

**Carbon Dioxide in Air 0.0001% - 50%**

SDS Number: 2030

Revision Date: 5/15/2015

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**1 PRODUCT AND COMPANY IDENTIFICATION**

**Manufacturer**

Norlab - A Division of Norco, Inc.  
898 W. Gowen Rd.  
Boise, ID 83705

**Contact:** Quality Department  
**Phone:** (208) 336-1643  
**Web:** www.norlab-gas.com

**Product Name:** Carbon Dioxide in Air 0.0001% - 50%  
**Revision Date:** 5/15/2015  
**Version:** 1  
**SDS Number:** 2030  
**Common Name:** None  
**CAS Number:** MIXTURE  
**Chemical Family:** Gas Mixture  
**Chemical Formula:** CO<sub>2</sub> in Air  
**Synonyms:** None  
**Emergency Telephone Number:** (800) 424-9300 (CHEMTREC)

**2 HAZARDS IDENTIFICATION**

**Inhalation:** Carbon dioxide is a cerebral vasodilator. Inhaling large concentrations causes rapid circulatory insufficiency leading to coma and death. Chronic, harmful effects are not known from repeated inhalation of low concentrations. low concentrations of carbon dioxide cause increased respiration and headache.  
  
As this product contains some oxygen (minimum of 10.5%), overexposure to carbon dioxide would be expected before symptoms of asphyxiation.

**Skin Contact:** Contact with rapidly expanding gas near the point of release may cause frostbite with redness, skin color change to gray or white, and blistering.

**Eye Contact:** Contact with rapidly expanding gas near the point of release may cause frostbite.

**Ingestion:** Ingestion is unlikely. Gas at room temperature.

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NFPA:  
HMIS III:

Health = 0, Fire = 0, Reactivity = 0  
H0/F0/PH3



HMIS III	
HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARDS	3
PERSONAL PROTECTION	

PERSONAL PROTECTION INDEX			
A	☒	G	☒ + ☒ + ☒
B	☒ + ☒	H	☒ + ☒ + ☒ + ☒
C	☒ + ☒ + ☒	I	☒ + ☒ + ☒ + ☒
D	☒ + ☒ + ☒ + ☒	J	☒ + ☒ + ☒ + ☒ + ☒
E	☒ + ☒ + ☒ + ☒	K	☒ + ☒ + ☒ + ☒
F	☒ + ☒ + ☒ + ☒ + ☒	X	Consult your supervisor or S.O.P for "SPECIAL" handling directions
A	n	O	P
Safety Glasses	Splash Goggles	Face Shield & Eye Protection	Gloves
t	u	w	y
Dust Respirator	Vapor Respirator	Dust & Vapor Respirator	Full Face Respirator
q	r	s	
Boots	Synthetic Apron	Full Suit	
Additional Information			

GHS Signal Word:  
WARNING

GHS Hazard Pictograms:



GHS Classifications:  
Physical, Gases Under Pressure, Compressed Gas

GHS Phrases:  
H280 - Contains gas under pressure; may explode if heated  
CGA-HG24 – Supports Combustion

GHS Precautionary Statements:  
P410+403 - Protect from sunlight. Store in a well ventilated place.

Colorless, odorless gas. Carbon dioxide exposure can cause nausea and respiratory problems. High concentrations may cause vasodilatation leading to circulatory collapse. Use and store below 125 °F (52 °C).

**3 COMPOSITION/INFORMATION ON INGREDIENTS**

**Ingredients:**

CAS # I Percentage I Chemical Name

N/A I 50-99.9999% I Air  
124-38-9 I 0.0001-50% I Carbon Dioxide

**4 FIRST AID MEASURES**

**Inhalation:** PROMPT REMOVAL FROM THE CONTAMINATED AREA AND IMMEDIATE MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. If breathing is difficult, administer oxygen. If breathing has stopped,

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give artificial respiration. Keep victim warm and calm. Further treatment should be symptomatic and supportive. Seek immediate medical attention.

**Skin Contact:** None required for gas. For frostbite, immerse skin in lukewarm water. DO NOT USE HOT WATER. Obtain medical attention.

**Eye Contact:** None required for gas. If frostbite is suspected, flush with cool water for 15 minutes and obtain immediate medical attention.

**Ingestion:** None anticipated; product is a gas.

**Most important symptoms and effects, both acute and delayed:**

The most important known symptoms and effects are described in the labeling (see Section 2) and/or Section 11.

**Indication of any immediate medical attention and special treatment needed:**

No data available.

**5 FIRE FIGHTING MEASURES**

**Flammability:** Not flammable  
**Flash Point:** NA  
**Flash Point Method:** NA  
**Burning Rate:** Not determined  
**Autoignition Temp:** Not determined  
**LEL:** NA  
**UEL:** NA

**Extinguishing Media:**

Use as appropriate for surrounding material.

**Special Hazards Arising From the Substance or Mixture:**

Carbon Oxides  
Nitrogen gas  
Nitrogen oxides (NOx)  
Oxygen gas

**Advice for Firefighters:**

Stop the flow of gas if it can be done without risk. Use water spray to cool surrounding containers. Continue to cool heat or flame exposed containers until well after the flames are extinguished. Firefighters should wear a full-face piece, NIOSH/MSHA- approved self-contained breathing apparatus (SCBA) operated in positive pressure mode and full turnout gear.

**Further Information:**

If incinerated, may release toxic fumes.  
Use water spray to cool unopened containers.  
Cylinders may rupture violently from pressure when involved in a fire situation.  
See Section 7 for more information on safe handling.  
See Section 8 for more information on personal protection equipment.  
See Section 13 for disposal information.

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**6 ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment and Emergency Procedures:**

Evacuate all personnel from affected area. Use appropriate protective equipment. If a leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container or container valve, contact the appropriate emergency telephone number listed in Section 1 or call your closest Norco/Noriab location.

**Environmental Precautions:**

Prevent further release (leakage/spillage) if safe to do so.

**Methods and Materials for Containments and Cleaning Up:**

Contact the appropriate emergency telephone number listed in Section 1 or call your closest Norco/Noriab location. Ensure adequate ventilation.

**Reference to Other Sections:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for information on proper disposal.

**7 HANDLING AND STORAGE**

**Handling Precautions:**

Use only in well-ventilated areas. Valve protection caps must remain in place on refillable cylinders unless cylinder is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid from in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.

**Storage Requirements:**

Non-hazardous. Ensure adequate ventilation.

Protect cylinders from physical damage. Store in a cool, dry, well ventilated area of non-combustible construction away from heavy traffic areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125 °F (52 °C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders from being stored for excessive periods of time.

For additional recommendations, consult Compressed Gas Association Pamphlet P-1.

**8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Engineering Controls:**

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits. Maintain atmospheric Oxygen content at or above 19.5%

**Personal Protective Equip:** Eye/face protection:

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When using material use safety goggles and gloves as appropriate for the job. All safety equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

**Skin protection:**

Not required, but may be used. Gloves must be inspected prior to use. Dispose of contaminated gloves according to applicable laws and workplace practices.

**Body Protection:**

Not required, but may be used. Type of protective equipment should be selected based on concentration amount and conditions of use of this material. Use safety shoes.

**Respiratory protection:**

Not required.

**Control of environmental exposure:**

Prevent leakage or spillage if safe to do so.

**Components with workplace control parameters:**

Component(s): Air; Carbon Dioxide

CAS No(s): N/A; 124-38-9

USA NIOSH (TWA/REL): 5,000 ppm, 9,000 mg/m<sup>3</sup>

USA NIOSH (ST/REL): 30,000 ppm, 54,000 mg/m<sup>3</sup>

USA ACGIH (STEL/TLV): 30,000 ppm

USA ACGIH (TWA/TLV): 5,000 ppm

USA OSHA Occupational Exposure Limits Table Z-1 Limits for Air Contaminant (TWA): 5,000 ppm, 9,000 mg/m<sup>3</sup>

**Biological occupational exposure limits:**

Contains no substances with biological occupational exposure limit values.

<b>9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
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<b>Appearance:</b>	Clear, colorless gas	<b>Odor:</b>	Odorless
<b>Physical State:</b>	Gas	<b>Molecular Formula:</b>	MIXTURE
<b>Odor Threshold:</b>	4.68 ppm	<b>Solubility:</b>	Slightly soluble
<b>Particle Size:</b>	Not determined	<b>Softening Point:</b>	Not determined
<b>Spec Grav./Density:</b>	Not determined	<b>Percent Volatile:</b>	100%
<b>Viscosity:</b>	Not determined	<b>Heat Value:</b>	Not determined
<b>Sat. Vap. Conc.:</b>	Not determined	<b>Freezing/Melting Pt.:</b>	Not determined
<b>Boiling Point:</b>	Not determined	<b>Flash Point:</b>	NA
<b>Flammability:</b>	(solid, gas): Not flammable	<b>Octanol:</b>	Not determined
<b>Partition Coefficient:</b>	Not determined	<b>Vapor Density:</b>	(air = 1): -1
<b>Vapor Pressure:</b>	Not determined	<b>VOC:</b>	Not determined
<b>pH:</b>	Not determined	<b>Bulk Density:</b>	NA
<b>Evap. Rate:</b>	Not determined	<b>Auto-Ignition Temp:</b>	Not determined
<b>Molecular weight:</b>	MIXTURE	<b>UFL/LFL:</b>	NA
<b>Decomp Temp:</b>	Not determined		

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**10 STABILITY AND REACTIVITY**

**Stability:** Product is stable under normal conditions.  
**Conditions to Avoid:** Incompatibilities, flames, ignition sources.  
**Materials to Avoid:** Ammonia, Certain reactive metals, hydrides, moist cesium monoxide, or lithium acetylene carbide diammino may ignite. Passing carbon dioxide over a mixture of sodium peroxide and aluminum or magnesium may explode.  
**Hazardous Decomposition:** Carbon Oxides and Carbonic Acid (in the presence of water or moisture).  
**Hazardous Polymerization:** Will not occur.

**11 TOXICOLOGICAL INFORMATION**

**Component(s):** Air; Carbon Dioxide  
**CAS No(s):** N/A; 124-38-9

**Acute Toxicity:**  
No data available.

**Skin Corrosion/Irritation:** No irritation.

**Serious Eye Damage/Eye Irritation:** No irritation.

**Respiratory or Skin Sensitation:** No data available.

**Germ Cell Mutagenicity:** No data available.

**Carcinogenicity:**

**IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.

**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive Toxicity:** Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals. Exposure of female rats to 60,000 ppm carbon dioxide for 24 hours has produced toxic effects to the embryo and fetus in pregnant rats. Toxic effects to the reproductive system have been observed in other mammalian species at similar concentrations.

**Specific Target Organ Toxicity - Single Exposure:** No data available.

**Specific Target Organ Toxicity - Repeated Exposure:** No data available.

**Aspiration Hazard:** No data available.

**Additional Information:**

Component: Air; RTECS: N/A

Component: Carbon Dioxide; RTECS: BFF6400000

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**ECOLOGICAL INFORMATION**

**Component(s):** Air; Carbon Dioxide

**CAS No(s):** N/A; 124-38-9

**Toxicity:**

*Toxicity to fish:*

No data available.

*Toxicity to daphnia and other aquatic invertebrates:*

No data available.

**Persistence and Degradability:**

No data available.

**Bioaccumulative potential:**

No data available.

**Mobility in Soil:**

No data available.

**Results of PBT and vPvB assessment:**

Not required/conducted.

**Other Adverse Effects:**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Product does not contain Class I or Class II ozone depleting substances.

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**DISPOSAL CONSIDERATIONS**

Product and Contaminated Packaging: Do not attempt to dispose of residual waste or unused quantities in returnable containers. Return in the shipping container, properly labeled, with any valve outlet plugs or caps secure and valve protection cap in place to Norlab for proper disposal. Non-refillable containers should be vented in a well-ventilated area then disposed of in compliance with local regulations, or returned to Norlab.

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**TRANSPORT INFORMATION**

DOT Class: Non-Flammable Gas (2.2) #2.2

UN #: UN 1956, Class: 2, Proper Shipping Name: Compressed gas, n.o.s. (Carbon Dioxide, Air)

**DOT (US)**

UN Number: 1956

Class: 2.2

ERG #: 126

Proper Shipping Name: Compressed gas, n.o.s. (Carbon Dioxide, Air)

**IMDG**

UN Number: 1956

Class: 2

EMS-No: F-C, S-V

Proper Shipping Name: Compressed gas, n.o.s. (Carbon Dioxide, Air)



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**IATA**

UN Number: 1956

Class: 2

Proper Shipping Name: Compressed gas, n.o.s. (Carbon Dioxide, Air)

**Canada TDG**

UN Number: 1956

Class: 2.2

Proper Shipping Name: Compressed gas, n.o.s. (Carbon Dioxide, Air)



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**REGULATORY INFORMATION**

COMPONENT / (CAS/PERC) / CODES

\*Air (N/A 50-99.9999%) MASS, NJHS, PA, SARA311/312, TSCA

\*Carbon dioxide (124389 0.0001-50%) MASS, NJHS, OSHAWAC, PA, SARA311/312, TSCA, TXAIR

REGULATORY KEY DESCRIPTIONS

MASS = MA Massachusetts Hazardous Substances List  
NJHS = NJ Right-to-Know Hazardous Substances  
PA = PA Right-To-Know List of Hazardous Substances  
SARA311/312 = SARA 311/312 Toxic Chemicals  
TSCA = Toxic Substances Control Act

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**OTHER INFORMATION**

**Disclaimer:**

The data in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material in any process. The information set forth herein is furnished free of charge and is based on technical data that Norlab believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside of Norlab's control, Norlab makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under, or a recommendation to infringe upon, any patents.

**Preparation Information:**

GHS Conversion Services  
www.ghsconversionservices.com  
(414) 336-2546