

Dry Ice Reminders

EHS Lab Safety Reminders for Dry Ice

Date: July 2023

Background

Dry ice is the solid form of carbon dioxide that is available in flakes, pellets or block form and is non-combustible. Dry Ice will sublime (vaporize directly to the gas state) at a temperature of -78.5°C (-109.3°F) or higher. Hazards associated with the use of dry ice include asphyxiation and burns. Use of dry ice in poorly ventilated areas can result in the depletion of the oxygen level resulting in asphyxiation. Exposed skin should be protected from contact with dry ice to prevent burns.

Controls

- Dry ice is to be stored in a well-ventilated location and placed in a Styrofoam box, chest, insulated cooler or special cooler designed for the storage of dry ice.
- Because of the thermal expansion of dry ice do not store in a tightly sealed container.
- Do not touch dry ice. Wear appropriate PPE when working with dry ice to prevent burns.
- Do not store/use dry ice in confined areas with limited ventilation. This includes cold rooms, walk-in refrigerators or environmental chambers or rooms without ventilation.
- Do not leave dry ice unattended in open areas.
- Make sure containers are properly labeled.

PPE

- Safety goggles, cryogenic gloves, lab coat or lab apron must be worn when handling dry ice.

Disposal

- Once dry ice is no longer needed, open the container and leave it at room temperature in a well-ventilated area, such as an operating fume hood, so that the remainder will sublime away.
- Never dispose of dry ice in a sink or toilet. The temperature difference can damage the plumbing.
- Never dispose of dry ice in the trash, garbage or chemical waste containers.
- Never leave surplus dry ice in an unsecured area.



STAY SAFE!

Reminder

Dry ice is extremely cold, putting it in the laboratory sink to melt can cause serious damage to the sink drain and pipes. Disposing of dry ice in the garbage is also prohibited since it is not a well-ventilated area and gas can build up causing a possible explosion hazard. To dispose of dry ice properly, place it in an insulating material such as Styrofoam box and then place it in a well-ventilated area, such as an operating fume hood, so that the remainder will sublime away.

Liquid Nitrogen can also cause the sink and pipes to crack, and if poured down one drain it can come up in another drain, which could create a bad situation for a worker in the lab next door. It should also be placed in a proper container in a well ventilated area in the lab or in a secure outside location to sublime away. If you have questions or need assistance with disposal of either dry ice or liquid nitrogen, please contact your EHS representative if you have any question.

Working with Dry Ice Tips



Examples of PPE

Example of a proper Dry Ice Storage container



STAY SAFE!