



Chemtron Science Laboratories Pvt. Ltd.

MATERIAL SAFETY DATA SHEET

MSDS No: **CSL/SO2-O2-N2**

Date: 04/30/2010

SUPPLIER ADDRESS: Plot No. EL-47, Electronic Zone, Mahape MIDC Mahape, Navi Mumbai 400710

EMERGENCY PHONE NUMBER: 9823118664/67847339

1. CHEMICAL PRODUCT

PRODUCT NAME: SULFUR DIOXIDE AND OXYGEN IN NITROGEN
SYNONYMS: None

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient Name	Formula	CAS #	Concentration	ACGIH TLV	Exposure Limits (PPM)		
					OSHA PEL	MAC	Other STEL
SULFUR DIOXIDE	SO2	7446-09-5	2.1-80000 PPM	2	5	2	5
OXYGEN	O2	7782-44-7	.0001-19.49 PCT	NE	NE	NE	NE
NITROGEN	N2	7727-37-9	BALANCE	S/A	S/A	S/A	S/A

Note: NE = NONE ESTABLISHED

S/A = SIMPLE ASPHYXIANT

3. HAZARD IDENTIFICATION

*** EMERGENCY OVERVIEW ***

High pressure gas.
Can cause rapid suffocation.
Can cause eye, skin and respiratory tract burns.

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Inhalation

ACUTE EFFECTS: Sulfur dioxide is corrosive and irritating to respiratory tract, skin, and eyes. Excessive inhalation may cause burning sensations, coughing, shortness of breath, headache, nausea and vomiting. May produce bronchitis, chemical pneumonitis and pulmonary edema. Mixture acts as a simple asphyxiant by displacing air necessary for life. Symptoms include rapid respiration, muscular incoordination, fatigue, dizziness, nausea, vomiting, unconsciousness, and death.

CHRONIC EFFECTS: Pulmonary disease or loss of pulmonary functions.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None known

OTHER EFFECTS OF OVEREXPOSURE: None

CARCINOGENICITY (US ONLY):

NTP - No
IARC MONOGRAPHS - No
OSHA REGULATED - No

4. FIRST AID MEASURES

INHALATION: Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

EYE CONTACT: Immediately flush with copious amounts of water for at least 15 minutes.

SKIN CONTACT: None

INGESTION: None

IN EVENT OF EXPOSURE, CONSULT A PHYSICIAN

NOTE TO PHYSICIAN: None

5. FIRE FIGHTING MEASURES

FLASH POINT: Nonflammable

AUTOIGNITION TEMPERATURE: N/Ap

FLAMMABLE LIMITS: Nonflammable

LOWER:

UPPER:

EXTINGUISHING MEDIA: Use what is appropriate for surrounding fire.

SPECIAL FIRE FIGHTING INSTRUCTION AND EQUIPMENT: Wear self-contained breathing apparatus and full protective clothing. Keep fire exposed cylinders cool with water spray. If possible, stop the product flow.

HAZARDOUS COMBUSTION PRODUCTS: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: Cylinder rupture may occur under fire conditions.

6. ACCIDENTAL RELEASE MEASURES

CLEAN UP PROCEDURES: Evacuate and ventilate area. Remove leaking cylinder to exhaust hood or safe outdoor area. Shut off source if possible and remove source of heat.

SPECIALIZED EQUIPMENT: None

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in well ventilated areas.Keep valve protection cap on cylinders when not in use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide adequate general and local exhaust ventilation to maintain concentrations below exposure limits and to avoid asphyxiation.

EYE / FACE PROTECTION: Safety glasses

SKIN PROTECTION: None

RESPIRATORY PROTECTION: In case of leakage, use self-contained breathing apparatus.

OTHER PROTECTIVE EQUIPMENT: Safety shoes when handling cylinders.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless

ODOR: Pungent

PHYSICAL PRESSURE: Gas

VAPOR PRESSURE: N/Ap

VAPOR DENSITY (AIR=1): 0.968-1.124

BOILING POINT (C): N/Ap

SOLUBILITY IN WATER: 0.071

SPECIFIC GRAVITY (H2O=1): Gas

EVAPORATION RATE: Gas

ODOR THRESHOLD: 0.33 - 5 ppm (SO2)

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal storage conditions.

CONDITIONS TO AVOID: Storage in poorly ventilated areas.Storage near a heat source.

MATERIALS TO AVOID: Alkali or alkaline earth metals such as sodium and potassium.Nitrogen reacts with Li, Nd, and Ti at high temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: None

11. TOXICOLOGICAL INFORMATION

LETHAL CONCENTRATION (LC50): NONE ESTABLISHED

LETHAL DOSE 50 (LD50): N/Ap

TERATOGENICITY: N/Ap

REPRODUCTIVE EFFECTS: N/Ap

MUTAGENICITY: N/Ap

12. ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are the refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps in place.

14. TRANSPORT INFORMATION

CONCENTRATION: 2.1 ppm-19.49%

DOT DESCRIPTION (US ONLY):

PROPER SHIPPING NAME: Compressed gas, n.o.s.
HAZARD CLASS: 2.2 (nonflammable)
IDENTIFICATION NUMBER: UN1956
REPORTABLE QUANTITIES: None
LABELING: NONFLAMMABLE GAS

ADR / RID (EU Only): Class 2, 1A

SPECIAL PRECAUTIONS: Cylinders should be transported in a secure upright position in a well ventilated truck.

15. REGULATORY INFORMATION

OSHA: Process Safety Management: Materials are not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemicals.

TSCA: Mixture is not listed in TSCA inventory.

SARA: The threshold planning quantity for this mixture is 10,000 lbs.

EU NUMBER: N/Ap

NUMBER IN ANNEX 1 OF DIR 67/548: Mixture is not listed in annex 1.

EU CLASSIFICATION: N/Ap

R: 20, 36/37/38

S: 9

16. OTHER INFORMATION

OTHER PRECAUTIONS: Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).

ABBREVIATIONS: N/Ap - Not Applicable N/Av - Not Available SA - Simple Asphyxiant NE - None Established

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