

# Safety Data Sheet



Division of Fresno Oxygen

## Barnes Welding Supply/Barnes Specialty Gases

### Division of Fresno Oxygen

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## Section 1: Product and Company Identification

### Barnes Welding Supply / Barnes Specialty Gases - Division of Fresno Oxygen

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FOR CHEMICAL EMERGENCIES DURING TRANSPORTATION ONLY CALL INFOTRAC 1-800-535-5053

#### Product Name: NI in Methane

Part Number: Non-Certified Gas Mixtures

**Synonyms:** Flammable Gas Mixtures NCS Mixes  
**Recommended Use:** For general analytical/synthetic chemical gas uses.

## Section 2: Hazards Identification



**Danger**

**Hazard Classification:**  
Flammable (Category 1)  
Gases Under Pressure

**Hazard Statements:**  
Contains gas under pressure; may explode if heated  
Extremely flammable gas

#### Precautionary Statements

**Prevention:**  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

#### Response:

Eliminate all ignition sources if safe to do so.  
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

#### Storage:

Protect from sunlight.  
Store in well-ventilated place.

## Section 3: Composition/Information on Ingredients

|          | CAS #     | Concentration |
|----------|-----------|---------------|
| Nitrogen | 7727-37-9 | 0.1 % - 50 %  |
| Methane  | 74-82-8   | Balance       |

|          | Chemical Substance       | Chemical Family                    | Trade Names                                                                     |
|----------|--------------------------|------------------------------------|---------------------------------------------------------------------------------|
| Nitrogen | NITROGEN, COMPRESSED GAS | Inorganic gases                    | DIATOMIC NITROGEN; DINITROGEN; NITROGEN; NITROGEN-14; NITROGEN GAS; UN 1066; N2 |
| Methane  | METHANE, COMPRESSED GAS  | Hydrocarbons, Aliphatic, Saturated | FIRE DAMP; MARSH GAS; METHYL HYDRIDE; NATURAL GAS; METHANE; UN 1971; R50; CH4   |

## Section 4: First Aid Measures

|          | Skin Contact                           | Eye Contact                      | Ingestion                                              | Inhalation                                                                                                                                                                                                               | Note to Physicians               |
|----------|----------------------------------------|----------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Nitrogen | 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. |
| Methane  | 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                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nitrogen | Non-flammable. Use suitable extinguishing media for surrounding fire. Cylinders may rupture or explode if exposed to heat. | Non-flammable                          | Respiratory protection may be needed for frequent or heavy exposure.                                                                                                                                                                                                  |
| Methane  | Carbon dioxide, regular dry chemical. Large fires: Use regular foam or flood with fine water spray.                        | Carbon monoxide, carbon dioxide, water | Respiratory protection may be needed for frequent or heavy exposure. Any self-contained breathing apparatus with a full facepiece. Respiratory protection may be needed for frequent or heavy exposure. Any self-contained breathing apparatus with a full facepiece. |

## Section 6: Accidental Release Measures

|          |                                                                                                            |                                                           |                                                                                                          |
|----------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Nitrogen | 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.                                                             |
| Methane  | Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. | Avoid heat, flames, sparks and other sources of ignition. | Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition. |

|          | Methods for Cleanup | Other Information |
|----------|---------------------|-------------------|
| Nitrogen | N/A                 | N/A               |
| Methane  | Not available       | Not available     |

## Section 7: Handling and Storage

|          | Handling                                                                                                                                                              | Storage                                      |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Nitrogen | 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. |
| Methane  | Store and handle in accordance with all current regulations and standards. Grounding and bonding required. 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)                                                                                                                                                 |
| Methane  | METHANE, COMPRESSED GAS: ALIPHATIC HYDROCARBON GASES ALKANE (C1-C4): 1000 ppm ACGIH TWA. METHANE: No occupational exposure limits established. ALIPHATIC HYDROCARBON GASES ALKANE (C1-C4): 1000 ppm ACGIH TWA |

#### 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. | Respiratory protection may be needed for frequent or heavy exposure.                                                               |
| Methane  | Eye protection not required, but recommended. | Protective clothing is not required. | Respiratory protection may be needed for frequent or heavy exposure. Any self-contained breathing apparatus with a full facepiece. |

#### 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     | Taste     |
|----------|----------------|------------|-----------|----------------------|---------------|----------|-----------|
| Nitrogen | Gas            | Clear      | Colorless | N/A                  | Gas           | Odorless | Tasteless |
| Methane  | Gas            | Colorless  | Colorless | N/A                  | Gas           | Odorless | Tasteless |

|          | Flash Point     | Flammability  | Partition Coefficient                                 | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
|----------|-----------------|---------------|-------------------------------------------------------|--------------------------|------------------------|------------------------|
| Nitrogen | Not flammable   | Not available | Not available                                         | Nonflammable             | Nonflammable           | Nonflammable           |
| Methane  | -369 F (-223 C) | Not available | 724.44 (log = 2.87) (estimated from water solubility) | 999 F (537 C)            | 15%                    | 5%                     |

|          | Boiling Point   | Freezing Point  | Vapor Pressure    | Vapor Density | Specific Gravity | Water Solubility | pH             | Odor Threshold | Evaporation Rate | Viscosity         |
|----------|-----------------|-----------------|-------------------|---------------|------------------|------------------|----------------|----------------|------------------|-------------------|
| Nitrogen | -321 F (-196 C) | -346 F (-210 C) | 760 mmHg @ -196 C | 0.967 (Air=1) | Not applicable   | 1.6% @ 20 C      | Not applicable | Not available  | Not applicable   | 0.01787 cP @ 27 C |
| Methane  | -260 F (-162 C) | -297 F (-183 C) | 760 mmHg @ -161 C | 0.555 (Air=1) | Not applicable   | 3.5% @ 17 C      | Not applicable | Not available  | Not applicable   | 0.01118 cP @ 27 C |

|          | Molecular Weight | Molecular Formula | Density    | Weight per Gallon | Volatility by Volume | Volatility | Solvent Solubility      |
|----------|------------------|-------------------|------------|-------------------|----------------------|------------|-------------------------|
| Nitrogen | 28.0134          | N2                | 1.2506 g/L | Not available     | 100%                 | 1          | Soluble: Liquid ammonia |

## Section 10: Stability and Reactivity

|          | Stability                                   | Conditions to Avoid                         | Incompatible Materials                               |
|----------|---------------------------------------------|---------------------------------------------|------------------------------------------------------|
| Nitrogen | Stable at normal temperatures and pressure. | Stable at normal temperatures and pressure. | Metals, oxidizing materials                          |
| Methane  | Stable at normal temperatures and pressure. | Stable at normal temperatures and pressure. | Halogens, oxidizing materials, combustible materials |

|          | Hazardous Decomposition Products | Possibility of Hazardous Reactions |
|----------|----------------------------------|------------------------------------|
| Nitrogen | Oxides of nitrogen               | Will not polymerize.               |
| Methane  | Oxides of carbon                 | 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                                                                                          |
| Methane  | Not available | Not available | Nausea, vomiting, difficulty breathing, irregular heartbeat, headache, drowsiness, fatigue, dizziness, disorientation, mood swings, 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 |
| Methane  | No information on significant adverse effects                   | No information on significant adverse effects | Difficulty breathing |

### Chronic Effects

|          | Carcinogenicity | Mutagenicity  | Reproductive Effects | Developmental Effects |
|----------|-----------------|---------------|----------------------|-----------------------|
| Nitrogen | Not hazardous   | Not available | Not available        | No data               |
| Methane  | 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<br>Invertebrate toxicity: Not available<br>Algal toxicity: Not available<br>Phyto toxicity: Not available<br>Other toxicity: Not available | Not available                                                                 | Not available                                              | Not available                                           |
| Methane  | Fish toxicity: Not available<br>Invertebrate toxicity: Not available<br>Algal toxicity: Not available<br>Phyto toxicity: Not available<br>Other toxicity: Not available | Relatively non-persistent in the environment. Moderately volatile from water. | Accumulates very little in the bodies of living organisms. | Not expected to leach through the soil or the sediment. |

## Section 13: Disposal Considerations

|          |                                                                                                                                               |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Nitrogen | Dispose in accordance with all applicable regulations.                                                                                        |
| Methane  | Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. |

## Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

DOT Information For This Mixture

|                    |                                                       |
|--------------------|-------------------------------------------------------|
| Shipping Name      | Compressed gas, flammable, n.o.s. (Methane, Nitrogen) |
| UN Number          | UN1954                                                |
| Hazard Class       | 2.1                                                   |
| Hazard Information | FLAMMABLE GAS                                         |

### Individual Component Information

|          | Proper Shipping Name | ID Number | Hazard Class or Division | Packing Group  | Labeling Requirements | Passenger Aircraft or Ralcar Quantity Limitations | Cargo Aircraft Only Quantity Limitations | Additional Shipping Description |
|----------|----------------------|-----------|--------------------------|----------------|-----------------------|---------------------------------------------------|------------------------------------------|---------------------------------|
| Nitrogen | Nitrogen, compressed | UN1066    | 2.2                      | Not applicable | 2.2                   | 75 kg or L                                        | 150 kg                                   | N/A                             |
| Methane  | Methane, compressed  | UN1971    | 2.1                      | Not applicable | 2.1                   | Forbidden                                         | 150 kg                                   | N/A                             |

### Canadian Transportation of Dangerous Goods

|          | Shipping Name        | UN Number | Class | Packing Group / Risk Group |
|----------|----------------------|-----------|-------|----------------------------|
| Nitrogen | Nitrogen, compressed | UN1066    | 2.2   | Not applicable             |
| Methane  | Methane, compressed  | UN1971    | 2.1   | Not applicable             |

## Section 15: Regulatory Information

### U.S. Regulations

|          | CERCLA Sections | SARA 355.30    | SARA 355.40    |
|----------|-----------------|----------------|----------------|
| Nitrogen | Not regulated.  | Not regulated. | Not regulated. |
| Methane  | Not regulated.  | Not regulated. | Not regulated. |

### SARA 370.21

|          | Acute | Chronic | Fire | Reactive | Sudden Release |
|----------|-------|---------|------|----------|----------------|
| Nitrogen | Yes   | No      | No   | No       | Yes            |
| Methane  | Yes   | No      | Yes  | No       | Yes            |

### SARA 372.65

|          |                |
|----------|----------------|
| Nitrogen | Not regulated. |
| Methane  | Not regulated. |

### OSHA Process Safety

|          |                |
|----------|----------------|
| Nitrogen | Not regulated. |
| Methane  | Not regulated. |

### State Regulations

|          | CA Proposition 65 |
|----------|-------------------|
| Nitrogen | Not regulated.    |
| Methane  | Not regulated.    |

### Canadian Regulations

|          | WHMIS Classification |
|----------|----------------------|
| Nitrogen | A                    |
| Methane  | A, B1                |

### National Inventory Status

|          | US Inventory (TSCA)  | TSCA 12b Export Notification | Canada Inventory (DSL/NDSL) |
|----------|----------------------|------------------------------|-----------------------------|
| Nitrogen | Listed on inventory. | Not listed.                  | Listed on inventory.        |
| Methane  | Listed on inventory. | Not listed.                  | Listed on inventory.        |

## Section 16: Other Information

|          | NFPA Rating                  |
|----------|------------------------------|
| Nitrogen | HEALTH=1 FIRE=0 REACTIVITY=0 |
| Methane  | HEALTH=1 FIRE=4 REACTIVITY=0 |

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