

MATERIAL SAFETY DATA SHEET

SRM Supplier: National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Mail Stop 2321
Gaithersburg, Maryland 20899

SRM Number: 1664a
MSDS Number: 1664a
SRM Name: Sulfur Dioxide in Nitrogen
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MSDS Coordinator: Mario Cellarosi
Phone: (301) 975-6776
ChemTrec: 1-800-424-9300

FAX: (301) 926-4751
E-mail: SRMMSDS@nist.gov

SECTION I. MATERIAL IDENTIFICATION

Material Name: Sulfur Dioxide in Nitrogen

Description: This SRM mixture is supplied in a DOT 3AL specification aluminum (6061 alloy) cylinder with a water volume of 6 L. Mixtures are shipped with a nominal pressure exceeding 12.4 MPa (1800 psi) which provides the user with 0.73 m³ (25.8 ft³) of useable mixture. The cylinder conforms to DOT specifications and is equipped with a CGA-660 stainless steel valve. NIST recommends that this cylinder not be used below 0.7 MPa (100 psi).

Other Designations: **Sulfur Dioxide** (sulfur dioxide anhydrous; sulfurous acid anhydride; sulfur dioxide; sulfur oxide; fermenticide liquid) in **Nitrogen** (dinitrogen) **Gas Cylinder**

Name	Chemical Formula	CAS Registry Number
Sulfur Dioxide	SO ₂	7446-09-5
Nitrogen	N ₂	7727-37-9

DOT Classification: Nonflammable Gas, UN1956

SECTION II. HAZARDOUS INGREDIENTS

Hazardous Components	Nominal Concentration	Limits and Toxicity Data
Sulfur Dioxide	2500 µmol/mol	ACGIH TLV: 2 mg/kg or 5 mg/m ³
		OSHA TLV-TWA (PEL): 5 mg/kg or 13 mg/m ³
		Human, Inhalation: LC _{LO} : 1000 mg/m ³ /10 min
		Human, Inhalation: TC _{LO} : 3 mg/m ³ /5 d
		Rat, Inhalation: LC ₅₀ : 2520 mg/m ³ /1 h
		Mouse, Inhalation: LC ₅₀ : 3000 mg/kg/30 min
Nitrogen	balance	simple asphyxiant

Steps to Be Taken in Case Material Is Released or Spilled: Proper protective equipment should be used (self contained breathing apparatus, SCBA) in the event of a significant release. Evacuate all personnel, and ventilate the affected area. Stop leak if possible. Remove leaking cylinder to exhaust hood or a safe outdoor area. Remove from any source of heat.

Waste Disposal: Try to prevent any direct release of sulfur dioxide to the atmosphere. Dispose of gas at a controlled rate into a large amount of water solution of 15 % NaOH or other alkali. Dispose of nonrefillable cylinders in accordance with federal, state, and local regulations. This cylinder is the property of the purchaser. **DO NOT** return the empty cylinder to the supplier.

Handling and Storage: Store in cool, dry, well ventilated areas away from combustibles. Protect cylinders from physical damage. Secure cylinders at all times to protect from falling. Keep valve protection cap on cylinders when not in use. Keep cylinders out of direct sunlight and away from heat sources. **DO NOT** allow the area where cylinders are stored to exceed 52 °C. Use adequate general and local exhaust ventilation to maintain concentrations below exposure limits and to avoid asphyxiation. Use suitable hand truck to move cylinders. Wear safety shoes when handling cylinders. Use adequate general and local exhaust ventilation to maintain concentrations below exposure limits and to avoid asphyxiation. A chemical safety shower and an eyewash station must be readily available. For protection of eyes, wear safety glasses.

NOTE: Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

SECTION VIII. SOURCE DATA/ OTHER COMMENTS

Sources: Scott Specialty Gases, MSDS *Sulfur Dioxide in Nitrogen*, 3 May 2000.
MDL Information Systems, Inc., MSDS *Nitrogen*, 19 March 2003.
MDL Information Systems, Inc., MSDS *Sulfur Dioxide*, 19 March 2003.

Disclaimer: Physical and chemical data contained in this MSDS are provided for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data on the MSDS. The certified values for this material are given only in the NIST Certificate of Analysis.