

# Safety Data Sheet

Nitrogen/Helium, mixture

US Cylinder Gas

Alsip, IL



## Section 1: Product and Company Identification

**US Cylinder Gas**

Alsip, IL

Product Code: **Nitrogen/Helium Mixes**

Part Number: Nitrogen/Helium Mixes

**Synonyms:** N2/He Mix

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

**Usage Restrictions:**

## Section 2: Hazards Identification



**Warning**

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>Nitrogen</b>	7727-37-9	0 – 99.9%
<b>Helium</b>	7440-59-7	0 – 99.9%

	Chemical Substance	Chemical Family	Trade Names
<b>Nitrogen</b>	NITROGEN, COMPRESSED GAS	Inorganic gases	DIATOMIC NITROGEN; DINITROGEN; NITROGEN; NITROGEN-14; NITROGEN GAS; UN 1066; N2
<b>Helium</b>	HELIUM	Inorganic gases	HELIUM GAS; HELIUM COMPRESSED; HELIUM-4; ATOMIC HELIUM; UN 1046; He

### Section 4: First Aid Measures

	Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
<b>Nitrogen</b>	Wash exposed skin with soap and water.	Flush eyes with plenty of water.	If a large amount is swallowed, get medical attention.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	For inhalation, consider oxygen.
<b>Helium</b>	Wash exposed skin with soap and water.	Flush eyes with plenty of water.	If a large amount is swallowed, get medical attention.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	For inhalation, consider oxygen.

### Section 5: Fire Fighting Measures

	Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
<b>Nitrogen</b>	Non-flammable. Use suitable extinguishing media for surrounding fire. Cylinders may rupture or explode if exposed to heat.	Non-flammable	<ul style="list-style-type: none"> <li>Respiratory protection may be needed for frequent or heavy exposure.</li> </ul>
<b>Helium</b>	Non-flammable. use suitable extinguishing media for surrounding fire.	Non-flammable	<ul style="list-style-type: none"> <li>Non-flammable</li> <li>non-flammable</li> </ul>

### Section 6: Accidental Release Measures

	Personal Precautions	Environmental Precautions	Methods for Containment
<b>Nitrogen</b>	Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.	No significant effects from contamination expected.	Stop leak if possible without personal risk.
<b>Helium</b>	Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.	Avoid soil, waterways, drains and sewers	Stop leak if possible without personal risk.

	Methods for Cleanup	Other Information
<b>Nitrogen</b>	N/A	N/A
<b>Helium</b>	Stop leak, evacuate area. Contact emergency personnel.	None

### Section 7: Handling and Storage

	Handling	Storage
<b>Nitrogen</b>	Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.	Keep separated from incompatible substances.

	Handling	Storage
Helium	Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.	Keep separated from incompatible substances.

## Section 8: Exposure Controls/Personal Protection

	Exposure Guidelines
Nitrogen	NITROGEN, COMPRESSED GAS: NITROGEN: ACGIH (simple asphyxiant)
Helium	HELIUM: ACGIH (simple asphyxiant)

### Engineering Controls

Handle only in fully enclosed systems.

	Eye Protection	Skin Protection	Respiratory Protection
Nitrogen	Eye protection not required, but recommended.	Protective clothing is not required. Protective gloves are not required.	Respiratory protection may be needed for frequent or heavy exposure.
Helium	Eye protection not required, but recommended.	Protective clothing is not required. Protective gloves are not required.	Non-flammable

### 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	Appearance	Color	Change in Appearance	Physical Form	Odor
Nitrogen	Gas	Clear	Colorless	N/A	Gas	Odorless
Helium	Gas	Colorless	Colorless	N/A	Gas	Odorless

	Taste	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits
Nitrogen	Tasteless	Not flammable	Not available	Not available	Nonflammable	Nonflammable
Helium	Tasteless	Not flammable	Not available	Not available	Nonflammable	Nonflammable

	Lower Explosive Limits	Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity
Nitrogen	Nonflammable	-321 F (-196 C)	-346 F (-210 C)	760 mmHg @ -196 C	0.967 (Air=1)	Not applicable
Helium	Nonflammable	-452 F (-269 C)	-458 F (-272 C) @ 26 atm	1719 mmHg @ -268 C	0.138 (Air=1)	Not applicable

	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity	Molecular Weight
Nitrogen	1.6% @ 20 C	Not applicable	Not available	Not applicable	0.01787 cP @ 27 C	28.0134
Helium	0.94% @ 0 C	Not applicable	Not available	Not applicable	0.02012 cP @ 26.8 C	4.0026

	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
Nitrogen	N2	1.2506 g/L	Not available	100%	1	Soluble : Liquid ammonia

	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
Helium	He	0.1785 g/L @ 0 C	Not available	100%	Not applicable	Insoluble : Not available

## Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
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
Nitrogen	Oxides of nitrogen	Will not polymerize.
Helium	Miscellaneous decomposition products	Will not polymerize.

## Section 11: Toxicology Information

### Acute Effects

	Oral LD50	Dermal LD50	Inhalation
Nitrogen	Not available	Not available	Nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, tingling sensation, loss of coordination, convulsions, coma
Helium	Not available	Not available	Nausea, vomiting, difficulty breathing, irregular heartbeat, headache, fatigue, dizziness, disorientation, emotional disturbances, tingling sensation, loss of coordination, suffocation, convulsions, unconsciousness, coma

	Eye Irritation	Skin Irritation	Sensitization
Nitrogen	Contact with rapidly expanding gas may cause burns or frostbite	No information on significant adverse effects	Difficulty breathing
Helium	Liquid: frostbite, blurred vision	Liquid: frostbite	Difficulty breathing

### Chronic Effects

	Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
Nitrogen	Not hazardous	Not available	Not available	No data
Helium	Not available	Not available	Not available	No data

## Section 12: Ecological Information

### Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Nitrogen	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available
Helium	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available	Not available	Not available	Not available

Other toxicity: Not available			
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### Section 13: Disposal Considerations

<b>Nitrogen</b>	Dispose in accordance with all applicable regulations.
<b>Helium</b>	Dispose in accordance with all applicable regulations.

### 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. (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	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
<b>Nitrogen</b>	Nitrogen, compressed	UN1066	2.2	Not applicable	2.2	75 kg or L	150 kg	N/A
<b>Helium</b>	Helium, compressed	UN1046	2.2	Not applicable	2.2	75 kg or L	150 kg	N/A

#### Canadian Transportation of Dangerous Goods

	Shipping Name	UN Number	Class	Packing Group / Risk Group
<b>Nitrogen</b>	Nitrogen, compressed	UN1066	2.2	Not applicable
<b>Helium</b>	Helium, compressed	UN1046	2.2	Not applicable

### Section 15: Regulatory Information

#### U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
<b>Nitrogen</b>	Not regulated.	Not regulated.	Not regulated.
<b>Helium</b>	Not regulated.	Not regulated.	Not regulated.

#### SARA 370.21

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

#### SARA 372.65

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

#### OSHA Process Safety

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

#### State Regulations

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

### Canadian Regulations

	<b>WHMIS Classification</b>
<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>Nitrogen</b>	Listed on inventory.	Not listed.	Listed on inventory.
<b>Helium</b>	Listed on inventory.	Not listed.	Not determined.

## Section 16: Other Information

	<b>NFPA Rating</b>
<b>Nitrogen</b>	HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA
<b>Helium</b>	HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA

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