



# Material Safety Data Sheet

Printing date 10/23/2008

Version 9

Reviewed on 10/23/2008

## 1 Identification of substance

· **Product details**

· **Trade name:** Carbon Monoxide

· **Article number:** 013-01-0010

· **Creation date:** 08/03/2006

· **Manufacturer/Supplier:**

*AS PACKAGED AND DISTRIBUTED BY*

**INDIANA OXYGEN COMPANY**  
**6099 WEST CORPORATE WAY**  
**INDIANAPOLIS, INDIANA 46278**  
**PHONE 1-317-290-0003**

**Emergency Contact: Infotrak**  
**1-800-535-5053**

## 2 Composition/Data on components

· **Chemical characterization:**

· **CAS No. Description**

630-08-0 Carbon Monoxide

· **Identification number(s)**

· **EINECS Number:** 211-128-3

006-001-00-2

## 3 Hazards identification

· **Hazard description:**

Repr. Cat. 1

· **WHMIS-symbols:**

A - Compressed gas



· **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	4	Fire = 4
REACTIVITY	0	Reactivity = 0

· **NFPA ratings (scale 0 - 4)**



· **Information pertaining to particular dangers for man and environment:**

Flammable.

(Contd. on page 2)

CDN



## Material Safety Data Sheet

Printing date 10/23/2008

Version 9

Reviewed on 10/23/2008

**Trade name: Carbon Monoxide**

(Contd. of page 1)

**Classification system:**

The classification is in line with internationally approved calculation standards. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

**GHS label elements****Danger**

2.2/1 - Extremely flammable gas.

**Warning**

2.5/C - Contains gas under pressure; may explode if heated.

**Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

**Response:**

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
Eliminate all ignition sources if safe to do so.

**Storage:**

Store in a well-ventilated place.  
Protect from sunlight. Store in a well-ventilated place.

**4 First aid measures**

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for at least 15 minutes under running water. Then consult a doctor.
- **After swallowing:** Not applicable

**5 Fire fighting measures**

- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Protective equipment:** Wear self-contained respiratory protective device.

**6 Accidental release measures**

- **Person-related safety precautions:**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation.  
Stop leak - ONLY if possible to do so without risk.
- **Measures for environmental protection:** Prevent seepage into sewage system, workpits and/or cellars.
- **Measures for cleaning/collecting:** Ensure adequate ventilation.

CDN

(Contd. on page 3)



# Material Safety Data Sheet

Printing date 10/23/2008

Version 9

Reviewed on 10/23/2008

**Trade name: Carbon Monoxide**

(Contd. of page 2)

## 7 Handling and storage

- **Handling:**
- **Information for safe handling:**
  - Open and handle cylinder with care.
  - Handle with care. Avoid jolting, friction, and impact.
  - Use only in well ventilated areas.
  - Store cylinders upright with valve protection cap in place and firmly secured to prevent falling or being knocked over.
- **Information about protection against explosions and fires:**
  - Keep ignition sources away - Do not smoke.
  - Protect against electrostatic charges.
  - Keep respiratory protective device available.
  - Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
  - Do not expose cylinder to temperatures higher than 50°C (122 °F)
- **Information about storage in one common storage facility:**
  - Sources of ignition should be removed from storage area.
- **Further information about storage conditions:**
  - Keep cylinder valve tightly closed.
  - Store cylinder in a well ventilated area.
  - Store in accordance with local fire code and/or building code or any pertaining regulations.

## 8 Exposure controls and personal protection

- **Additional information about design of technical systems:**
  - Adequate local ventilation.
  - Safety showers and eyewash stations should be nearby.
- **Components with limit values that require monitoring at the workplace:**

<b>630-08-0 Carbon Monoxide (23-100%)</b>	
EL	Short-term value: 100 ppm
	Long-term value: 25 ppm
R	
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - Wash hands before breaks and at the end of work.
  - Store protective clothing separately.
  - Protective clothing should be kept free of oil and grease.
  - PPE should be inspected and maintained regularly to retain it's effectiveness.
- **Breathing equipment:**
  - Use atmosphere-supplying respirators (e.g. supplied-air: demand, pressure-demand, or continuous-flow or self-contained breathing apparatus: demand or pressure-demand or combination supplied-air with auxiliary self-contained air supply atmosphere-supplying respirator) in case of insufficient ventilation.

(Contd. on page 4)

CDN



# Material Safety Data Sheet

Printing date 10/23/2008

Version 9

Reviewed on 10/23/2008

**Trade name: Carbon Monoxide**

(Contd. of page 3)

**· Protection of hands:**

Protective gloves.

**· Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**· Eye protection:** Safety glasses

## 9 Physical and chemical properties

**· General Information**

**Form:** Gaseous.  
**Color:** Colorless  
**Odor:** Odorless

**· Change in condition**

**Melting point/Melting range:** -205.1°C  
**Boiling point/Boiling range:** -191°C

**· Flash point:** < 0°C  
Not applicable.

**· Flammability (solid, gaseous):** Flammable.

**· Ignition temperature:** 605°C

**· Danger of explosion:** Formation of explosive air/vapor mixtures are possible.

**· Explosion limits:**

**Lower:** 12.5 Vol %  
**Upper:** 74 Vol %

**· Solubility in / Miscibility with**

**Water at 20°C:** 0.028 g/l

## 10 Stability and reactivity

- Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- Dangerous reactions** No dangerous reactions known.
- Dangerous products of decomposition:** No dangerous decomposition products known.

CDN

(Contd. on page 5)



# Material Safety Data Sheet

Printing date 10/23/2008

Version 9

Reviewed on 10/23/2008

**Trade name: Carbon Monoxide**

(Contd. of page 4)

## 11 Toxicological information

**· Acute toxicity:****· LD/LC50 values that are relevant for classification:****630-08-0 Carbon Monoxide**

Inhalative LC50/1hr 3760 ppm (rat)

**· Primary irritant effect:**

- **on the skin:** No irritating effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

## 13 Disposal considerations

**· Product:**

- **Recommendation:** Unused product should be returned to vendor.

**· Uncleaned packagings:****· Recommendation:**

Cylinder and unused product should be returned to vendor. Disposable cylinder must be disposed of in accordance with local regulations.

- **Recommended cleansing agent:** None applicable.

## 14 Transport information

**· TDG and DOT regulations:**

- **Hazard class:** 2
- **Identification number:** UN1016
- **Packing group:** -
- **Proper shipping name (technical name):** MONOXYDE DE CARBONE COMPRIMÉ
- **Label:** 2.3+2.1
- **Packaging group:** -

**· Maritime transport IMDG:**

- **IMDG Class:** 2.3
- **UN Number:** 1016
- **Label:** 2.3+2.1
- **Packaging group:** -
- **EMS Number:** F-D,S-U

(Contd. on page 6)

CDN



# Material Safety Data Sheet

Printing date 10/23/2008

Version 9

Reviewed on 10/23/2008

**Trade name: Carbon Monoxide**

(Contd. of page 5)

· **Marine pollutant:** No  
 · **Proper shipping name:** CARBON MONOXIDE, COMPRESSED

· **Air transport ICAO-TI and IATA-DGR:**



· **ICAO/IATA Class:** 2  
 · **UN/ID Number:** 1016  
 · **Label:** 2.3+2.1  
 · **Packaging group:** -  
 · **Propper shipping name:** CARBON MONOXIDE, COMPRESSED

· **UN "Model Regulation":** UN1016; CARBON MONOXIDE, COMPRESSED; 2.3 (2.1); -

## 15 Regulations

· **Sara**

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

· **TSCA (Toxic Substances Control Act):**

Substance is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **NTP (National Toxicology Program)**

Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

(Contd. on page 7)



# Material Safety Data Sheet

Printing date 10/23/2008

Version 9

Reviewed on 10/23/2008

**Trade name: Carbon Monoxide**

(Contd. of page 6)

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

**· OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

**· Canadian substance listings:****· Canadian Domestic Substances List (DSL)**

Substance is listed.

**· Canadian Ingredient Disclosure list (limit 0.1%)**

Substance is listed.

**· Canadian Ingredient Disclosure list (limit 1%)**

Substance is not listed.

**· Product related hazard informations:**

The product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**· Hazard symbols:**

Repr. Cat. 1

**· Risk phrases:**

Flammable.

**· Safety phrases:**

Keep away from sources of ignition - No smoking.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Avoid exposure - obtain special instructions before use.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Please refer to the section 3 for NFPA and HMIS Hazard Codes.

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**· Department issuing MSDS:** Customer Service Centre: 1-866-385-5349**· Abbreviations and Acronyms:**

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstract Service (Division of the American Chemical Society)

DOT: US Department of Transportation

(Contd. on page 8)



## Material Safety Data Sheet

Printing date 10/23/2008

Version 9

Reviewed on 10/23/2008

**Trade name: Carbon Monoxide**

(Contd. of page 7)

EINECS: European Inventory of Existing Commercial Chemical Substances  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
HMIS: Hazardous Material Identification System  
IATA: International Air Transportation Association  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transportation Association"  
ICAO: International Civil Aviation Association  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization (ICAO)"  
IMDG: International Marine Code for Dangerous Goods  
WHIMS: Workplace Hazardous Material Information System  
LC50: Lethal Concentration, 50 Percent  
LD50: Lethal Dose, 50 Percent  
N/A: Not Applicable

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