



Date Prepared: June 25, 2007

MATERIAL SAFETY DATA SHEET

Product Name: Carbon dioxide, dry ice

June 25, 2007

1. Chemical Product and Company Identification

Linweld, Inc
9911 Deer Park Road
Waverly, NE 68462

Telephone Number
Information: (402) 786-3330
Emergency: (402) 786-5277

Product Name: Carbon dioxide, dry ice
Chemical Name: Carbon dioxide
Common Names: Carbon dioxide; dry ice
Trade Name: LinIce

2. Hazard Ingredients and Identity Information

COMPONENT	% VOLUME	OSHA-PEL	ACGIH-TLV	CAS NUMBER
Carbon Dioxide	> 99.5	5000 ppm	5000 ppm 30000 ppm STEL	000124-38-9

3. Physical and Chemical Characteristics

Boiling Point:	-109.3° F	Vapor Density:	1.53	pH:	N/A
Melting Point:	-69.8° F	Evaporation Rate:	N/A	Physical State:	Solid
Vapor Pressure:	856 psi	Solubility (H₂O):	Soluble		

Appearance and Odor:

Colorless, odorless solid - vapor

How to Detect This Substance:

N/A

Other Physical and Chemical Data:

Liquid density at boiling point, 97.5 lb/ft³ (1562 kg/m³)
Gas density at 70° F 1 atm, 0.124 lb/f³ (1.99 kg/m³)

4. Fire and Explosion Hazard Data

Flammability Classification:	Nonflammable	Flash Point (F):	N/A	LEL (%):	N/A
Ignition Temperature:	N/A	Method:	N/A	UEL (%):	N/A

Extinguishing Media:

N/A

Fire Fighting Procedures:

N/A

Fire & Explosion Hazard:

N/A

5. Reactivity Data

Stability: Stable **Hazardous Polymerization:** Will not occur

Incompatibility:

None

Conditions to Avoid:

N/A

Hazardous Decomposition or Byproducts:

Carbon monoxide and oxygen when heated above 3092° F. Carbonic acid is formed in the presence of moisture.

Other Reactivity Data:

N/A

6. Health Hazard Data

Route(s) of Entry:	Eye contact Yes	Skin Contact Yes	Skin Absorption No
	Inhalation Yes	Ingestion Yes	

Health Hazards:

Acute Carbon dioxide is a cerebral vasodilator. Inhaling large quantities causes rapid circulatory insufficiency leading to coma and death. Asphyxiation is likely to occur before the effects of carbon dioxide overexposure. Low concentrations cause increased respiration and headache. Product is a simple asphyxiant. Effects of oxygen deficiency may include any, all or none of the following: rapid breathing, diminished mental alertness, impaired muscle coordination, blurred speech, and fatigue. As asphyxiation progresses; nausea, vomiting, and loss of consciousness may occur, eventually leading to convulsions, coma and death. Evaporating material may cause frostbite or eye irritation.

Chronic N/A

Carcinogenicity:

NTP No	IARC Monographs No	OSHA No
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Signs and Symptoms of Exposure and Emergency First Aid Procedures:

- Eye Contact** Contact with evaporating liquid may cause frostbite or eye irritation. Remove victim from source of contamination. Open eyelids and allow to evaporate, DO NOT FLUSH WITH WATER. If pain is present, seek attention of an ophthalmologist for further treatment.
- Skin Contact** Contact with material may cause frostbite. Skin may become inflamed and painful, changing in color to gray or white, possibly followed by blistering.

Remove contaminated clothing and flush area with cold water. DO NOT USE HOT WATER. Seek medical attention if frostbite is apparent.
- Inhalation** Carbon dioxide is a cerebral vasodilator. Inhaling large quantities causes rapid circulatory insufficiency leading to coma and death. Asphyxiation is likely to occur before the effects of carbon dioxide overexposure. Low concentrations cause increased respiration and headache. Product is a simple asphyxiant. Effects of oxygen deficiency may include any, all or none of the following: rapid breathing, diminished mental alertness, impaired muscle coordination, blurred speech, and fatigue. As asphyxiation progresses; nausea, vomiting, and loss of consciousness may occur, eventually leading to convulsions, coma and death.

Conscious victim should be assisted to an uncontaminated area and allowed to inhale fresh air. Unconscious victim should be moved to an uncontaminated area and given assisted respiration.
- Ingestion** Ingestion of evaporating material may cause internal frostbite. Seek medical attention immediately if ingested.

Medical Conditions Aggravated by Exposure:

Persons of ill health that may be aggravated by exposure to carbon dioxide should not be allowed to work with this product.

7. Precautions for Safe Handling and Use

Actions if Released or Spilled:

Evacuate all personnel from affected area. Ventilate indoor areas to avoid build up of CO2 concentrations. Use appropriate personal protective equipment. Avoid contact with dry ice or cold vapors.

Waste Disposal Method:

Do not attempt to dispose of waste or unused quantities. Return in properly labeled shipping container, with any valve outlet plugs or caps secured and valve protection caps in place.

7. Precautions for Safe Handling and Use (Continued)**Handling and Storage Precautions:**

Use only in well-ventilated areas Carbon dioxide vapor is heavier than air and will accumulate in low areas. Store in cool, dry, well ventilated area away from heavy traffic areas and emergency exits.

Other Precautions:

Dry carbon dioxide may be used with common structural materials. Moist carbon dioxide is generally corrosive by its formation of carbonic acid. At normal temperatures, carbon dioxide is compatible with most plastics and elastomers.

Never transport dry ice in enclosed space such as a car, vehicle truck or van.

For additional recommendations, see CGA Pamphlet P-1, G-6.9

Transportation Information:

Shipping Name	Carbon dioxide, solid or Dry Ice
Hazard Class	9
ID Number	UN1845
Shipping Label	None – (Air or Water Transport - Class 9)

NFPA Rating:

Health: 3 **Flammability:** 0 **Reactivity:** 0

8. Control Measures**Eye Protection:**

Safety glasses or goggles with faceshield.

Protective Gloves:

Loose fitting, insulated gloves.

Respiratory Protection:

Positive pressure air line with full mask or self-contained breathing apparatus should be available for emergency use.

Ventilation:

Local exhaust to prevent carbon dioxide accumulation sufficient to reduce oxygen concentration below 19.5% and carbon dioxide concentration below the exposure limit.

Other Protective Clothing or Equipment:

Safety shoes, safety shower.

9. Regulatory Information**SARA TITLE III NOTIFICATIONS AND INFORMATION****SARA Title III – Section 313 Supplier Notification:**

This product does not contain toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and 40 CFR 372.

SARA Title III – Hazard Classes:

Acute Health Hazard

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