

SECTION 1: Identification

1.1. Identification

Product form : Mixtures
 Product name : Methane <14.3% in Nitrogen (Balance)
 Product code : 700.BV.521

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Test gas/Calibration gas.

1.3. Supplier

Calgaz, division of Airgas USA LLC
 821 Chesapeake Drive
 Cambridge, 21613 - USA
 T 1-410-228-6400 - F 1-410-228-4251
info@Calgaz.com - www.Calgaz.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300
 Internationally: 1-703-527-3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Gases under pressure H280 Contains gas under pressure; may explode if heated
 Compressed gas

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

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) : P202 - Do not handle until all safety precautions have been read and understood.
 P261 - Avoid breathing gas.
 P271 - Use only outdoors or in a well-ventilated area.
 P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
 CGA-PG06 - Close valve after each use and when empty

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : Asphyxiant in high concentrations.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Nitrogen	(CAS-No.) 7727-37-9	>= 85.7	Press. Gas (Comp.), H280
Methane	(CAS-No.) 74-82-8	< 14.3	Flam. Gas 1, H220 Press. Gas (Comp.), H280

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

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of inadequate ventilation wear respiratory protection. If you feel unwell, seek medical advice. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.
First-aid measures after skin contact	: Adverse effects not expected from this product.
First-aid measures after eye contact	: Adverse effects not expected from this product.
First-aid measures after ingestion	: Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: Adverse effects not expected from this product.
Symptoms/effects after inhalation	: May cause suffocation by reducing oxygen available for breathing.
Symptoms/effects after skin contact	: Not expected to present a significant skin hazard under anticipated conditions of normal use.
Symptoms/effects after eye contact	: Not expected to present a significant eye contact hazard under anticipated conditions of normal use.
Symptoms/effects after ingestion	: Ingestion is not considered a potential route of exposure.
Symptoms/effects upon intravenous administration	: Not known.
Chronic symptoms	: None known.
Most important symptoms and effects, both acute and delayed	: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Refer to section 11.

4.3. Immediate medical attention and special treatment, if necessary

Consult a doctor/medical service if you feel unwell.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: Do not use water jet to extinguish.

5.2. Specific hazards arising from the chemical

Fire hazard	: Not flammable. Non combustible.
Explosion hazard	: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity	: No reactivity hazard other than the effects described in sub-sections below.
Hazardous combustion products	: Carbon monoxide.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers. In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Special protective equipment for fire fighters	: In confined space use self-contained breathing apparatus. Standard protective clothing and equipment (e.g. Self Contained Breathing Apparatus) for fire fighters. Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.
Specific methods	: Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. If possible, stop flow of product. Use water spray or fog to knock down fire fumes if possible.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Try to stop release. Evacuate area. Monitor concentration of released product. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation.
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6.1.1. For non-emergency personnel

- Protective equipment : Do not enter without an appropriate protective equipment.
- Emergency procedures : Close doors and windows of adjacent premises. Consider evacuation. Keep upwind. Mark the danger area. Seal off low-lying areas.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection. Standard protective clothing and equipment (e.g. Self Contained Breathing Apparatus) for fire fighters.
- Emergency procedures : Stop leak if safe to do so. Ventilate area. Evacuate and limit access.

6.2. Environmental precautions

If safety allows : Try to stop release.

6.3. Methods and material for containment and cleaning up

- For containment : Plug the leak, cut off the supply.
- Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation. See also Sections 8 and 13.
- Methods and material for containment and cleaning up : Ventilate area.

6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Use only with equipment rated for cylinder pressure. Pressurized container: Do not pierce or burn, even after use.
- Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Use personal protective equipment as required.
- Safe handling of the gas receptacle : Refer to supplier's container handling instructions. Do not allow backfeed into the container. Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one cylinder/container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. Containers should be stored in the vertical position and properly secured to prevent them from falling over.
- Safe use of the product : The product must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not smoke while handling product. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
- Hygiene measures : Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations.
- Storage conditions : Protect cylinders from physical damage; do not drag, roll, slide or drop. Keep container closed when not in use. Do not expose to temperatures exceeding 52 °C/ 125 °F.
- Incompatible products : None known.
- Conditions for safe storage, including any incompatibilities : Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.
- Storage area : Store in a well-ventilated place. Store away from heat.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Methane (74-82-8)

Not applicable

Nitrogen (7727-37-9)

Not applicable

8.2. Appropriate engineering controls

- Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Ensure exposure is below occupational exposure limits (where available). Oxygen detectors should be used when asphyxiating gases may be released. Consider the use of a work permit system e.g. for maintenance activities.
- Environmental exposure controls : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear working gloves when handling gas containers. 29 CFR 1910.138: Hand protection

Eye protection:

Wear safety glasses with side shields. 29 CFR 1910.133: Eye and Face Protection

Respiratory protection:

Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

Thermal hazard protection:

None necessary during normal and routine operations.

Other information:

Wear safety shoes while handling containers. 29 CFR 1910.136: Foot Protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Gas
- Appearance : Colorless gas.
- Color : Colorless
- Odor : Odorless
- Odor threshold : No data available
- pH : No data available
- Melting point : No data available
- Freezing point : No data available
- Boiling point : No data available
- Flash point : No data available
- Relative evaporation rate (butyl acetate=1) : No data available
- Flammability (solid, gas) : No data available
- Vapor pressure : No data available
- Relative vapor density at 20 °C : No data available
- Relative density : No data available
- Relative gas density : Lighter or similar to air

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Solubility	: Water: No data available
Log Pow	: Not applicable for gas-mixtures. Not applicable for gas-mixtures.
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: Not applicable.
Oxidizing properties	: None.

9.2. Other information

Gas group	: Compressed gas
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SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Nitrogen reacts with Li, Nd, and Ti at high temperatures.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Thermal decomposition generates : Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure	: Inhalation
Acute toxicity	: Not classified (Lack of data)

Methane (74-82-8)

LC50 inhalation rat (ppm)	820000 ppm/4h
ATE US (gases)	820000.000 ppmV/4h

Nitrogen (7727-37-9)

LC50 inhalation rat (ppm)	820000 ppm/4h
ATE US (gases)	820000.000 ppmV/4h

Skin corrosion/irritation	: Not classified (Lack of data)
Serious eye damage/irritation	: Not classified (Lack of data)
Respiratory or skin sensitization	: Not classified (Lack of data)
Germ cell mutagenicity	: Not classified (Lack of data)
Carcinogenicity	: Not classified (Lack of data)
Reproductive toxicity	: Not classified (Lack of data)

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Specific target organ toxicity – single exposure	: Not classified (Lack of data)
Specific target organ toxicity – repeated exposure	: Not classified (Lack of data)
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause suffocation by reducing oxygen available for breathing.
Symptoms/effects after skin contact	: Not expected to present a significant skin hazard under anticipated conditions of normal use.
Symptoms/effects after eye contact	: Not expected to present a significant eye contact hazard under anticipated conditions of normal use.
Symptoms/effects after ingestion	: Ingestion is not considered a potential route of exposure.
Symptoms/effects upon intravenous administration	: Not known.
Chronic symptoms	: None known.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Classification criteria are not met.

Methane (74-82-8)	
LC50-96 h - fish [mg/l]	147.5 mg/l
EC50 48h - Daphnia magna [mg/l]	69.4 mg/l
EC50 72h Algae [mg/l]	19.4 mg/l

12.2. Persistence and degradability

Methane <14.3% in Nitrogen (Balance)	
Persistence and degradability	No data available.

Methane (74-82-8)	
Persistence and degradability	The substance is readily biodegradable. Unlikely to persist.

Nitrogen (7727-37-9)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

Methane <14.3% in Nitrogen (Balance)	
Log Pow	Not applicable for gas-mixtures.
Log Kow	Not applicable for gas-mixtures.
Bioaccumulative potential	No data available.

Methane (74-82-8)	
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

Nitrogen (7727-37-9)	
Log Pow	Not applicable for inorganic gases.
Bioaccumulative potential	No ecological damage caused by this product.

12.4. Mobility in soil

Methane <14.3% in Nitrogen (Balance)	
Mobility in soil	No data available

Methane (74-82-8)	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

Nitrogen (7727-37-9)	
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Effect on ozone layer : None

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SECTION 13: Disposal considerations

13.1. Disposal methods

- Waste treatment methods : Contact supplier if guidance is required. Do not discharge into any place where its accumulation could be dangerous. Ensure that the emission levels from local regulations or operating permits are not exceeded. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.org> for more guidance on suitable disposal methods.
- Product/Packaging disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Container under pressure. Do not drill or burn even after use.
- Additional information : None.
- List of hazardous wastes : 16 05 05 : Gases in pressure containers other than those mentioned in 16 05 04.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

- Transport document description : UN1956 Compressed gas, n.o.s., 2.2
- UN-No.(DOT) : UN1956
- 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 Packaging Non Bulk (49 CFR 173.xxx) : 302;305
- DOT Packaging Bulk (49 CFR 173.xxx) : 314;315
- DOT Symbols : G - Identifies PSN requiring a technical name
- DOT Packaging Exceptions (49 CFR 173.xxx) : 306;307
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 75 kg
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg
- DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
- Other information : No supplementary information available.
- Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:
- Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transportation of Dangerous Goods

Transport by sea

- Transport document description (IMDG) : UN 1956 Compressed gas, n.o.s., 2.2
- UN-No. (IMDG) : 1956
- Proper Shipping Name (IMDG) : Compressed gas, n.o.s.
- Class (IMDG) : 2.2 - Non-flammable, non-toxic gases
- Limited quantities (IMDG) : 120 ml

Air transport

- Transport document description (IATA) : UN 1956 Compressed gas, n.o.s., 2.2
- UN-No. (IATA) : 1956

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Proper Shipping Name (IATA) : Compressed gas, n.o.s.
Class (IATA) : 2

SECTION 15: Regulatory information

15.1. US Federal regulations

Methane (74-82-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Nitrogen (7727-37-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Methane (74-82-8)

Listed on the Canadian DSL (Domestic Substances List)

Nitrogen (7727-37-9)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Methane (74-82-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Nitrogen (7727-37-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Methane (74-82-8)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Nitrogen (7727-37-9)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. 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 (7727-37-9)

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

SECTION 16: Other information

Revision date : 12/12/2017
Training advice : Receptacle under pressure.

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Other information : This Safety Data Sheet has been established in accordance with the applicable European Union legislation. Classification in accordance with calculation methods of regulation (EC) 1272/2008 CLP / (EC) 1999/45 DPD.

Full text of H-phrases:

H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated

SDS US (GHS HazCom 2012)

This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this gas mixture. To the best of Calgaz's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this gas mixture is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.