



MATERIAL SAFETY DATA SHEET

CARBON DIOXIDE

Issue Date: 01-08-2014

1. Product and Company Identification

Material name	CARBON DIOXIDE
Version #	02
Revision date	01-08-2014
CAS #	124-38-9
Product use	Fire extinguishing agent
Manufacturer / Importer / Supplier	
Name	Tyco Fire Protection Products
Address	One Stanton Street Marinette, WI 54143-2542
Phone	715-732-3465
Internet	http://www.pyrochem.com
Emergency Phone Number	CHEMTREC 800-424-9300 or 703-527-3887

2. Hazards Identification

Emergency overview	DANGER Contents under pressure. Heat may cause the containers to explode.
OSHA regulatory status	This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation.
Eyes	None known.
Skin	None known.
Inhalation	Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels.
Ingestion	Not a likely route of entry.
Potential environmental effects	Ecological injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

Components	CAS #	Percent
CARBON DIOXIDE	124-38-9	90 - 100

4. First Aid Measures

First aid procedures	
Eye contact	Flush thoroughly with water for at least 15 minutes. Get medical assistance.
Skin contact	Rinse with water.
Inhalation	Remove to fresh air.
Ingestion	Not likely, due to the form of the product.
General advice	If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties	The product is not flammable. No unusual fire or explosion hazards noted.
Extinguishing media	
Suitable extinguishing media	This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

Protection of firefighters	
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame.
Specific methods	None known.

6. Accidental Release Measures

Personal precautions	None known.
Environmental precautions	No special environmental precautions required.
Methods for containment	Move the cylinder to a safe and open area if the leak is irreparable.
Methods for cleaning up	Not applicable.
Other information	Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling	Handle and open container with care.
Storage	Contents under pressure. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Material	Type	Value
CARBON DIOXIDE (124-38-9)	STEL	30000.0000 ppm
	TWA	5000.0000 ppm

U.S. - OSHA

Material	Type	Value
CARBON DIOXIDE (124-38-9)	PEL	5000.0000 ppm
		9000.0000 mg/m ³
	STEL	54000.0000 mg/m ³
		30000.0000 ppm
	TWA	10000.0000 ppm
		18000.0000 mg/m ³

Personal protective equipment

Eye / face protection	Not normally needed.
Skin protection	No special protective equipment required.
Respiratory protection	No personal respiratory protective equipment normally required.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance

Color	Not available.
Odor	Not available.

Physical state

Gas.

pH

3.2 - 3.7 The pH of saturated CO₂ solutions varies from 3.7 at 101 kPa (1 atm) to 3.2 at 2370 kPa (23.4 atm)

Melting point

Not available.

Freezing point

Not available.

Boiling point

-110.2 °F (-78.5 °C)

Flash point

Not available.

Evaporation rate

Not available.

Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	6439.45 kPa
Vapor density	1.522 at 21°C
Specific gravity	1.512
Relative density	Not available.
Solubility (water)	2 g/l
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
VOC	Not available.
Molecular weight	44.01 g/mol
Molecular formula	C-O2

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Excessive heat.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological Information

Chronic effects	Prolonged inhalation may be harmful.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

12. Ecological Information

Ecotoxicity	This product has no known eco-toxicological effects.
Persistence and degradability	Not available.

13. Disposal Considerations

Disposal instructions	This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Not applicable.
Contaminated packaging	Not applicable.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN1013
Proper shipping name	Carbon dioxide
Hazard class	2.2
Subsidiary hazard class	2.2
Packaging exceptions	306
Packaging non bulk	302, 304
Packaging bulk	302, 314, 315
ERG number	120



DOT

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Acute Health - No
Chronic Health - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

CARBON DIOXIDE (CAS 124-38-9)

Listed.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings Health: 0
Flammability: 0
Instability: 0

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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