



MESA Specialty Gases & Equipment
3619 Pendleton Avenue, Suite C
Santa Ana, California 92704 USA

MATERIAL SAFETY DATA SHEET

Chemical Name: Nitrogen Dioxide (<2.3%) in Air
Chemical Formula: NO ₂ /Air
Chemical Family: Acid Gas/Inert Gas Mixture
Hazard Classification: Compressed Gas N.O.S., Non-Flammable Gas, UN1956, Green Label
Phone Number for Information: Infotrac
Emergency Contact: 800-535-5053 (Int'l 352-323-3500)

SECTION 1 – MATERIAL IDENTIFICATION

COMPONENT	CAS No.	CONCENTRATION	OSHA PEL	ACGIH TLV
Nitrogen Dioxide	10102-44-0	0.1 ppm – 2.3 mole%	C 5	3, STEL 5
Air (79% N ₂ + 21% O ₂)	See below	Balance	None	None
Nitrogen	7727-37-9			
Oxygen	7782-44-7			

SECTION 2 – PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: N/A	Specific Gravity (H₂O)= 1, 20 deg C): N/A
Vapor Pressure (mm Hg, 20 deg C): N/A	Melting Point: N/A
Vapor Density (Air = 1): 0.967	Evaporation Rate (Butyl Acetate = 1): N/A
Solubility in Water: N/A	
Appearance and Odor: Colorless, Pungent, sweet odor	

SECTION 3 – FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): None, Non-Flammable Gas	Flammable Limits: LEL: N/A	UEL: N/A
Extinguishing Media: Use appropriate media for surrounding fire such as CO ₂ foam extinguishers		
Special Fire Fighting Procedures: Wear NIOSH/MSHA approved SCBA and full protective equipment. Stop flow of gas if this can be done safely. Use water spray to keep cylinders cool.		
Unusual Fire and Explosion Hazards: Gas cylinders may rupture violently when exposed to fire. Cylinder valve is equipped with a pressure relief device to safely vent the cylinder if it is exposed to elevated pressure in a fire.		

DISCLAIMER

Information contained in this data sheet is offered without charge for use by technically qualified personnel at their discretion and risk. All statements, technical information and recommendations contained herein are based on tests and data which we believe to be reliable. But the accuracy and completeness thereof, is not guaranteed and no warranty of any kind, either expressed or implied, is made with respect thereto. Since MESA Specialty Gases and Equipment Division of MESA International Technologies, Inc. shall have no control over the use of the product described herein, we assume no liability for loss or damage incurred from the proper or improper use of such product.



SECTION 4 – REACTIVITY HAZARD DATA

Stability: Stable

Incompatibility: Basic materials

Hazardous Decomposition or Byproducts: None

Hazardous Polymerization: None

SECTION 5 – HEALTH HAZARD DATA

Routes of Entry: Inhalation

Health Hazards (Acute and Chronic): Nitrogen dioxide is an extremely toxic gas forming irritating Nitric and Nitrous acids in the respiratory tract. 25-60 ppm NO₂ can produce a chronic cough, 60-150 ppm NO₂ exposure causes immediate irritation of nose, throat, cough, burning in the chest and dizziness. 5-25 hours later delayed pulmonary edema can occur. 200-700 ppm NO₂ exposure may be fatal after a very short exposure.

Carcinogenicity: NTP? No

IARC Monographs? No

OSHA Regulated? No

Medical Conditions Generally Aggravated by Exposure:

Emergency and First Aid Procedures: Remove person to uncontaminated area. SCBA may be required to prevent asphyxiation of rescue workers. Keep warm and at rest. Lay victim face down with head and chest lower than hips to improve drainage from lungs. If breathing is labored, administer pure oxygen. If breathing has stopped, start artificial respiration. Get immediate medical attention for serious exposure.

SECTION 6 – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled: Ventilate enclosed areas. Move leaking cylinder to fume hood or safe outdoor area.

Precautions to be Taken in Handling or Storing: Gas or liquefied gas are to be used with the appropriate pressure regulating control and high pressure equipment. Cylinders should be secured with mounting brackets away from heavily traveled areas. Keep cylinder in dry, cool, well ventilated area away from heat, flame, sparks or corrosive chemicals. Cylinders should be moved by suitable hand trucks.

Other Precautions: Use monitoring equipment if hazardous conditions are suspected or likely to occur.

SECTION 7 – CONTROL MEASURES

Respiratory Protection (Specify Type): Use self-contained breathing apparatus in emergency or rescue situations.

Ventilation: Enclosed area must be provided with general or local exhaust ventilation to avoid hazardous conditions.

Protective Clothing or Equipment: Safety glasses and shoes should be worn when handling high pressure cylinders or hazardous materials.