



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

Number:
Issue Date

OLM-190
04/12/13

Page 1 of 8

MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Description CARBON MONOXIDE (18O, 95%)

Cambridge Isotope Laboratories, Inc.
50 Frontage Rd
ANDOVER, MA 01810
USA

E-mail cilsales@isotope.com
Web Site www.isotope.com

Phone Numbers

Emergency Contact Chemtrec
Emergency Phone 1-800-424-9300 (24 hours)

Customer Service 1-800-322-1174 (8:30-5:30 EST)
Phone
Transportation 1-202-483-7616 (24 hours)

2 HAZARDS IDENTIFICATION

OSHA Hazards

Flammable Gas, Compressed Gas, Target Organ Effect, Toxic by inhalation,
Teratogen

Target Organs

Blood, Nerves

GHS Classification

Flammable gases (Category 1)
Gases under pressure (Compressed gas)
Acute toxicity, Inhalation (Category 3)
Reproductive toxicity (Category 1A)
Specific Target Organ Toxicity - Single exposure (Category 1)

GHS Label Information

Signal Word Danger

Hazards Identification

Flame
Gas cylinder



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

Number:
Issue Date

OLM-190
04/12/13

Page 2 of 8

MATERIAL SAFETY DATA SHEET

Skull & crossbones
Health hazard

Hazard Statement(s)

Extremely flammable gas.
Contains gas under pressure; may explode if heated.
Toxic if inhaled.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.

Precautionary Statement(s)

Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces- No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Call a POISON CENTER or doctor/physician.
Protect from sunlight. Store in a well-ventilated place.

HMIS Ratings

Chronic Health	*
Physical	0
Flammability	4
Health	2

NFPA Codes

Fire	4
Health	2
Reactivity	0

Potential Health Effects

Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.
Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Composition / Information on Ingredients

Chemical Formula	C*O
Molecular Weight	30.01
CAS No.	4906-87-0
EC No.	211-128-3
Index No.	006-001-00-2

4 FIRST AID MEASURES

First Aid Measures



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

Number:
Issue Date

OLM-190
04/12/13

Page 3 of 8

MATERIAL SAFETY DATA SHEET

Eyes	Flush eyes with water as a precaution.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Inhalation	If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
Skin	Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
Additional Information	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

5 FIRE FIGHTING MEASURE

Fire Fighting Measures

Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
Combustion Products	Flammable in the presence of an oxidizing gas (eg air), a source of ignition, and when the concentration of the gas is between the lower and upper explosive limits. Keep away from heat, sparks, open flames, hot surfaces, oxidizing gases. No smoking.
Fire Fighting Equipment	Wear self contained breathing apparatus for fire fighting if necessary.
Fire Fighting Procedures	Use water spray to cool unopened containers.

6 ACCIDENTAL RELEASE MEASURES

Accidental Release Measures

Personal Precautions	Use personal protective equipment. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe area.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleanup	Clean up promptly by sweeping or vacuum.



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

Number:
Issue Date

OLM-190
04/12/13

Page 4 of 8

MATERIAL SAFETY DATA SHEET

7 HANDLING AND STORAGE

Precautions for Safe Handling

Handling Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection.

Conditions for Safe Storage

Storage Store at room temperature away from light and moisture.

8 EXPOSURE CONTROL / PERSONAL PROTECTION

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

CHEMICAL NAME	TWA	OSHA PEL	ACGIH TLV
CARBON MONOXIDE		50 ppm	25 ppm

Personal Protection

Eyes - Face Wear safety glasses with side shields (or goggles) and a face shield.

Skin Wear complete suit protecting against chemicals according to concentration and amount of substance.

Respiratory When appropriate, use NIOSH/CEN approved respirator.

Protective Clothing Wear suitable protective clothing and gloves.

Work Hygienic Practices Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties (Unlabeled Compound)

Form Compressed gas

Color No data available

Odor No data available

Odor Threshold No data available

pH No data available

Melting Point - 205 °C (- 337 °F) - lit



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

Number:
Issue Date

OLM-190
04/12/13

Page 5 of 8

MATERIAL SAFETY DATA SHEET

Boiling Point	- 191.5 °C (- 312.7 °F) - lit
Flashpoint	No data available
Evaporation Rate	No data available
Lower Explosion Limit	12.5% (V)
Upper Explosion Limit	74% (V)
Vapor Density	0.97 - (Air = 1.0)
Solubility in Water	No data available
Partition Coefficient	No data available
Auto Ignition Temperature	609 °C (1,128 °F)

10 STABILITY AND REACTIVITY

Stability and Reactivity

Chemical Stability	Stable if stored under recommended conditions.
Possibility of Hazardous Reactions	Not available
Conditions to Avoid	Heat, flames and sparks. Extremes of temperature and direct sunlight.
Hazardous decomposition products	Formed under fire conditions: Carbon oxides
Materials to avoid	Sodium/sodium oxides, Potassium, Strong oxidizing agents

11 TOXICOLOGICAL INFORMATION

Acute Toxicity

LC50 Inhalation Rat	4 h - 1807 ppm
Serious Damage/Eye Irritation	No data available
Skin Corrosion/Irritation	No data available
Inhalation	No data available
Respiratory or Skin Sensitization	Not available



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

Number:
Issue Date

OLM-190
04/12/13

Page 6 of 8

MATERIAL SAFETY DATA SHEET

Germ Cell
Mutagenicity Not available

IARC No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible, or confirmed human carcinogen by IARC.

ACGIH 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.

NTP No component of this product present at levels greater than or equal to 0.1% is identifiable as a known or anticipated 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 Not available

Specific Target Organ Toxicity

Single Exposure No data available

Repeated Exposure Inhalation - Causes damage to organs through prolonged or repeated exposure.

Signs and Symptoms of Exposure

Blood disorders.

Other Information

RTECS FG3500000

12 ECOLOGICAL INFORMATION

Toxicity

Persistence and
Degradability Not available

Bioaccumulative
Potential Not available

Mobility in Soil Not available

PBT and vPvB
Assessment Not available

Other Adverse
Effects Not available



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

Number:
Issue Date

OLM-190
04/12/13

Page 7 of 8

MATERIAL SAFETY DATA SHEET

13 DISPOSAL CONSIDERATIONS

Disposal Considerations

Product Disposal Waste materials should be disposed of under conditions which meet Federal, State, and Local environmental control regulations.

14 TRANSPORT INFORMATION

Transportation Information-DOT/IATA/IMDG

Special Shipping Notes	IATA/DOT: Not permitted on passenger aircraft.
UN Number	1016
Prop. Ship. Name	Carbon monoxide, compressed
Hazard Class	2.3 (2.1)
Marine Pollutant	No
Poison Inhalation Hazard	Hazard zone D

15 REGULATORY INFORMATION

Regulatory Information

Compressed gas, Target Organ Effect, Toxic by inhalation, Teratogen.

SARA

Sara 302 Component	No chemicals in this material are subject to the reporting requirements.
Sara 313 Component	No chemicals in this material are subject to the reporting requirements.

SARA 311/312 Hazards

Fire (Y/N)	Y
Pressure Generating (Y/N)	Y
Acute (Y/N)	Y
Chronic (Y/N)	Y

STATE REGULATIONS



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

Number:
Issue Date

OLM-190
04/12/13

Page 8 of 8

MATERIAL SAFETY DATA SHEET

Massachusetts Right to Know Yes
Pennsylvania Right to Know Yes
New Jersey Right to Know Yes

California Proposition 65 WARNING! This product contains a chemical known by the state of California to cause birth defects or other reproductive harm.

Canada

DSL Status Yes

EU

Hazard Extremely Flammable. Toxic.

Safety Statements

Keep in a cool, well-ventilated place away from sunlight.

Keep away from sources of ignition - No smoking.

Do not breathe gas/fumes/vapour/spray.

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.

Risk Statements

Heating may cause an explosion.

Extremely flammable.

Toxic: danger of serious damage to health by prolonged exposure through inhalation.

May impair fertility.

May cause harm to the unborn child.

16 OTHER INFORMATION

Additional MSDS 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.

Approved On 04/12/13
Version Number 5