 <p>THE CITY OF COLUMBUS ANDREW J. GINTHER, MAYOR</p> <hr/> <p>DIVISION OF FIRE</p>	Code Compliance Guideline	
	Dry Ice Storage and Transport	
	Fire Prevention Bureau 3639 Parsons Ave Columbus, Ohio 43207 (614)645-7641 Ext. 7-5604 www.columbus.gov	Issued: 10/1/2020 Revised: 10/15/2020 Permit Not Required

PURPOSE:

This publication outlines the City of Columbus and State of Ohio Fire Code, fire safety requirements and prohibitions related to Dry Ice (Carbon Dioxide/CO²).

OVERVIEW:

Dry ice is classified by DOT and IATA as a “miscellaneous” Class 9 hazard. Dry ice is considered hazardous during transportation for the following reasons:

1. **Explosion hazard:** Dry ice releases a large volume of carbon dioxide gas as it sublimates (10% every 24hrs). 1 pound of dry ice produces about 250 liters of gaseous carbon dioxide. If packaged in a container that does not allow for release of the gas, it may explode, causing personal injury or property damage.
2. **Suffocation hazard:** A large volume of carbon dioxide gas emitted in a confined space may displace oxygen and create an oxygen deficient environment.
3. **Contact hazard:** Dry ice is a cryogenic material that causes severe frostbite (-109.3 degrees F) upon contact with skin.

Packing Guidelines:

1. Do not use plastics that can be rendered brittle or permeable by the temperature of dry ice. Use commercially available packaging systems intended for dry ice shipments.
2. Packages must allow for release of carbon dioxide gas. Dry ice must never be sealed in a container with an airtight seal such as container with a threaded lid or plastic cooler.
3. The maximum allowable net quantity of dry ice allowed per package is 200 kg.

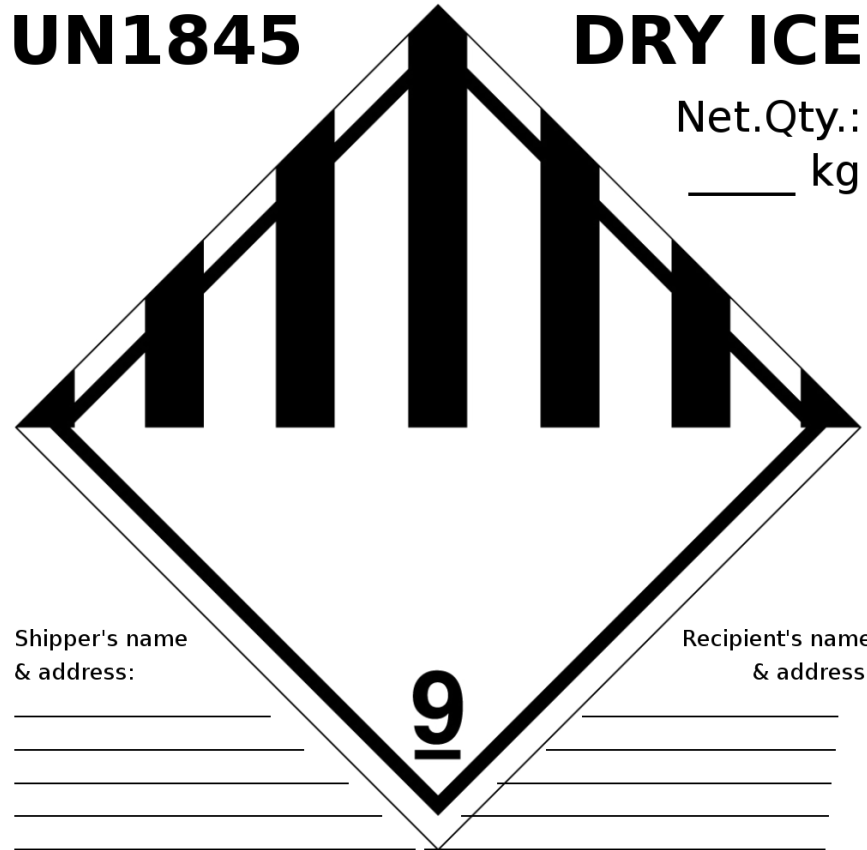
Handling and Transportation Precautions:

1. Use insulated gloves or potholders to move dry ice.
2. Dry ice should only be handled, stored or transported in well-ventilated or open areas.

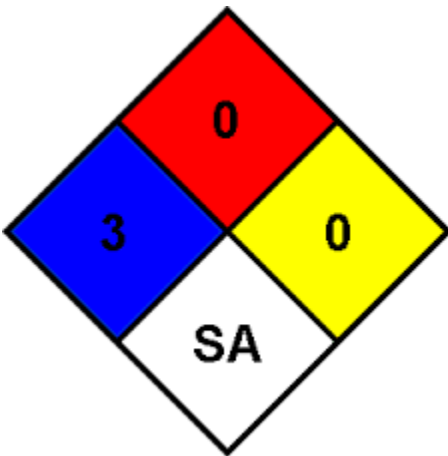
Labeling Containers:

1. Class 9 Miscellaneous hazard label
2. Proper shipping name and UNID Number: “Carbon dioxide, solid” or “Dry ice” and UN1845
3. Net quantity of dry ice

Package Labeling Example



NFPA Hazard Label



Links:

- [Safety Data Sheet for CO²](https://www.airgas.com/msds/001091.pdf) or copy and paste <https://www.airgas.com/msds/001091.pdf>
- [NFPA 704, HazCom Quick Card](https://www.nfpa.org/Assets/files/AboutTheCodes/704/NFPA704_HC2012_QCard.pdf) or copy and paste https://www.nfpa.org/Assets/files/AboutTheCodes/704/NFPA704_HC2012_QCard.pdf