

This product contains ammonia and nitrogen, substances subject to the Pennsylvania Worker and Community Right-To-Know Act.

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 814866 Calibration Check Gas, 25 ppm Ammonia in Nitrogen

CHEMICAL NAME - Ammonia, Nitrogen Mixture

ADDITIONAL IDENTITIES - MSA P/N 814866 Calibration Gas

FORMULA - NH₃ in N₂

APPLICABLE CHEMICAL CONTENTS

	<u>%</u>	<u>TWA</u>	<u>STEL</u>
Ammonia (CAS 7664-41-7)	0.0025	25 ppm	35 ppm (ACGIH 2013)
Nitrogen (CAS 7727-37-9)	Balance	None	

NOTE: Gas under Pressure, 500 PSIG at 70°F, Approx. 58 Liters Gas at Atmospheric Pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Colorless gas with a pungent odor

Following information is for **Nitrogen** the main component of this gas mixture

BOILING POINT - -320.4°F (-195.8 ° C) SPECIFIC GRAVITY (**air = 1**) @70°F (**21.1 °C**): 0.906

VAPOR PRESSURE @70°F (**21.1 °C**): N/A* PERCENT VOLATILE BY VOLUME - N/A*

GAS DENSITY @32°F (**0 °C**) and **1 atm**: 0.072 lbs/ft³ (1.153 kg/ m³)

SOLUBILITY IN WATER - NH₃ - Soluble
Nitrogen - 2.3 cm³/100 ml (0°C)

N/A* - Not Applicable

PHYSICAL HAZARD INFORMATION

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, and 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.

HEALTH HAZARDS

HEALTH HAZARDS - LC_{LO} of Ammonia for human inhalation is 5000 ppm/5 minutes. The Immediately Dangerous to Life and Health (IDLH) concentration is 300 ppm. Exposure to atmospheres contaminated with Ammonia is 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 Ammonia is a highly toxic and irritating gas (58 liters of 25 ppm Ammonia in air or approx. 1.0 milligram Ammonia) is insufficient to sustain a material volume above the TWA if accidentally released to ambient air. Content of one cylinder diluted by 23.7 cubic meter of ambient air (equivalent to a room size of 10 x 12 x7) would yield 0.05 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, and 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, and inflammation, swelling of tissue and possible destruction of the eye. Contact of NH₃ with skin will cause severe burns.

PRIMARY ROUTES OF ENTRY - Inhalation, Eyes, Skin.

TARGET ORGANS - Ammonia is an irritant to the eyes and respiratory tract.

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

EXPOSURE LIMITS - ACGIH 2013: Ammonia 25 ppm, STEL 35 ppm

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

EMERGENCY AND FIRST AID PROCEDURES –

Ammonia is a highly toxic and irritating gas (Human LC_{LO} 200 ppm/1 minute) the small quantity available from a calibration cylinder (58 liters of 25 ppm Ammonia in air or approx. 1.0 milligram Ammonia) is insufficient to sustain a material volume above the TWA if accidentally released to ambient air. Content of one cylinder diluted by 23.7 cubic meter of ambient air (equivalent to a room size of 10 x 12 x7) would yield 0.05 ppm 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 wear 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. |

SAFE HANDLING AND USE

HYGIENIC PRACTICES - Avoid Breathing Gas

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

PROCEDURES FOR SPILL OR LEAK CLEANUP - Ventilate Area. Avoid Breathing Gas.

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.

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

CONTROL MEASURES

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. 7, November 2013

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.