

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

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 10150617 Calibration Check Gas, 50 ppm Nitrogen Dioxide in Nitrogen
CHEMICAL NAME - Nitrogen Dioxide, Nitrogen Mixture
ADDITIONAL IDENTITIES - MSA P/N 10150617 Calibration Gas
FORMULA - NO₂ in Nitrogen

APPLICABLE CHEMICAL CONTENTS

		<u>ppm</u>	<u>TWA</u>
Nitrogen Dioxide(CAS 10102-44-0)	(ACGIH 2013)	50	0.2 ppm
Nitrogen (CAS 7727-37-9)		Balance	None

Note: Gas under pressure, 1000 PSIG at 70°F, Approx. 116 Liters Gas at Atmospheric Pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Colorless Gas

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 - Nitric Oxide - 7.3 cm³/100 ml (0°C)
Nitrogen - 2.3 cm³/100 ml (0°C)

N/A*-Not Applicable

PHYSICAL HAZARD INFORMATION

PHYSICAL HAZARD - Compressed gas, 1000 PSIG at 70°F

CONDITIONS OR MATERIALS TO AVOID - None

FLASH POINT - Not Applicable 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, 1000 PSIG at 70°F. Do not exceed 120°F.

HEALTH HAZARDS

INGESTION :

Ingestion unlikely.

INHALATION:

Effects of oxygen deficiency resulting from simple asphyxiates may include: rapid breathing, diminished mental alertness, impaired muscular coordination, faulty judgment, depression of all sensations, emotional instability, and fatigue. As asphyxiation progresses, nausea, vomiting, prostration, and loss of consciousness may result, eventually leading to convulsions, coma and death.

Nitrogen Dioxide vapors are a strong irritant to the pulmonary tract. At high concentrations initial symptoms of inhalation may be moderate and include irritation to the throat, tightness of the chest, headache, nausea and gradual loss of strength. Severe symptoms may be delayed and include cyanosis, increased difficulty in breathing, irregular respiration, lassitude and possible eventual death due to pulmonary edema in untreated cases.

Note: This calibration cylinder (116 liters of 50 ppm Nitrogen dioxide in nitrogen or approx. 5.5 milligram Nitrogen dioxide) is sufficient 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 0.2 ppm Nitrogen Dioxide.

SIGNS AND SYMPTOMS OF EXPOSURE:

Nitrogen dioxide causes irritation of respiratory tract and eyes, cough, frothy sputum. The following effects are reportedly expected for a 60-minute exposure.

100 ppm -	pulmonary edema and death
50 ppm -	pulmonary edema, possible lesions in lungs, moderate irritation of eyes and nose
25 ppm -	respiratory irritation, chest pain

Note: Nitrogen Dioxide: Exposure to 10- 20 ppm nitrogen dioxide is mildly irritating.

PRIMARY ROUTES OF ENTRY - Nitrogen dioxide lungs, mucous membranes.

TARGET ORGANS: lungs,

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Individuals with impaired pulmonary function may be at increased risk from exposure..

EXPOSURE LIMITS -: ACGIH 2013 TLV-TWA Nitrogen Dioxide 0.2 ppm.

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

MUTATION DATA - References in RTECS

REPRODUCTIVE EFFECTS DATA - References in RTECS

EMERGENCY AND FIRST AID PROCEDURES:

Overexposure to nitric oxide/nitrogen dioxide is not indicated with intended product use due to the limited quantity of nitric oxide contained in an individual cylinder of P/N 10150617 (5.5 milligram nitric oxide). Nevertheless, first aid procedure for nitric oxide/nitrogen dioxide vapor is presented should overexposure somehow occur.

FIRST AID:

Remove the victim to fresh air. Apply artificial respiration if the victim is not breathing. Give oxygen if breathing is difficult. Get medical attention immediately, even if the victim is not complaining of discomfort. Immediate medical attention is advisable in all cases where appreciable inhalation of nitric oxide is believed to have occurred, as pulmonary edema may develop.

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. 1, January 2014

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.