

# Safety Data Sheet

## Laser Mixes, compressed

**United States Cylinder Gas**  
11618 S Mayfield Ave, Alsip, Illinois, 60803  
Emergency Phone: CHEMTREC 1-800-424-9300  
www.uscylgas.com

### Section 1: Product and Company Identification

**United States Cylinder Gas**  
11618 S Mayfield Ave, Alsip, Illinois, 60803  
(708) 389-1402  
Emergency Phone: CHEMTREC 1-800-424-9300  
www.uscylgas.com

**Product Code: Laser Mixes**

**Part Number:** Laser Mix

**Synonyms:** 1.7 Laser, 3.4 Laser, 4.5 Laser, 5.0 Laser

**Recommended Use:** Industrial use. Use as directed.

**Usage Restrictions:**

### Section 2: Hazards Identification



**Hazard Classification:** Gases Under Pressure, H280  
Simple Asphyxiant, OSHA-H01

**Hazard Statements:** H280: Contains gas under pressure; may explode if heated  
OSHA-H01: MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.

**Precautionary Statements**

P202: Do not handle until all safety precautions have been read and understood.  
P271+P403: Use and store only outdoors or in a well-ventilated place.  
CGA-PG02: Protect from sunlight when ambient temperature exceeds 52C (125F).  
CGA-PG05: Use a back flow preventive device in the piping.  
CGA-PG06: Close valve after each use and when empty.  
CGA-PG10+CGA-PG20: Use only with equipment of compatible materials of construction and rated for cylinder pressure.  
CGA-PG12: Do not open valve until connected to equipment prepared for use.  
CGA-PG27: Read and follow the Safety Data Sheet (SDS) before use.

### Section 3: Composition/Information on Ingredients

	CAS #	Concentration
<b>Carbon Dioxide</b>	124-38-9	1.615-5.25%
<b>Nitrogen</b>	7727-37-9	12.825-57.25%

	CAS #	Concentration
Helium	7440-59-7	38-86.1%

	Trade Names
Carbon Dioxide	Carbon dioxide carbonic anhydride Dry ice 124-38-9 carbonic acid gas Carbonic acid anhydride
Nitrogen	N, Nitrogen, Nitrogen gas, Molecular nitrogen, Dinitrogen
Helium	He, Helium, Atomic helium, Helium-4, p-Helium, O-Helium

## Section 4: First Aid Measures

IF ON SKIN: wash with plenty of water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

## Section 5: Fire Fighting Measures

### Suitable Extinguishing Media:

Use suitable extinguishing material for surrounding fire.

### Protection of Firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

	Products of Combustion
Carbon Dioxide	Carbon monoxide
Nitrogen	Oxides of nitrogen
Helium	Miscellaneous decomposition products

## Section 6: Accidental Release Measures

### Personal Precautions:

Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.

### Environmental Precautions:

Keep away from drains, surface and ground water. Avoid heat, flames, sparks and other sources of ignition.

### Methods for Containment and Cleanup:

Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition. If necessary, cover drains.  
Absorb large spills, dispose in appropriate containers.

## Section 7: Handling and Storage

### Handling:

See precautions in Section 2. Only trained personnel should handle this product. Always use approved personal protective equipment.

**Storage:**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Store and handle in accordance with all current regulations and standards. Store in a well-ventilated area. Keep separated from incompatible substances.

	Incompatibilities	Conditions to avoid
<b>Carbon Dioxide</b>	Combustible materials, oxidizing materials, metal salts, reducing agents, metal carbide, metals, bases	Protect from physical damage and heat. Containers may rupture or explode if exposed to heat. Avoid contact with water or moisture.
<b>Nitrogen</b>	Metals, oxidizing materials	Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.
<b>Helium</b>	No data available.	Protect from physical damage and heat. Containers may rupture or explode if exposed to heat. Keep liquid helium from contact with air.

## Section 8: Exposure Controls/Personal Protection

Exposure Guidelines	Threshold Limit Value -TLV (ppm)
<b>Carbon Dioxide</b>	5000
<b>Nitrogen</b>	Not Available
<b>Helium</b>	Not Available

**Engineering Controls**

No specific controls are needed.

<b>Eye Protection</b>	Wear splash resistant safety goggles.
<b>Skin Protection</b>	Wear chemical protective clothing, including gloves.
<b>Respiratory Protection</b>	Use self-contained breathing apparatus.

**General Hygiene considerations**

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

## Section 9: Physical and Chemical Properties

	Physical State / Physical Form	Appearance / Color	Odor	Flash Point	Flammability	Partition Coefficient
<b>Carbon Dioxide</b>	Gas	Colorless	Odorless	Not flammable	False	1
<b>Nitrogen</b>	Gas	Colorless	Odorless	Not flammable	False	0
<b>Helium</b>	Gas	Colorless	Odorless	Not flammable	False	0

	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits	Boiling Point	Freezing Point	Vapor Pressure
<b>Carbon Dioxide</b>	Nonflammable	Not Available	Not Available	Not available	-71 F (-57 C) @ 4000 mmHg	844.7
<b>Nitrogen</b>	Nonflammable	Not Available	Not Available	-321 F (-196 C)	-346 F (-210 C)	Not Available
<b>Helium</b>	Nonflammable	Not Available	Not Available	-452 F (-269 C)	-458 F (-272 C) @ 26 atm	Not Available

	Vapor Density	Specific Gravity	Water Solubility	pH	Evaporation Rate	Viscosity
<b>Carbon Dioxide</b>	1.5	1.522 @ 21 C	Soluble	0	Not applicable	0.01657 cP @ 0 C
<b>Nitrogen</b>	0.967	Not applicable	1.6% @ 20 C	0	Not applicable	0.01787 cP @ 27 C
<b>Helium</b>	0.138	Not applicable	0.94% @ 0 C	0	Not applicable	0.02012 cP @ 26.8 C

	Molecular Weight	Molecular Formula	Density	Volatility	Solvent Solubility
Carbon Dioxide	44.009	CO2	Not Available	Not applicable	Soluble : Alcohol, acetone, hydrocarbons, organic solvents
Nitrogen	28.014	N2	Not Available	1	Soluble : Liquid ammonia
Helium	4.002602	He	Not Available	Not applicable	Insoluble : Not available

## Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
Carbon Dioxide	Stable at normal temperatures and pressure.	Protect from physical damage and heat. Containers may rupture or explode if exposed to heat. Avoid contact with water or moisture.	Combustible materials, oxidizing materials, metal salts, reducing agents, metal carbide, metals, bases
Nitrogen	Stable at normal temperatures and pressure.	Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.	Metals, oxidizing materials
Helium	Stable at normal temperatures and pressure.	Protect from physical damage and heat. Containers may rupture or explode if exposed to heat. Keep liquid helium from contact with air.	No data available.

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
Carbon Dioxide	Carbon monoxide	Will not polymerize.
Nitrogen	Oxides of nitrogen	Will not polymerize.
Helium	Miscellaneous decomposition products	Will not polymerize.

## Section 11: Toxicology Information

The toxicology information is calculated for the mixture.

### Acute Toxicity Estimates (ATE) of the mixture.

Oral ATE (mg/kg)	Not Available
Inhalation ATE (ppm)	Not Available
Dermal ATE (mg/kg)	Not Available

### Additional health hazards:

OSHA-H01: MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.

Skin Corrosion/Irritation	Not Available
Eye Damage/Irritation	Not Available
Respiratory or Skin Sensitization	Not Available
Germ Cell Mutagenicity	Not Available
Carcinogenicity	Not Available
Reproductive Toxicity	Not Available
STOT – single exposure	Not Available
STOT – repeated exposure	Not Available
Aspiration Hazard	Not Available

## Section 12: Ecological Information

### Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
<b>Carbon Dioxide</b>	Fish toxicity: 0 Invertebrate toxicity: Algal toxicity: Phyto toxicity: Other toxicity:	Relatively non-persistent in the environment. Moderately volatile from water.	Accumulates very little in the bodies of living organisms.	Leaches through the soil
<b>Nitrogen</b>	Fish toxicity: 0 Invertebrate toxicity: Algal toxicity: Phyto toxicity: Other toxicity:	Not available	Not available	Not available
<b>Helium</b>	Fish toxicity: 0 Invertebrate toxicity: Algal toxicity: Phyto toxicity: Other toxicity:	Not available	Not available	Not available

## Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations. Do not dispose in sewers or waterways. Recycle if possible to do so. Return to manufacturer for disposal if needed.

## Section 14: Transportation Information

### U.S. DOT 49 CFR 172.101

#### DOT Information For This Mixture

<b>Shipping Name</b>	Compressed gas, n.o.s. (Carbon Dioxide, Nitrogen, Helium)
<b>UN Number</b>	UN1956
<b>Hazard Class</b>	2.2
<b>Hazard Information</b>	NonFlammable Gas

#### Individual Component Information

	Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
<b>Carbon Dioxide</b>	Carbon Dioxide	UN1013	2.2	Not available	75 kg	150 kg	Not available
<b>Nitrogen</b>	Nitrogen, Compressed	UN1066	2.2	Not available	Not available	Not available	Not available
<b>Helium</b>	Helium, Compressed	UN1046	2.2	Not available	Not available	Not available	Not available

### Canadian Transportation of Dangerous Goods

	Shipping Name	UN Number	Class	Packing Group / Risk Group
<b>Carbon Dioxide</b>	Carbon Dioxide	UN1013	2.2	Not Available
<b>Nitrogen</b>	Nitrogen, Compressed	UN1066	2.2	Not Available
<b>Helium</b>	Helium, Compressed	UN1046	2.2	Not Available

## Section 15: Regulatory Information

### U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
<b>Carbon Dioxide</b>	Not Regulated.	Not Regulated.	Not Regulated.

<b>Nitrogen</b>	Not Regulated.	Not Regulated.	Not Regulated.
<b>Helium</b>	Not Regulated.	Not Regulated.	Not Regulated.

#### SARA 370.21

	<b>Acute</b>	<b>Chronic</b>	<b>Fire</b>	<b>Reactive</b>	<b>Sudden Release</b>
<b>Carbon Dioxide</b>	Yes	No	No	No	Yes
<b>Nitrogen</b>	Yes	No	No	No	Yes
<b>Helium</b>	Yes	No	No	No	Yes

#### SARA 372.65

<b>Carbon Dioxide</b>	Not Regulated.
<b>Nitrogen</b>	Not Regulated.
<b>Helium</b>	Not Regulated.

#### OSHA Process Safety

<b>Carbon Dioxide</b>	Not regulated.
<b>Nitrogen</b>	Not regulated.
<b>Helium</b>	Not regulated.

#### State Regulations

	<b>CA Proposition 65</b>
<b>Carbon Dioxide</b>	Not regulated.
<b>Nitrogen</b>	Not regulated.
<b>Helium</b>	Not regulated.

#### Canadian Regulations

	<b>WHMIS Classification</b>
<b>Carbon Dioxide</b>	A
<b>Nitrogen</b>	A
<b>Helium</b>	A

#### National Inventory Status

	<b>US Inventory (TSCA)</b>	<b>TSCA 12b Export Notification</b>	<b>Canada Inventory (DSL/NDSL)</b>
<b>Carbon Dioxide</b>	Carbon dioxide	Not listed.	Listed on DSL.
<b>Nitrogen</b>	Nitrogen	Not listed.	Listed on DSL.
<b>Helium</b>	Helium	Not listed.	Listed on DSL.

### Section 16: Other Information

	<b>NFPA Rating</b>
<b>Carbon Dioxide</b>	Health = 2 Fire = 0 Reactivity = 0
<b>Nitrogen</b>	Health = 0 Fire = 0 Reactivity = 0
<b>Helium</b>	Health = 1 Fire = 0 Reactivity = 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard