



7 Eastgate Dr. • P.O. Box 790 • Jacksonville, IL 62650
 217-245-2183 • 888-243-9353 • www.ilmospecgas.com

MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet (MSDS) complies with the requirements of OSHA's Hazard Communication Standard.

NON-FLAMMABLE GAS MIXTURE

SECTION 1 - PRODUCT IDENTIFICATION

| | |
|---------------------|---|
| Product Name/ Class | Non-Flammable Gas mixture |
| Product Number | BAC DSP 0001 |
| Manufacturer | ILMO Products, 7 Eastgate Drive, Jacksonville, IL 62651 |

SECTION 2 - HAZARDOUS INGREDIENTS

| Ingredients | CAS Number | Percent | Exposure Limits | |
|-------------|------------|----------------------|--|-----------|
| | | | TLV | PEL |
| Ethanol | 64-17-5 | <14.8 (1-500 ppm) | 1000, A4 (Not Classable as a human carcinogen) | TWA = 500 |
| Nitrogen | 7727-37-9 | Balance | Simple Asphyxiant | |

NE= Not Established

SECTION 3 - PHYSICAL CHARACTERISTICS

| | | |
|---|--|---|
| Boiling Point -320.4° F; -195.8° C | Specific Gravity (air =1): 0.967 | Solubility in Water: 1.49% (v/v) |
| Vapor Pressure (psia): N/A | Melting/Freezing Point -210° C; -345.8° F | % Volatile: N/A |
| Vapor Density: 1.145 kg/m ³ | Evaporation Rate (Butyl Acetate =1) N/A | Appearance and Odor: Colorless gas with an alcohol odor: |

SECTION 4 - FIRE and EXPLOSION HAZARD DATA

| | | |
|-----------------------------------|-------------------|----------------------|
| Flash Point (Method Used): N/A | Flammable Limits: | LEL: N/A UEL: N/A |
|-----------------------------------|-------------------|----------------------|

Extinguishing Media: Non-flammable. Use extinguishing media appropriate for surrounding fire.

Special Fire Fighting Procedures: Structural fire-fighters must wear Self Contained Breathing Apparatus and full protective equipment.

Unusual Fire and Explosion Hazards: This product does not burn; however, containers, when involved in fire, may rupture or burst in the heat of the fire.

Explosion Sensitivity to Mechanical Impact: Not Sensitive.

Explosion Sensitivity to Static Discharge: Not Sensitive.

SECTION 5 - REACTIVITY DATA

| | | |
|-----------|--|---|
| Stability | Unstable <input type="checkbox"/> | Conditions to Avoid: Contact with incompatible materials: Cylinders exposed to high temperatures of direct flame can rupture or bust. |
| | Stable <input checked="" type="checkbox"/> | |

Incompatibility (Materials to Avoid): Nitrogen, the main component is not compatible with Titanium.

Hazardous Decomposition or Byproducts: None.

| | | |
|--------------------------|--|--|
| Hazardous Polymerization | May Occur <input type="checkbox"/> | *Hazardous polymerization will not occur under normal circumstances. |
| | Will Not Occur <input checked="" type="checkbox"/> * | |

SECTION 6 - HEALTH HAZARD DATA

| | | | |
|------------------|--|-------------------------------|------------------------------------|
| Routes of Entry: | <input checked="" type="checkbox"/> Inhalation | <input type="checkbox"/> Skin | <input type="checkbox"/> Ingestion |
|------------------|--|-------------------------------|------------------------------------|

Health Hazards (Acute and Chronic): ACUTE: The most significant hazard associated with this gas is inhalation of Oxygen-deficient atmospheres. Symptoms of Oxygen deficiency includes respiratory difficulty, ringing in the ears, headaches, shortness of breath, wheezing, headache, dizziness, indigestion, nausea, and, at high concentrations, unconsciousness or death may occur. The skin of the victim of over-exposure may have a blue color. Contact with rapidly expanding gases (which released under high pressure) may cause frost bite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with liquid can quickly subside.

Carcinogenicity: NTP: N/A IARC: N/A OSHA Regulated: N/A

Signs and Symptoms of Exposure: High concentrations of this gas can cause an Oxygen-deficient environment. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting and depression of all the senses. Under some circumstances, death may occur

Medical Conditions Generally Aggravated by Exposure: Pre- existing respiratory conditions may be aggravated by the over-exposure of this product

Emergency and First Aid Procedures: RESCUERS SHOULD NOT ATTEMPT TO REVIVE VICTIMS OF EXPOSURE TO THIS PRODUCT WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus and Fire-Retardant Personal Protective equipment should be worn. Adequate fire protections must be provided during rescue situations. Remove victim(s) to fresh air as quickly as possible. Trained personnel should administer supplemental Oxygen and/or cardio-pulmonary resuscitation, if necessary. Only trained personnel should administer supplemental Oxygen. Victim(s) must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to physician or other health professional with victim(s).

| HMIS Rating | HMIS Scale | NFPA Rating | NFPA Scale |
|---|--|---|---|
| Health = 1 Flammability = 0 Reactivity = 0 | 4 = Severe Hazard 3 = Serious Hazard 2 = Moderate Hazard 1 = Slight Hazard. | Health = 1 Flammability = 0 Reactivity = 0 Other = N/A | 4 = Severe Hazard 3 = Serious Hazard 2 = Moderate Hazard 1 = Slight Hazard |
| SECTION 7 - PRECAUTIONS FOR SAFE HANDLING and USE | | | |
| Steps to be Taken in Case Material is Released or Spilled: Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people and respond with trained personnel. Adequate fire protection must be provided. Minimum Personal Protective Equipment should be Level B: fire-retardant protective clothing, gloves resistant to tears, and self-contained Breathing Apparatus. Locate and Seal the source of the leaking gas. Allow the gas, which is lighter than air, to dissipate. Monitor the surrounding areas for Oxygen levels. The atmosphere must have at least 19.5 % oxygen before personnel can be allowed in the area without Self-Contained Breathing Apparatus. Attempt to close the main source valve prior to entering the area. If this does not stop the release (or if it is not possible to reach the valve), allow the gas to release in-place or remove it to a safe area and allow the gas to be released there. | | | |
| Waste Disposal Method: Waste disposal must be in accordance with appropriate Federal, State and local regulations | | | |
| Precautions to be Taken in Handling and Storing: Cylinders should be stored in dry, well-ventilated areas away from sources of heat. Compressed gases can present significant safety hazards. Store containers away from heavily trafficked areas and emergency exits, Post "No Smoking or Open Flame" signs in storage or use areas. SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS: Protect cylinders against physical damage. Store in a cool, dry, well-ventilated area, away from sources of heat, ignition, and direct sunlight. Do not allow areas where cylinders are stored to exceed 52° C (125° F). Isolate from incompatible materials. Do not store containers where they can come into contact with moisture. Cylinders should be stored upright and be firmly secured to prevent falling or being knocked over. Cylinders can be stored in the open but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting. Never tamper with pressure relief devices. The following rules are applicable to situations in which cylinders are being used. Before Use: Move cylinders with a suitable hand truck. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike each other. Secure cylinders firmly. Leave the valve protection cap in place until cylinder is ready for use. During Use: Use designated CGA fittings and other support equipment. Do not use adapters. Do not heat cylinders by any means to increase the discharge rate of the product from the cylinder. Use check valve or trap to discharge line to prevent hazardous backflow into the cylinder. Do not use oils or grease on gas handling fittings or equipment. After use: Close the main cylinder valve. Replace valve protection cap. Mark empty cylinders "EMPTY". NOTE: Use only DOT or ASME code containers. Close valve after each and when empty. Cylinders must not be recharged except by or with the consent of owner. Cylinders made to DOT-39 specifications may not be refilled. For additional information refer to the Compressed Gas Association Pamphlet P-1, <i>Safe Handling of Compressed Gases in Containers</i> . Additionally, refer to CGA Bulletin SB-2 "Oxygen Deficient Atmospheres". | | | |
| SECTION 8 - CONTROL MEASURES | | | |
| Respiratory Protection (Specify Type): Maintain Oxygen levels above 19.5% in the workplace. Use supplied air respiratory protection if Oxygen level falls below 19.5% or during emergency response to a release of this product. If respiratory protection is required, follow the requirements of the Federal OSHA Respiratory Protection Standard (29 CFR 1910.134) or equivalent State standards. | | | |
| Ventilation: Use with adequate ventilation. Local exhaust ventilation is preferred, because it prevents dispersion into the work place by elimination at its source. If appropriate, install automatic monitoring equipment to detect the presence of potentially explosive air-gas mixture and the level of Oxygen. | | | |
| Protective Cloves: Wear mechanically resistant-gloves when handling cylinders of this product. | | Eye Protection: Splash goggles, face shields or safety glasses. | |
| Other Protective Clothing or Equipment: Use body protection for appropriate task. | | | |
| Work/Hygienic Practices: As with all chemicals, avoid getting this product IN YOU. Do not eat or drink while handling chemicals. Be aware of any signs of dizziness or fatigue; exposure to fatal concentrations of this product could occur without any significant warning symptoms. | | | |
| OTHER INFORMATION REQUIRED BY STATE OR FEDERAL LAW | | | |
| California Proposition 65 Information: No component of this product is on the California Proposition 65 lists. | | | |
| New Jersey Right-To-Know Information: 5 most predominant ingredients (hazardous and non-hazardous) | | | |
| 1. Nitrogen 2. Ethanol | | | |
| SARA Title III Notification Information: All chemical compounds marked with an asterisk (*) are toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Super Fund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part. 372. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use. | | | |