

# Safety Data Sheet

## Sulfur Dioxide

US Cylinder Gas  
Alsip, IL



### Section 1: Product and Company Identification

**US Cylinder Gas**  
Alsip, IL

Product Code: **Sulfur Dioxide**

Part Number: 7446-09-5

**Synonyms:** SO<sub>2</sub>

**Recommended Use:** Industrial use. Use as directed.

**Usage Restrictions:**

### Section 2: Hazards Identification



**Danger**

Hazard Classification:

Acute Dust Inhale Toxicity (Category 3), H331  
Acute Gas Inhale Toxicity (Category 3), H331  
Acute Vapor Inhale Toxicity (Category 3), H331  
Gases Under Pressure, H280  
Skin Corrosion (Category 1.C), H314  
Corrosive To Metal (Category 1), H290

Hazard Statements:

H331: Toxic if inhaled  
H331: Toxic if inhaled  
H331: Toxic if inhaled  
H280: Contains gas under pressure; may explode if heated  
H314: Causes severe skin burns and eye damage  
H290: May be corrosive to metals  
CGA-HG22: CORROSIVE TO THE RESPIRATORY TRACT.

Precautionary Statements

P202: Do not handle until all safety precautions have been read and understood.  
P260: Do not breathe gas.  
P264: Wash hands thoroughly after handling.

P271+P403: Use and store only outdoors or in a well-ventilated place.  
P280: Wear protective gloves, protective clothing, eye protection, and/or face protection.  
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353: IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.  
P310: Immediately call a POISON CENTER or doctor/physician.  
P321: SPECIFIC TREATMENT: (Follow all First Aid instructions in Section 4 of the Safety Data Sheet).  
P353: Rinse skin with water/shower.  
P363: Wash contaminated clothing before reuse.  
P405: Store locked up.  
P501: Dispose of contents/container in accordance with container/supplier owner instructions.  
CGA-PG02: Protect from sunlight when ambient temperature exceeds 52C (125F).  
CGA-PG05: Use a back flow preventive device in the piping.  
CGA-PG06: Close valve after each use and when empty.  
CGA-PG10+CGA-PG20: Use only with equipment of compatible materials of construction and rated for cylinder pressure.  
CGA-PG12: Do not open valve until connected to equipment prepared for use.  
CGA-PG27: Read and follow the Safety Data Sheet (SDS) before use.

### Section 3: Composition/Information on Ingredients

<b>CAS #</b>
09-05-7446

Chemical Substance	Chemical Family	Trade Names
SULFUR DIOXIDE	Inorganic gases	SULFUROUS ACID ANHYDRIDE; SULFUROUS OXIDE; SULPHUR DIOXIDE; SULFUROUS ANHYDRIDE; FERMENTICIDE LIQUID; SULFUR DIOXIDE(SO <sub>2</sub> ); SULFUR OXIDE; SULFUR OXIDE(SO <sub>2</sub> ); STCC 4904290; UN 1079; O2S

### Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.	Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.	If a large amount is swallowed, get medical attention.	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.	For inhalation, consider oxygen.

### Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Non-flammable. use suitable extinguishing media for surrounding fire.	None known	<ul style="list-style-type: none"> <li>▪ Non-flammable</li> <li>▪ non-flammable</li> </ul>

## Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
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.	Avoid contamination of environment.	Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water directly on material.
Methods for Cleanup		Other Information
Stop leak, evacuate area. Contact emergency personnel.		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).

## Section 7: Handling and Storage

Handling	Storage
Store and use with adequate ventilation. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store only where temperature will not exceed 125F (52C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.	Do not get liquid in eyes, on skin, or clothing. Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Open valve slowly. Close cylinder valve after each use; keep closed even when empty. If valve is hard to open, discontinue use and contact your supplier.

## Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
SULFUR DIOXIDE: 2 ppm (5 mg/m <sup>3</sup> ) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 5 ppm (13 mg/m <sup>3</sup> ) OSHA STEL (vacated by 58 FR 35338, June 30, 1993) 5 ppm (13 mg/m <sup>3</sup> ) OSHA TWA 2 ppm ACGIH TWA 5 ppm ACGIH STEL 2 ppm (5 mg/m <sup>3</sup> ) NIOSH recommended TWA 10 hour(s) 5 ppm (13 mg/m <sup>3</sup> ) NIOSH recommended STEL

### Engineering Controls

Handle only in fully enclosed systems.

Eye Protection	Skin Protection	Respiratory Protection
Wear splash resistant safety goggles with a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	For the gas: Wear appropriate chemical resistant clothing. For the liquid: Wear appropriate protective, cold insulating clothing. Wear insulated gloves.	Non-flammable

### General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

## Section 9: Physical and Chemical Properties

Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor
Gas	Clear	Colorless	N/A	Gas	Irritating odor
Taste	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits

Taste	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits
N/A	Not flammable	Not available	Not available	Nonflammable	Nonflammable

Lower Explosive Limits	Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity
Nonflammable	14 F (-10 C)	-99 F (-73 C)	2432 mmHg @ 20 C	2.26 (Air=1)	1.462 @ -10 C

Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity	Molecular Weight
22.8% @ 0 C	Acidic in solution	3-5 ppm	>1 (butyl acetate=1)	Not available	64.06

Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
S-O2	0.169	Not available	Not available	Not applicable	Soluble : Alcohol, acetic acid, sulfuric acid, ether, chloroform, benzene, sulfuryl chloride, nitrobenzenes, toluene, acetone

## Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Stable at normal temperatures and pressure.	Minimize contact with material. Containers may rupture or explode if exposed to heat.	Combustible materials, metals, bases, oxidizing materials, halogens, metal carbide, metal oxides, peroxides, reducing agents, potassium, sodium, nitril chloride, acrolein, metal oxides, carbide

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Forms sulfurous acid solution on reaction with water.	Will not polymerize.

## Section 11: Toxicology Information

### Acute Effects

Oral LD50	Dermal LD50	Inhalation
LC50, 1 hr, rat = 2520 ppm	Not available	Allergic reactions, burns, toxic

Eye Irritation	Skin Irritation	Sensitization
Corrosive, burns	Corrosive, burns	Acute toxicity, Category 3, inhalation; H331: Toxic if inhaled. Skin corrosion, Category 1B; H314: Causes severe skin burns and eye damage.

### Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
IARC: Human Inadequate Evidence, Animal Limited Evidence, Group 3; ACGIH: A4 - Not Classifiable as a Human Carcinogen	Available.	Available.	No data

## Section 12: Ecological Information

### Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: 3000 ug/L 0.667-0.833 hour(s) (Avoidance) Atlantic menhaden (Brevoortia tyrannus) Invertebrate toxicity: Not available Algal toxicity: 500 ug/L 6 day(s) (Cellular) Green algae (Rhizoclonium hieroglyphicum) Phyto toxicity: Not available Other toxicity: >=150 ug/L NR hour(s) (Biochemical) Duckweed (Lemna minor)	Not available	Not available	Not available

## Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations.

## Section 14: Transportation Information

### U.S. DOT 49 CFR 172.101

Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
Sulfur dioxide	UN1079	2.3	Not applicable	2.3; 8	Forbidden	Forbidden	Toxic-Inhalation Hazard Zone C

### Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
Sulfur dioxide	UN1079	2.3; 8	Not applicable

## Section 15: Regulatory Information

### U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
Not regulated.	500 LBS TPQ	500 LBS RQ

### SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	Yes	No	No	Yes

### SARA 372.65

Not regulated.

### OSHA Process Safety

1000 LBS TQ

### State Regulations

#### CA Proposition 65

WARNING: This product can expose you to chemicals including sulfur dioxide, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

US Cylinder Gas

Part Number: 7446-09-5

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## Canadian Regulations

### WHMIS Classification

AD1

## National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Listed on inventory.	Not listed.	Not determined.

## Section 16: Other Information

### NFPA Rating

HEALTH=3 FIRE=0 REACTIVITY=0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard