



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Sulfur Dioxide**

Chemical formula : SO₂

Synonyms : Sulfurous Acid Anhydride; Sulfurous Oxide; Sulphur Dioxide; Sulfur Oxide; Sulfurous Anhydride; Fermenticide Liquid

Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Sulfur dioxide	7446-09-5	100%

3. Hazards Identification

Emergency Overview

Containers may rupture or explode if exposed to heat.
May cause respiratory tract burns, skin burns, eye burns, allergic reactions.

Potential Health Effects

Inhalation : Allergic reactions, burns.
Eye contact : Burns.
Skin contact : Burns.
Ingestion : Ingestion of a harmful amount is unlikely.
Chronic Health Hazard : None known.

4. First Aid Measures

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Skin contact : Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.

Ingestion : If a large amount is swallowed, get immediate medical attention.

Inhalation : If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Note to physicians : For inhalation, consider oxygen.

5. Fire-Fighting Measures

- Suitable extinguishing media : Regular dry chemical, carbon dioxide.
Large fires: Use regular foam or flood with fine water spray.
- Specific hazards : Negligible fire hazard.
- Fire fighting : Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Keep unnecessary people away, isolate hazard area and deny entry.
- Protective Equipment and Precautions for firefighters : Wear full protective fire fighting gear including self-contained breathing apparatus (SCBA) for protection against possible exposure.

6. Accidental Release Measures

- Occupational spill/release : Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water directly on material. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Ventilate closed spaces before entering. Evacuation radius: 150 feet. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).
- Additional advice : None.

7. Handling and Storage

Handling

Wash thoroughly after handling.

Storage

Store in accordance with all current regulations and standards. Protect from physical damage. Store outside or in a detached building. Store with flammable liquids. Keep separated from incompatible substances. Protect from sunlight. Store locked up. Store in a tightly closed container. Store in a well-ventilated area. Keep separated from incompatible substances.

8. Exposure Controls / Personal Protection

Exposure limits

- ACGIH : 0.25 ppm STEL
- OSHA (final) : 5 ppm TWA; 13 mg/m³ TWA
- OSHA (vacated) : 5 ppm STEL; 13 mg/m³ STEL
2 ppm TWA; 5 mg/m³ TWA
- NIOSH : 5 ppm STEL; 13 mg/m³ STEL
2 ppm TWA; 5 mg/m³ TWA

IDLH

100 ppm

Engineering measures/Ventilation

Ensure compliance with applicable exposure limits. Provide local exhaust or process enclosure ventilation system.

Personal protective equipment

- Respiratory protection : The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.
20 ppm – Any air-purifying half-mask respirator equipped with cartridge(s)

providing protection against the compound of concern.
 Any supplied-air respirator.
 50 ppm – Any supplied-air respirator operated in a continuous-flow mode.
 Any powered, air-purifying respirator with cartridge(s) providing protection against the compound of concern.
 100 ppm – Any air-purifying respirator with a full facepiece and a canister providing protection against the compound of concern.
 Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister.
 Any powered, air-purifying respirator with a tight-fitting facepiece and cartridge(s) providing protection against this substance.
 Any supplied-air respirator with a tight-fitting facepiece that is operated in a continuous-flow mode.
 Any self-contained breathing apparatus with a full facepiece.
 Any supplied-air respirator with a full facepiece.
 Emergency or planned entry into unknown concentrations or IDLH conditions –
 Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
 Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.
 Escape – Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister.
 Any appropriate escape-type, self-contained breathing apparatus.

Hand protection : For the gas: Wear appropriate chemical resistant gloves. For the liquid: Wear insulated gloves.

Eye protection : Wear splash resistant safety goggles with a faceshield. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and body protection : For the gas: Wear appropriate chemical resistant clothing. For the liquid: Wear appropriate protective, cold insulating clothing.

9. Physical and Chemical Properties

Form : Gas.
 Color : Colorless.
 Odor : Irritating odor.
 Molecular weight : 64.06
 Vapor pressure : 2432 mmHg @ 20°C
 Vapor density : 2.26 (air = 1)
 Boiling point : -10°C
 Melting point : -73°C
 Water solubility : 22.8% @ 0°C
 Specific gravity : 1.462 @ -10°C (water = 1)
 Evaporation rate : > 1 (butyl acetate = 1)
 Solvent solubility : Soluble: alcohol, acetic acid, sulfuric acid, ether, chloroform, benzene, sulfuryl chloride, nitrobenzenes, toluene, acetone.

10. Stability and Reactivity

Stability : Stable under normal conditions.
 Conditions to avoid : Minimize contact with material. Containers may explode or rupture if exposed to heat.
 Materials to avoid : Bases, combustible materials, halogens, metal carbide, metal oxides, oxidizing

materials, peroxides, reducing agents.
Hazardous decomposition products : Thermal decomposition products: oxides of sulfur.

11. Toxicological Information

The components of this material have been reviewed in various sources and the following endpoints are published:

SULFUR DIOXIDE : Inhalation LC50 Rat: 2500 ppm/1H
(7446-09-5)

Acute Toxicity Level

SULFUR DIOXIDE : Toxic: Inhalation.
(7446-09-5)

Component Carcinogenicity

ACGIH : A4 – Not Classifiable as a Human Carcinogen.
IARC : Monograph 54 [1992] (Group 3 (not classifiable))

Local Effects

SULFUR DIOXIDE : Corrosive: Inhalation, skin, eye.
(7446-09-5)

Target Organs

SULFUR DIOXIDE : Immune system (sensitizer).
(7446-09-5)

Medical Conditions Aggravated by Exposure

SULFUR DIOXIDE : Respiratory disorders.
(7446-09-5)

12. Ecological Information

No LOLI ecotoxicity data are available for this product's components.

13. Disposal Considerations

Waste from residues : Dispose in accordance with all applicable regulations.
/ unused products
Contaminated packaging : Return cylinder to supplier.

14. Transport Information

DOT (US only)

Proper shipping name : Sulfur dioxide
Class : 2.3
UN/ID No. : UN1079
Labeling : Poison Gas, Corrosive
Additional Info : Toxic-Inhalation Hazard Zone C

15. Regulatory Information

U.S. Federal Regulations

This material contains one or more of the following chemicals required under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

SULFUR DIOXIDE : SARA 302: 500 lb TPQ
(7446-09-5) : SARA 304: 500 lb EPCRA RQ
OSHA (safety): 1000 lb TQ (liquid)

SARA 311/312

Acute: Yes
Chronic: Yes
Fire: No
Reactive: No
Pressure: Yes

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
SULFUR DIOXIDE	7446-09-5	Yes	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65

16. Other Information

Prepared by : Specialty Gases of America, Inc.
For additional information, please visit our website at www.americangasgroup.com.