



# 5% CO<sub>2</sub> IN AIR, LOW LEVEL CALIBRANT GAS

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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Version: 1.0

CLM-10585

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form : Substance  
Substance name : 5% CO<sub>2</sub> IN AIR, LOW LEVEL CALIBRANT GAS  
CAS-No. : 124-38-9 (Unlabeled)  
Product code : CLM-10585  
Formula : CO<sub>2</sub>

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### 1.2.1. Relevant identified uses

Main use category : Professional use  
Industrial/Professional use spec : For professional use only

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.  
50 Frontage Road  
Andover, MA 01810  
USA

USA: 1-800-322-1174 Int: 1-978-749-8000  
[cilsales@isotope.com](mailto:cilsales@isotope.com) [www.isotope.com](http://www.isotope.com)

### Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)  
International: 1-703-741-5970 (24 hours)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Press. Gas (Comp.) H280

Full text of hazard classes and H-statements : see section 16

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

R5

Full text of R-phrases: see section 16

#### GHS-US classification

Press. Gas (Comp.) H280

Full text of H statements : see section 16

#### Adverse physicochemical, human health and environmental effects

No additional information available

### 2.2. Label elements

#### Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS04

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H280 - Contains gas under pressure; may explode if heated

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Precautionary statements (CLP) : P410+P403 - Protect from sunlight. Store in a well-ventilated place.

### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS04

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H280 - Contains gas under pressure; may explode if heated

Precautionary statements (GHS-US) : P410+P403 - Protect from sunlight. Store in a well-ventilated place.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
5% CO2 IN AIR, LOW LEVEL CALIBRANT GAS	(CAS-No.) 124-38-9 (Unlabeled)	100	R5

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
5% CO2 IN AIR, LOW LEVEL CALIBRANT GAS	(CAS-No.) 124-38-9 (Unlabeled)	100	Press. Gas (Comp.), H280

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
5% CO2 IN AIR, LOW LEVEL CALIBRANT GAS (Main constituent)	(CAS-No.) 124-38-9 (Unlabeled)	100	Press. Gas (Comp.), H280

Full text of H-phrases: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

First-aid measures after inhalation : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.

First-aid measures after skin contact : Wash with soap and plenty of water. Consult a physician.

First-aid measures after eye contact : Flush eyes with water as a precaution.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.

Symptoms/effects after skin contact : May be harmful if absorbed through skin. May cause skin irritation. May cause severe frostbite.

Symptoms/effects after eye contact : May cause eye irritation.

Symptoms/effects after ingestion : May be harmful if swallowed.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

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### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable or combustible.

### 5.3. Advice for firefighters

Firefighting instructions : Wear self contained breathing apparatus for fire fighting if necessary.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.  
Other information : Use water spray to cool unopened containers.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use water spray to cool unopened containers.

#### 6.1.1. For non-emergency personnel

Emergency procedures : Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Do not let product enter drains.

### 6.3. Methods and material for containment and cleaning up

For containment : Clean up promptly by sweeping or vacuum.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Normal measures for preventive fire protection.  
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a dry and well-ventilated place.  
Storage conditions : Store at room temperature away from light and moisture.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

5% CO2 IN AIR, LOW LEVEL CALIBRANT GAS (124-38-9 (Unlabeled))		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	5000.00000000 ppm USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	30000 ppm USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Asphyxia
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	9000 mg/m <sup>3</sup> USA. NIOSH Recommended Exposure Limits - Normal constituent of air (about 300 ppm).
USA NIOSH	NIOSH REL (TWA) (ppm)	5000 ppm USA. NIOSH Recommended Exposure Limits - Normal constituent of air (about 300 ppm).
USA NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	54000 mg/m <sup>3</sup> USA. NIOSH Recommended Exposure Limits - Normal constituent of air (about 300 ppm).
USA NIOSH	NIOSH REL (STEL) (ppm)	30000 ppm USA. NIOSH Recommended Exposure Limits - Normal constituent of air (about 300 ppm).
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	9000 mg/m <sup>3</sup> USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - The value in mg/m <sup>3</sup> is approximate.
USA OSHA	OSHA PEL (TWA) (ppm)	5000 ppm USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - The value in mg/m <sup>3</sup> is approximate.
USA OSHA	OSHA PEL (STEL) (mg/m <sup>3</sup> )	54000 mg/m <sup>3</sup> California permissible exposure limits for chemical contaminants (Title 8, Article 107)

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USA OSHA	OSHA PEL (STEL) (ppm)	30000 California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	9000 mg/m <sup>3</sup> California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (Ceiling) (ppm)	5000 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)

### 8.2. Exposure controls

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear safety glasses. Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH or EN 166.

Skin and body protection : Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Compressed Gas
Molecular mass	: 44 g/mol (Labeled)
Color	: Colorless
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: -78.5 °C (- 109.3 °F) - lit.
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 57249 hPa (42,940 mmHg) at 20 °C (68 °F)
Relative vapor density at 20 °C	: 1.52 - (Air = 1.0)
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available

#### 10.2. Chemical stability

Stable if stored under recommended conditions.

#### 10.3. Possibility of hazardous reactions

No additional information available

#### 10.4. Conditions to avoid

No additional information available

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>).

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/effects after skin contact	: May be harmful if absorbed through skin. May cause skin Irritation. May cause severe frostbite.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
- Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
- Ecology - waste materials : Dispose of as unused product.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

- UN-No.(DOT) : 1956
- DOT NA no. : UN1956

#### 14.2. UN proper shipping name

- Proper Shipping Name (DOT) : Compressed gas, n.o.s.
- Class (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
- Hazard labels (DOT) : 2.2 - Non-flammable gas



- DOT Symbols : G - Identifies PSN requiring a technical name
- DOT Packaging Exceptions (49 CFR 173.xxx) : 306;307
- DOT Packaging Non Bulk (49 CFR 173.xxx) : 302;305
- DOT Packaging Bulk (49 CFR 173.xxx) : 314;315
- Marine pollutant : No

#### 14.3. Additional information

- Emergency Response Guide (ERG) Number : 126
- Other information : No supplementary information available.

#### Overland transport

- Class (ADR) : 2 - Gases
- Hazard identification number (Kemler No.) : 20
- Classification code (ADR) : 1A
- Hazard labels (ADR) : 2.2 - Non-flammable, non-toxic gases



- Orange plates : 

- Tunnel restriction code (ADR) : E
- Limited quantities (ADR) : 120ml
- EAC : 2TE
- Excepted quantities (ADR) : E1

#### Transport by sea

- DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
- MFAG-No : 126

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### Air transport

DOT Quantity Limitations Passenger aircraft/rail : 75 kg  
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 150 kg  
CFR 175.75)

Civil Aeronautics Law : Gases under pressure/Gases nonflammable nontoxic under pressure

### 14.4. Environmental hazards

Other information : No supplementary information available.

### 14.5. Special precautions for user

### 14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### 5% CO2 IN AIR, LOW LEVEL CALIBRANT GAS (124-38-9 (Unlabeled))

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

### 15.2. International regulations

#### CANADA

No additional information available

#### 15.2.1. National regulations

No additional information available

### 15.3. US State regulations

#### 5% CO2 IN AIR, LOW LEVEL CALIBRANT GAS(124-38-9 (Unlabeled))

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

## SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

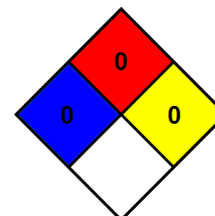
Full text of R-, H- and EUH-phrases:

Press. Gas (Comp.)	Gases under pressure Compressed gas
H280	Contains gas under pressure; may explode if heated
R5	Heating may cause an explosion

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



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### Hazard Rating

Health : 0 Minimal Hazard - No significant risk to health  
Flammability : 1 Slight Hazard  
Physical : 1 Slight Hazard

CIL Substance SDS

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