



# MATERIAL SAFETY DATA SHEET

by Tyco Fire Suppression & Building Products

## CARBON DIOXIDE

Issue Date: 03-18-2011

### 1. Product and Company Identification

**Material name** CARBON DIOXIDE  
**Version #** 02  
**Revision date** 03-18-2011  
**Chemical name** CARBON DIOXIDE  
**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** 715-735-7411  
**Internet** <http://www.ansul.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.

**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	60 - 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

**Extinguishing media**  
**Suitable extinguishing media** This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

<b>Protection of firefighters</b>	
<b>Specific hazards arising from the chemical</b>	Contents under pressure. Pressurized container may explode when exposed to heat or flame.
<b>Protective equipment for firefighters</b>	None known.
<b>Special protective equipment for fire-fighters</b>	None known.
<b>Specific methods</b>	None known.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	Not available.
<b>Sensitivity to static discharge</b>	Not available.

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## 6. Accidental Release Measures

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

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## 7. Handling and Storage

<b>Handling</b>	Handle and open container with care. Use care in handling/storage.
<b>Storage</b>	Contents under pressure. Keep away from heat and sources of ignition. Store in a well-ventilated place.

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## 8. Exposure Controls / Personal Protection

### Occupational exposure limits

#### Canada - British Columbia

Material	Type	Value
CARBON DIOXIDE (124-38-9)	STEL	15000.0000 ppm
	TWA	5000.0000 ppm

#### Canada - Ontario

Material	Type	Value
CARBON DIOXIDE (124-38-9)	STEL	54000.0000 mg/m3
		30000.0000 ppm
	TWA	9000.0000 mg/m3
		5000.0000 ppm

#### Canada - Quebec

Material	Type	Value
CARBON DIOXIDE (124-38-9)	STEL	54000.0000 mg/m3
		30000.0000 ppm
	TWA	9000.0000 mg/m3
		5000.0000 ppm

<b>Engineering controls</b>	General ventilation normally adequate.
<b>Personal protective equipment</b>	
<b>Eye / face protection</b>	Not normally needed.
<b>Skin protection</b>	No special protective equipment required.
<b>Respiratory protection</b>	No personal respiratory protective equipment normally required.

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## 9. Physical & Chemical Properties

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### Appearance

Form	Compressed gas.
Color	Not available.
Odor	Not available.

### Physical state

Gas.

### pH

3.2 - 3.7 The pH of saturated CO<sub>2</sub> 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.

### Molecular weight

44.01 g/mol

### Molecular formula

C-O<sub>2</sub>

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## 10. Chemical Stability & Reactivity Information

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### Chemical stability

Material is stable under normal conditions.

### Conditions to avoid

Excessive heat.

### Hazardous decomposition products

No hazardous decomposition products are known.

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## 11. Toxicological Information

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### Chronic effects

Prolonged inhalation may be harmful. Not expected to be hazardous by WHMIS criteria.

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## 12. Ecological Information

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### Ecotoxicity

This product has no known eco-toxicological effects.

### Persistence and degradability

Not available.

### Partition coefficient (n-octanol/water)

Not available

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## 13. Disposal Considerations

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### Disposal instructions

Dispose of contents/container in accordance with local/regional/national/international regulations.

### Waste from residues / unused products

Dispose of in accordance with local regulations.

### Contaminated packaging

Not applicable.

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## 14. Transport Information

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### TDG

Proper shipping name	CARBON DIOXIDE
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**Hazard class** 2.2  
**Subsidiary hazard class** 2.2  
**UN number** UN1013



**TDG**

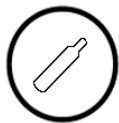
## 15. Regulatory Information

**Canadian regulations** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**WHMIS status** Controlled

**WHMIS classification** A - Compressed Gas

**WHMIS labeling**



**Inventory status**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
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)

## 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.

**Issue date** 03-18-2011

**This data sheet contains changes from the previous version in section(s):**

Product and Company Identification: Product and Company Identification