Rady Children's Hospital San Diego ☒ **P O L I C Y** ☒ **PROCEDURE** ☐ **STANDARD OF CARE** ☐ **STANDARDIZED PROCEDURE** ☐ **GUIDELINE** ☐ **OTHER**	APPROVAL DATE **4/3/2019**	MANUAL: **Laboratory Administrative** TRACKING # **AD038**
	TITLE: **Safe Handling of Dry Ice**	
	PERFORMED BY: **Laboratory Staff**	

1. **PURPOSE**

Dry ice can be hazardous if not handled properly. This procedure describes procedures for safely handling, storage, and disposal of dry ice.

2. PROPERTIES AND HAZARDS

2.1. Dry ice is the solid form of Carbon Dioxide and is available in flakes, pellets or block form. It has a temperature of -109.3 degrees^{o} F (-78.5^{o}C) and can cause burns or frostbite to skin in short periods of time.

2.2. Dry ice will sublimate at a temperature of -109.3^{o}F / -78.5^{o} C or higher at approximately 5 to 10 pounds every 24 hours (blocks last longer) in a typical storage cooler.

2.3. Use of dry ice in poorly ventilated areas can result in the depletion of the oxygen level resulting in asphyxiation.

2.4. Placing dry ice into a tightly sealed container can produce sufficient gas build up to cause an explosion.

3. SAFE HANDLING, STORAGE, AND DISPOSAL

3.1. Because dry ice sublimes into large quantities of carbon dioxide (CO2) gas, it must be stored and used in well-ventilated areas.

3.2. Store dry ice in an ultra-low freezer (-70°C or below). Do not store dry ice in confined areas such as a walk-in refrigerator.

3.3. Small quantities of dry ice for benchtop use may be stored in a styrofoam container with a lid loosely in place at all times.

3.4. The following Personal Protective Equipment must be worn when handling dry ice:

3.4.1. Eyewear/safety goggles or faceshield.

3.4.2. Insulated gloves. Nitrile gloves will not provide enough protection. Never handle dry ice with bare hands. Using bare hands can result in burns/frostbite to the skin in a short period of time. Use a scoop or tongs to handle dry ice when possible.

3.4.3. Lab coat or apron (arms and legs must be covered).

3.5. To dispose of unneeded dry ice, allow the unused portion sublimate in a well-ventilated area. Sublimation may take several hours or days depending on the volume.

3.5.1. Never dispose of dry ice in a sink, toilet, drain, or trash container.

3.5.2. Never leave surplus dry ice in the hallways or outside of laboratory work areas.

4. TRAINING

4.1. Personnel that handle dry ice are trained on the hazards and safe handling, storage, and disposal.

4.2. Personnel responsible for shipping packages containing dry ice must be properly trained in the Department of Transportation (DOT) and/or International Air Transportation Association shipping requirements.

5. REFERENCES

OSHA Quick Facts Laboratory Safety - Dry Ice and Cryogens.

SDS: Dry Ice (Proxair SDS P-4575).