

**MATERIAL SAFETY DATA SHEET**  
**29 CFR 1910.1200 OSHA Hazard**  
**Communication Rule Format**  
**Chem-Tel 24 Hour Emergency # 1-800-255-3924**

**MINE SAFETY APPLIANCES COMPANY**  
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**Pittsburgh, PA 15230**  
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This product contains ammonia and nitrogen, substances subject to the Pennsylvania Worker and Community Right-To-Know Act.

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**PRODUCT IDENTITY**

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**LABEL IDENTITY -** MSA P/N 711078 Calibration Check Gas, 25 ppm Ammonia in Nitrogen  
**CHEMICAL NAME -** Ammonia, Nitrogen Mixture  
**ADDITIONAL IDENTITIES -** MSA P/N 711078 Calibration Gas  
**FORMULA -** NH<sub>3</sub> in N<sub>2</sub>

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**APPLICABLE CHEMICAL CONTENTS**

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	<u>%</u>	<u>TWA</u>	<u>STEL</u>
Ammonia (CAS 7664-41-7) (ACGIH 2007)	0.0025	25 ppm	35 ppm
Nitrogen (CAS 7727-37-9)	Balance	None	

**NOTE:** Gas Under Pressure, 500 PSIG at 70°F, and Approx. 34 Liters Gas at Atmospheric Pressure

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**PHYSICAL AND CHEMICAL PROPERTIES**

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**APPEARANCE AND ODOR -** Colorless gas with a pungent odor  
**BOILING POINT -** N/A\*  
**VAPOR PRESSURE -** N/A\*  
**VAPOR DENSITY (AIR = 1) -** 1  
**SOLUBILITY IN WATER -** NH<sub>3</sub> - Soluble  
Nitrogen - 2.3 cm<sup>3</sup>/100 ml (0°C)  
**SPECIFIC GRAVITY (H<sub>2</sub>O = 1) -** N/A  
**PERCENT VOLATILE BY VOLUME -** N/A

N/A \*- Not Applicable

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**PHYSICAL HAZARD INFORMATION**

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**PHYSICAL HAZARD -** Compressed Gas, 500 PSIG at 70°F

**CONDITIONS OR MATERIALS TO AVOID -** Contact with elemental calcium, mercury, and silver or with hypochlorite bleaches may form highly explosive products. Avoid contact with halogens, acids, copper, zinc.

**FLASH POINT -** N/A  
**LEL -** N/A  
**UEL -** N/A

**EXTINGUISHING MEDIA -** This calibration gas mixture is not flammable.

**SPECIAL FIRE FIGHTING PROCEDURES -** See Next Item

**UNUSUAL FIRE AND EXPLOSION HAZARDS -** Gas under pressure, 500 PSIG at 70°F. Do not exceed 120°F.

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**HEALTH HAZARDS**

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**HEALTH HAZARDS - LC<sub>50</sub>** of Ammonia for human inhalation is 5000 ppm/5 minutes. The Immediately Dangerous to Life and Health (IDLH) concentration is 300 ppm. Exposures to atmospheres contaminated with ammonia are extremely irritating. Its odor and prompt irritant action provide a warning of exposure to hazardous condition. While ammonia is a highly toxic gas, the small quantity of ammonia available from this calibration cylinder (58 liters of 25 ppm ammonia in nitrogen or approx. 1.1 milligrams of ammonia) is insufficient to sustain a material volume above the TLV if accidentally released to ambient air. The contents of one cylinder diluted to 1 cubic meter of ambient air would yield 1.45 ppm ammonia.

**SIGNS AND SYMPTOMS OF EXPOSURE** - Ammonia is extremely irritating to the airway, eyes and skin. Depending on the intensity and duration of the exposure, effects may vary from mild irritation to severe destruction of tissues. Symptoms of exposure may include burning sensations, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Penetration of ammonia into the lower airway may produce bronchitis, chemical pneumonitis and pulmonary edema. Contact of Ammonia with eyes will cause pain, tearing, inflammation, and swelling of tissue with possible destruction of the eye. Contact of Ammonia with skin will cause severe burns.

**PRIMARY ROUTES OF ENTRY** - Inhalation, eyes, skin.

**TARGET ORGANS** - NH<sub>3</sub> is an irritant to the eyes and respiratory tract.

**MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE** - No Information

**EXPOSURE LIMITS** - ACGIH 2007: Ammonia 25 ppm (TWA), STEL 35 ppm

**CARCINOGENICITY DATA** - NIOSH RTECS, OSHA, NTP or IARC does not list component gases.

**EMERGENCY AND FIRST AID PROCEDURES** - Overexposure to ammonia is not indicated due to the limited quantity of ammonia contained in an individual cylinder of P/N 711078 (1.1 milligram ammonia). Nevertheless, a first aid procedure for overexposure to ammonia vapors is presented should overexposure somehow occur.

**Inhalation:** Remove the victim to fresh air. If breathing has stopped or is impaired, give assisted respiration (e.g. mouth-to-mouth). Supplemental oxygen should be administered. Keep the victim warm and quiet. Assure that the victim does not aspirate vomited material by use of positional drainage. Assure that mucus does not obstruct the airway. Seek medical attention at once.

**Eye Contact:** Persons potentially exposed to ammonia should not use contact lenses. Ammonia contamination of the eyes should be treated by immediate and prolonged gentle irrigation for 15 minutes with large quantities of water. The eyes should be held open during the irrigation. Obtain medical assistance at once.

**Skin Contact:** Flush the affected area promptly with large quantities of water for 15 minutes. Remove contaminated clothing as quickly as possible. Except in the most minor, superficial and localized burns, cover the affected area with a sterile dressing or clean sheeting and transport for medical care. Do not apply greases or ointments. Control shock if present. Launder contaminated clothing before reuse. Contaminated footwear must generally be discarded.

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**SAFE HANDLING AND USE**

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**HYGIENIC PRACTICES** - Avoid breathing gas.

**PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT** - N/A

**PROCEDURES FOR SPILL OR LEAK CLEANUP** - Ventilate area.

**WASTE DISPOSAL** - Do not puncture or incinerate cylinder. Before discarding cylinder, slowly release contents to a safe exhaust. Dispose of cylinder in accordance with local, state and federal regulations

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**STORAGE** - Store in a cool, dry, well-ventilated area. Do not exceed 120°F.

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**CONTROL MEASURES**

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**PERSONAL PROTECTIVE EQUIPMENT** - Due to the limited amount of gas in the cylinder, and the low release rate employed in instrument calibration, respiratory protection is not indicated under conditions of intended use.

**ENGINEERING CONTROLS** - Mechanical ventilation is suitable.

**WORK PRACTICES** - Avoid breathing gas. Use in well-ventilated areas. Follow the calibration procedure detailed in the MSA instruction manual provided with the instrument under calibration.

**DATE OF PREPARATION** - Rev. 6, April 2008

**WARNING:** This is a hazardous chemical product. By following the directions and warnings provided with this product, the hazards associated with the use of this product can be greatly reduced but never entirely eliminated. Mine Safety Appliances Company makes no warranties, expressed or implied, with respect to this product and EXPRESSLY DISCLAIMS THE WARRANTY OF MERCHANTABILITY AND ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Users assume all risks in handling, using or storing this product.