requirements or you need assistance with your shipment.