

Section V – Reactivity Data

| | | | |
|-----------|----------|---|---|
| Stability | Unstable | | Conditions to Avoid |
| | Stable | X | Stable under normal conditions of storage and use |

Incompatibility (Materials to Avoid)

Carbon Dioxide will react with alkaline materials to form carbonates and bicarbonates. CO₂ is not effective for use on fires with reactive metal (Sodium, Potassium, Magnesium, Aluminum, Titanium, and Zirconium) or their hydrides.

Hazardous Decomposition or Byproducts

CO₂ decomposes to CO and O₂ when heated above 1700°C

| | | | |
|--------------------------|-----------|---|--|
| Hazardous Polymerization | May Occur | | Conditions to Avoid |
| | | X | Carbon Dioxide can cause violent polymerization of acrylaldehyde or ethyleneimine. |

Section VI – Health Hazard Data

| | | | |
|--------------------|--------------------|--------------|------------------|
| Route(s) of Entry: | Inhalation? Yes | Skin? Yes | Ingestion? No |
|--------------------|--------------------|--------------|------------------|

Health Hazards (Acute and Chronic)

CO₂ can cause suffocation. 3% to 5% causes increased respiration and headache but no known harmful effects from repeat inhalation. Higher concentrations cause circulatory insufficiencies which cause headache, nausea, vomiting and unconsciousness. Dry ice when touched can cause severe frostbite which is a change in the color of the skin to gray or white possibly followed by blistering.

| | | | |
|-----------------|------------|------------------------|-----------------------|
| Cardiogenicity: | NTP? No | IARC Monographs? No | OSHA Regulated? No |
|-----------------|------------|------------------------|-----------------------|

Signs and Symptoms of Exposure

Headache, nausea, vomiting, rapid breathing, perspiration, watery eyes, irritated nose and throat, dizziness, drowsiness, unconsciousness, and a change in the color of the skin to gray or white possibly followed by blistering in the case of frostbite.

Medical Conditions Generally Aggravated by Exposure

Persons in ill health where such illnesses would be aggravated by exposure to Carbon Dioxide should not be allowed to work with or handle this product. Persons with respiratory disease or heart disorders should avoid breathing excessive Carbon Dioxide.

Emergency and First Aid Procedures

Immediately assist person overcome by CO₂ to an uncontaminated area to inhale fresh air. Unconscious persons after being moved to fresh air should be given mouth-to-mouth resuscitation, administered oxygen, and medical assistance sought immediately. Rescue personnel should be equipped with self-contained breathing apparatus with full face mask. Frostbite – DO NOT USE HOT WATER. Immerse affected area in lukewarm water and promptly see a physician.

Section VII – Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled

Evacuate area of all personnel and provide adequate ventilation. Clean up should be provided by personnel wearing self-contained breathing apparatus with full face mask, insulated gloves, heavy protective clothing, and safety shoes.

Waste Disposal Method

Move waste to a well ventilated and isolated area and allow to sublime. Area must be supervised until sublimation of all dry ice. DO NOT PUT DRY ICE IN SEALED CONTAINERS UNLESS SPECIFICALLY DESIGNED FOR THAT PURPOSE.

Precautions to Be Taken in Handling and Storing

Store dry ice in well ventilated areas away from heat. Storage containers specifically manufactured for the storage of dry ice should be used. Local exhaust ventilation and/or general dilution ventilation should be used to meet OSHA TWA 5,000PPM. Anyone handling dry ice should wear insulated gloves, heavy clothing, face shields, and safety shoes.

Section VIII – Control Measures

Respiratory Protection (Specify Type)

Local exhaust or general dilution ventilation to meet published exposure limits.

| | | |
|-------------|--|-----------------|
| Ventilation | Local Exhaust Yes, to well ventilated area | Special None |
| | Mechanical (General) Exhaust fans where necessary | Other None |

| | |
|---|--|
| Protective Gloves Yes, insulating-type glove | Eye Protection Safety glasses or full face shield |
|---|--|

Other Protective Clothing or Equipment

Long sleeve shirts should be worn when handling dry ice as well as pants or coveralls. Ties should be removed when viewing ice making equipment.

Work/Hygienic Practices

All dry ice storage containers should be free of all debris and trash before storing dry ice in containers. Properly rated material handling equipment should be used to transport containers between loading/unloading area and vehicles.