



Issue date March 1, 2015
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Safety Data Sheet

SDS ID# 3047

Section 1. IDENTIFICATION

1.1. Product identifier

Product form : Mixture

Product name : Methane (5.0%-75.0%) in Nitrogen

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

Product use : Calibration gas/Bumptest gas/Function test gas

1.3. Details of the supplier of the safety data sheet

Intermountain Specialty Gases
520 N. Kings Road
Nampa, ID 83687
Telephone 1-208-466-9425 or Toll free 1-800-552-5003
Fax 1-208-466-9144
www.isgases.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300

Section 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification FLAMMABLE GASES - Category 1
 GASES UNDER PRESSURE - Compressed gas
 SIMPLE ASPHYXIANTS - YES

2.2. Label elements

Hazard pictograms



Signal word : DANGER

Hazard statements : H220 - EXTREMELY FLAMMABLE GAS
 : H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
 : OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.
 : CGA-HG04 - MAY FORM EXPLOSIVE MIXTURES WITH AIR
 : OSHA - PG01 - DO NOT REMOVE THIS PRODUCT LABEL

Precautionary statements

- [General] : Read and follow all Safety Data Sheets (SDS's) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have a product container or label at hand. Use equipment rated for cylinder pressure.
- [Prevention] : P202 - Do not handle until all safety precautions have been read and understood
: P210 - Keep away from heat/sparks/open flames/hot surfaces - No smoking.
: P271+P403- Use only outdoors or in a well-ventilated area
: CGA-PG05 - Use a back flow preventive device in the piping.
: CGA-PG10 - Use only with equipment rated for cylinder pressure.
: CGA-PG12 - Do not open valve until connected to equipment prepared for use.
: CGA-PG06 - Close valve after each use and when empty.
: CGA-PG27 - Read and follow the Safety Data Sheet (SDS) before use.
- [Response] : P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
: P381 - Eliminate all ignition sources if safe to do so.
: P304+P340+P313 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention.
: P302+P336 - IF ON SKIN: Thaw frosted parts with lukewarm water. Do not rub affected areas.
- [Storage] : CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)
- [Disposal] : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity

No data available

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%
Methane	(CAS No) 74-82-8	5-75
Nitrogen	(CAS No) 7727-37-9	95-25

Section 4. FIRST AID MEASURES

4.1. Description of first aid measures

- General : IF exposed or concerned: Get medical advice/attention.
- Inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing has stopped, give artificial respiration or oxygen by trained personnel. If victim feels unwell, seek medical advice.
- Skin contact : Immediately flush with copious amount of water for at least 15 minutes.
- Eye contact : Immediately flush with copious amount of water for at least 15 minutes.
- Ingestion : Ingestion is not considered a potential route of exposure, refer to the inhalation section.

4.2. Most important symptoms/effects, acute and delayed

Acute

Inhalation	: May displace oxygen and cause rapid suffocation.
Skin contact	: Contact with rapidly expanding gas may cause burns or frostbite.
Eye contact	: Contact with rapidly expanding gas may cause burns or frostbite.
Ingestion	: Ingestion is not considered a potential route of exposure, refer to the inhalation section.
Frostbite	: Thaw frosted parts with lukewarm water. Do not rub affected areas. Get immediate medical advice/attention.
Self-protection of the first aider	RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Remove all sources of ignition.
Symptoms	: Simple asphyxiant. May cause suffocation by displacing the oxygen in the air. Exposure to oxygen-deficient atmosphere ($\leq 18\%$) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness and death. Exposure to atmospheres containing 8-10% or less oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help or protect themselves. Lack of sufficient oxygen may cause serious injury
Chronic symptoms	: Adverse effects not expected from this product.
Delayed	: Adverse effects not expected from this product.

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

If victim feels unwell, seek medical advice. If breathing is difficult, give artificial respiration or oxygen by trained personnel.

Section 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media	: Dry chemical or CO ₂ . Water spray (fog). DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.
Unsuitable extinguishing media	: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: This product is flammable.
Explosion hazard	: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity	: None known.

5.3. Advice for fire-fighters

Firefighting instructions	: In case of fire: Evacuate all personnel from the danger area. Stop the leak and flow of gas before extinguishing fire, if safe to do so. If this is not possible, withdraw from area and allow fire to burn. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Let the fire burn. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Exercise caution when fighting any chemical fire.
Protection during firefighting	: Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus, SCBA) for fire fighters. Do not enter fire area without proper protective equipment, including respiratory protection.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Ensure adequate ventilation.
6.1.1. For non -emergency personnel	
Protective equipment	: Wear protective equipment consistent with the site emergency plan.
Emergency procedures	: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate

area). Escape the danger area by the closest safe route. Close doors and windows of adjacent premises. Keep containers closed. Mark the danger area. Seal off low-lying areas. Keep upwind.

6.1.12. For emergency responders

Protective equipment : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection.

Emergency procedures : Evacuate and limit access. Ventilate area. See information above "For non-emergency personnel".

6.2. Methods and material for containment and cleaning up

For containment : Immediately contact emergency personnel. Try to stop gas leak if safe to do so.

Methods for cleaning up : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Precautions for safety handling : Pressurized container: Do not pierce or burn, even after use. Use equipment rated for cylinder pressure. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Protect cylinders from physical damage; do not drag, roll, slide, or drop.

Hygiene measures : Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : None known.

Storage conditions : Do not expose to temperatures exceeding 52°C (125°F). Store locked up. Keep containers closed when not in use. Protect cylinder from physical damage. Store and use away from heat, sparks, open flame or any other ignition source. Store in well ventilated area.

Incompatible products : None known.

Incompatible materials : Oxidizing agents.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Methane (74-82-8)

OSHA PEL		Cal/OSHA PEL	NIOSH REL	ACGIH 2015 TLV
ppm	mg/m ³	(as of 4/26/13)	(as of 4/26/13)	
		8-hour TWA (ST) STEL (C) Ceiling	up to 10-hour TWA (ST) STEL (C) Ceiling	8-hour TWA (ST) STEL (C) Ceiling
				1,000 ppm

Nitrogen (7727-37-9)

OSHA PEL		Cal/OSHA PEL	NIOSH REL	ACGIH 2015 TLV
ppm	mg/m ³	(as of 4/26/13)	(as of 4/26/13)	
		8-hour TWA (ST) STEL (C) Ceiling	up to 10-hour TWA (ST) STEL (C) Ceiling	8-hour TWA (ST) STEL (C) Ceiling

There are no specific exposure limits for Nitrogen. Nitrogen is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.

Simple asphyxiant

8.2. Appropriate engineering controls

Engineering measures/controls : Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly check for leakages. Ensure exposure is below occupational exposure limits. Oxygen detectors should be used when asphyxiating gases may be released. Consider work permit system e.g. for maintenance activities.

8.3. Individual protection measures

Hand protection : Wear working gloves when handling gas containers. 29CFR 1910.138: Hand Protection.
Eye protection : Wear safety glasses with side shields. 29 CFR 1910.133: Eye and Face Protection.
Skin and body protection : Wear suitable protective clothing, e.g.-Lab coats, coveralls or flame resistant clothing.
Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
Thermal hazard protection : None necessary during normal and routine operations.
Environmental exposure controls : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.
Other information : Wear safety shoes while handling containers. 29 CFR 1910.136: Foot Protection

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Exposure controls

Appearance : Clear, colorless gas.
Physical state : Gas
Color : Colorless
Odor : No data available
Odor threshold : No data available
pH : No data available
Melting point : No data available
Freezing point : No data available
Flash point : No data available
Evaporation rate : No data available
Flammability (solid, gas) : Extremely flammable
Upper flammability : 15% (Methane)
Lower flammability : 5% (Methane)
Relative density : No data available
Solubility : No data available
Partition coefficient : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity : Not applicable

	Methane	Nitrogen			
Molecular weight (grams)	16.04	28.013			
Boiling point	-161.49 °C	-196 °C			
Vapor pressure	Above critical temperature	Above critical temperature			
Vapor density at 20°C	0.56	0.97			
Relative gas density	0.6784 kg/m ³ @ 20 °C	1.153			
Critical Temperature	-82.1 °C	-146.9 °C			

Section 10. STABILITY AND REACTIVITY

10.1. Reactivity

No reactivity hazard other than the effects described below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

May form explosive mixtures with air. May react violently with oxidizers.

10.4. Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Flammable or explosive when mixed with chlorine or other oxidizing materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose container to heat or sources of ignition. Storage in poorly ventilated areas.

10.5. Incompatible materials

Oxidizing agents.

10.6. Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO₂)

Section 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Nitrogen (7727-37-9)

LC50 inhalation rat (ppm) 410,000 ppm/4h

11.1. Information on routes of exposure

Inhalation	High concentrations of aliphatic hydrocarbon gases may cause CNS depression. Recent information suggest that C1-C4 aliphatic (alkane) hydrocarbon gases can cause potentially fatal cardiac arrhythmias. Cardiac sensitization to adrenalin in dogs has been noted following inhalation. In dogs, the heart is more sensitive to epinephrine induced ventricular fibrillations following exposure to 15-90% propane for 10 minutes. Ventricular fibrillations have been reported in humans following inhalation of n-butane.
Skin contact	: Contact with liquid may cause cold burns/frostbite
Eye contact	: Contact with liquid may cause cold burns/frostbite
Ingestion	: Ingestion is not considered a potential route of exposure

11.2. Symptoms related to physical, chemical and toxicological characteristics

Symptoms	Simple asphyxiant. May cause suffocation by displacing the oxygen in the air. Exposure to oxygen-deficient atmosphere (<=18%) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness and death. Exposure to atmospheres containing 8-10% or less oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help or protect themselves. Lack of sufficient oxygen may cause serious injury or death. Depending on concentration and duration of exposure to carbon dioxide may cause increased respirations, headache, mild narcotic effects, increased blood pressure and pulse, and asphyxiation. Symptoms of overexposure become more apparent when atmospheric oxygen is decreased to 15-17%.
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11.3. Delayed and immediate effects

Skin corrosion/irritation	: Contact with rapidly expanding gas may cause burns or frostbite.
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Serious eye damage/irritation : Contact with rapidly expanding gas may cause burns or frostbite.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Respiratory system, Central vascular system (CVS)

Aspiration hazard : Not classified

Not applicable for gases and gas-mixtures

11.4. Carcinogenic effects

The components of this material are not found on the following lists: FEDERAL OSHA Z LIST, NTP AND IARC; therefore, they are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

Section 12. ECOLOGICAL INFORMATION

12.1. Aquatic Toxicity

Ecology - general : No ecological damage caused by this product

12.2. Persistence and degradability

No information available for the product

12.3. Bioaccumulative potential

Propane (74-98-6)

Partition coefficient 2.3

12.4. Mobility in soil

No information available for the product

12.5. Other





No information available for the product

Section 13. DISPOSAL CONSIDERATIONS

13.1. Disposal methods

Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14. TRANSPORTATION INFORMATION

	US DOT	TDG	IMDG	IATA
UN #	UN 1954	UN 1954	UN 1954	UN 1954
Proper shipping name	Compressed gas, flammable, n.o.s., (Methane, Nitrogen)	Compressed gas, flammable, n.o.s., (Methane, Nitrogen)	Compressed gas, flammable, n.o.s., (Methane, Nitrogen)	Compressed gas, flammable, n.o.s., (Methane, Nitrogen)
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-

Environment	No.	No.	No.	No.
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Section 15. REGULATORY INFORMATION

15.1. US Federal regulations

SARA 311/312 hazard categories

Acute Health	: Yes
Chronic Health	: No
Fire	: Yes
Pressure	: Yes
Reactive	: No

This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

15.2. US State regulations

Methane (74-82-8)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right To Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right To Know) List

Nitrogen (007727-37-9)

U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Right To Know Hazardous Substance List
U.S. - New Jersey - Right To Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right To Know) List

Section 16. OTHER INFORMATION

Date of issue/Date of revision : 3-1-2018

Revision Note :Reviewed

Hazardous Material Information System (USA)

Hazard Scale	: 0 = Minimal/ 1 = Slight/ 2 = Moderate/ 3 = Serious/ 4 = Severe
Health	: 1
Fire	: 4
Physical hazards	: 3

Key/Legend

SARA	Superfund Amendments and Reauthorization Act
OSHA	Occupational Safety and Health Administration
DOT	Department of Transportation
TSCA	Toxic Substance Control Act
NTP	National Toxicology Program
ACGIH	American Conference of Governmental Industrial Hygienists
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TDG	Transportation of Dangerous Goods
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods

TWA	Time Weighted Average
Prop	Proposition
ATE	Acute Toxicity Estimate

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