



SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name: Carbon Dioxide
MSDS Manufacturer Number: 825797
Manufacturer Name: ConocoPhillips
Address: 600 N. Dairy Ashford
Houston, Texas 77079-1175
Website: www.conocophillips.com
General Phone Number: 855-244-0762
Health Issues Information: SDS@conocophillips.com
Emergency Phone Number: Chemtrec: 800-424-9300 (24 Hours)
MSDS Creation Date: November 15, 2014
MSDS Revision Date: November 15, 2014

HMIS	
Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	X

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Carbon dioxide	124-38-9	100% by Volume	

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview: High pressure gas.
Can cause rapid suffocation.
May cause frostbite.
May cause dizziness and drowsiness

Route of Exposure: Respiratory System. Eye. Skin

Potential Health Effects: Acts as a simple asphyxiant by displacing air.

Eye: Vapor may cause a stinging sensation; liquid may cause frostbite

Skin: Liquid may cause frostbite.

Inhalation: Asphyxiant. Effects are due to lack of oxygen. Lack of oxygen can be fatal.
Moderate concentrations may cause headaches, drowsiness, dizziness, excitation, excess salivation, vomiting, and unconsciousness

Ingestion: Unlikely to occur because carbon dioxide is a gas at normal temperature and pressure. Liquid may cause frostbite.

Aggravation of Pre-Existing Conditions: None known.

SECTION 4 : FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get medical attention, if irritation or symptoms of overexposure persists.

Skin Contact: For exposure to liquid, immediately warm frostbite area with warm water not to exceed 106 °F. In case of an excessive exposure, remove contaminated clothing while showering with warm water. Call a physician.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: Accidental ingestion of this material is unlikely.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point: Not available.

Flash Point Method: Not available.

Auto Ignition Temperature: Not applicable.

Lower Flammable/Explosive Limit: Not applicable.

Upper Flammable/Explosive Limit: Not applicable.

Fire Fighting Instructions: Wear self-contained breathing apparatus and full protective clothing.
Keep fire exposed cylinders cool with water spray.
If possible, stop the product flow.

Extinguishing Media:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unusual Fire Hazards:	Cylinder rupture may occur under fire conditions.
Hazardous Combustion Byproducts:	Not applicable.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Evacuate and ventilate area. Wear a self breathing apparatus (SCBA) if necessary.
Methods for containment:	Remove leaking cylinder to exhaust hood or safe outdoor area. Shut off source if possible and remove source of heat. Test for sufficient oxygen, especially in confined spaces, before allowing reentry. Evacuate and ventilate area.
Methods for cleanup:	No clean up procedures are necessary, leaks will disperse into atmosphere.

SECTION 7 : HANDLING and STORAGE

Handling:	Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders. Use only in a well-ventilated area. Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).
Storage:	Store in well ventilated areas. Keep valve protection cap on cylinders when not in use. Store only where temperature will not exceed 125 °F. Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.
Special Handling Procedures:	Refer to Compressed Gas Association (CGA) pamphlet P-1, Safe Handling of Compressed Gases in Containers, available from the CGA
Hygiene Practices:	Avoid eye, skin, and/or clothing contact with liquid or vapor. Emergency eyewash/shower station should be readily accessible. Use only in a closed system. Use piping and equipment adequately designed to withstand pressures to be encountered.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Provide adequate general and local exhaust ventilation to maintain concentrations below exposure limits and to avoid asphyxiation.
Eye/Face Protection:	Safety glasses
Skin Protection Description:	Insulated neoprene gloves, coveralls, boots, and/or other insulated protective clothing.
Respiratory Protection:	In case of leakage, use self-contained breathing apparatus.
Other Protective:	Safety shoes when handling cylinders.

EXPOSURE GUIDELINES

Carbon dioxide :

Guideline ACGIH:	TLV-STEL: 30,000 ppm TLV-TWA: 5000 ppm
Guideline OSHA:	PEL-TWA: 5000 ppm

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Compressed Liquefied Gas
Color:	Colorless.
Boiling Point:	Sublimes -78.5 °C
Melting Point:	Not determined.
Specific Gravity:	1 . 522 @ 0 °C (Air = 1)
Solubility:	Slight
Vapor Density:	0.00198 g/ml @ 0°C
Vapor Pressure:	5775.2 kPa (@20°C)
Percent Volatile:	100%
Evaporation Rate:	>1 (Butyl Acetate = 1)
pH:	Not determined.
Molecular Weight:	44.01 g/mole
Flash Point:	Not available.
Flash Point Method:	Not available.
Auto Ignition Temperature:	Not applicable.

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Storage in poorly ventilated areas. Storage near a heat source.
Incompatible Materials:	Alkali metals, alkaline earth metals, metal acetylides, chromium, titanium above 1000 °F, uranium above 1350 °F
Special Decomposition Products:	In the presence of an electrical discharge, carbon dioxide is decomposed to form carbon monoxide and oxygen

SECTION 11 : TOXICOLOGICAL INFORMATION

Carbon dioxide:

Inhalation:	Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 470000 ppm/30M [Details of toxic effects not reported other than lethal dose value] (RTECS)
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SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No adverse ecological effects expected
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SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are the refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps in place.
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SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Compressed gases, n.o.s.
DOT UN Number:	UN1013 (gas) UN2187
DOT Hazard Class:	2.2 (nonflammable)

SECTION 15 : REGULATORY INFORMATION

Carbon dioxide:

TSCA Inventory Status:	Listed
Canada DSL:	Listed

SECTION 16 : ADDITIONAL INFORMATION

Label Hazard Warning:	Contains gas under pressure; may explode if heated.
Label Precautions:	Protect from sunlight. Store in a well-ventilated place.
MSDS Creation Date:	November 15, 2014
MSDS Revision Date:	November 15, 2014
MSDS Author:	KK
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