



Distributed by: A-1 Fire Protection
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Carbon Dioxide, Fire Extinguisher System - September 1999

Section 1 - Name & Hazard Summary

Material name: Carbon Dioxide, Fire Extinguisher System, Pressurized Cylinders, Non-Flammable Gas, Class 2.2 UN 1013

Manufacturer: Badger Fire Protection Phone (804) 973-4361

Section 2 - Ingredients

OSHA PEL: N/A **ACGIH TLV:** N/A **Other Exposure Limits:** N/A **CAS No:** 124-38-9

These cylinders contain Carbon Dioxide (CAS No. 124-38-9) which functions as a fire suppression agent. When the cylinders discharge, the agent will be released and may present hazards to exposed persons. See the attached MSDS on Carbon Dioxide for information and warnings. In addition, the cylinders are pressurized. Although unlikely to occur, a cylinder could be propelled and cause bodily injury and/or property damage if the valve is broken due to improper handling or storage. Also, if a cylinder is over-pressurized, exposed to direct heat, or receives severe physical impact, it could discharge or rupture causing bodily injury and/or property damage. See below for information concerning the potential physical hazards associated with compressed gases.

Section 3 - Physical Data

Boiling point: -109.3°F

Solubility in water (Vol./Vol. at 68°F (20°C)): 0.90

Molecular Weight: 44.01

Gas Density (at 70°F (21.1°C) and 1 atm): 0.1144 lb/ft³ (1.832 kg/m³)

Vapor Pressure (at 70°F (21.1°C)): 838 psig

Appearance and odor: Colorless and odorless. A slightly acid gas. It is felt by some to have a slight pungent odor and biting taste.

Specific gravity: (Air=1): 1.522

Specific Volume (at 70°F (21.1°C) and 1 atm): 8.74 ft³/lb (0.5457 m³/kg)

Melting Point: N/A

Triple Point (At 60.4 psig): -69.9°F (-56.6°C)

Section 4 - Fire and Explosion Hazard Data

Flash point: N/A **Auto-Ignition temp.:** N/A

Special Fire Fighting Procedures: Avoid direct heat and severe impact to pressurized cylinders.

LFL Lower: N/A **Extinguisher Media:** N/A **UFL Upper:** N/A

Method Used: N/A

Flammable Limits in Air % by Volume: **LEL Lower:** N/A **UEL Upper:** N/A

Unusual Fire and Explosion Hazards: N/A - See Sections 2 and 7.

Section 5 - Reactivity Data

Stability: Stable

Conditions to Avoid: Direct heat and severe impact to pressurized cylinder.

Incompatibility (Materials to Avoid): N/A

Hazardous decomposition products: None established.

Hazardous polymerization: Will not occur. **Conditions to Avoid:** N/A

Section 6 - Health Hazard Assessment

Acute: N/A **Chronic:** N/A **Signs and Symptoms of Exposure:** N/A

Medical Conditions Generally Aggravated by Exposure: N/A

Chemical Listed as Carcinogen or Potential Carcinogen: National Toxicology Program: No

I.A.R.C. : No Monographs: No **OSHA:** No

Emergency and First Aid Procedures: In the event of physical injury, take appropriate first aid or medical measures.

Routes Of Entry: 1. **Inhalation:** N/A 2. **Eyes:** N/A 3. **Skin:** N/A 4. **Ingestion:** N/A

Section 7 - Spill or Leak Procedures

Precautions to be Taken in Handling and Storage: Handle, transport and store carefully and securely to avoid accidental knocking over or other severe physical impacts. Do not expose to direct heat sources. Do not over-pressurize.

Other Precautions: Valve caps, safety plugs, and/or pull pins should remain on cylinders not connected for use.

Steps to be Taken in Case Material is Released or Spilled: Refer to the MSDS for CO₂. Cylinders should be refilled only by trained and qualified personnel.

Waste Disposal Methods: N/A **Respiratory Protection:** None

Ventilation: N/A **Local Exhaust:** N/A **Mechanical (General):** N/A **Special:** N/A **Other:** N/A

Other Protective Clothing or Equipment: Safety shoes are recommended when handling cylinders.

Work/Hygienic Practices: N/A

Section 8 - Special Protection Information

Respiratory Protection: None **Ventilation:** N/A **Local Exhaust:** N/A

Mechanical (General): N/A

Special: N/A **Other:** N/A **Protective Gloves:** Leather gloves are recommended when handling cylinders.

Eye Protection: Eye protection is recommended when handling cylinders.

Other Protective Clothing or Equipment: Safety shoes are recommended when handling cylinders.

Work/Hygienic Practices: N/A

Note: This Material Safety Data Sheet (MSDS) addresses the hazards associated with compressed gas only. For information concerning the fire suppression agent (Carbon Dioxide) refer to the appropriate MSDS. In each instance, in this MSDS, where the letters N/A or words Not Applicable are used, it means Not Applicable, with respect to compressed gas.