



# THATCHER COMPANY MATERIAL SAFETY DATA SHEET

PRODUCT: SULFUR DIOXIDE

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MSDS Date: September 6, 2005  
Emergency Contact: 1-800-424-9300

## MATERIAL SAFETY DATA SHEET

### SECTION I

**PRODUCT NAME:** Sulfur Dioxide

**SYNONYMS:** Sulfurous (Acid) Anhydride, Sulfurous Oxide, Sulphur Dioxide

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

**DOT SHIPPING INFORMATION:** Sulfur Dioxide, Liquified, 2.3, UN 1079;  
Hazard Zone C; Poison - Inhalation Hazard

### SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS MATERIAL	CAS NUMBER	WT %	EXPOSURE LIMITS IN AIR
Sulfur Dioxide	7446-09-5	-----	PEL = 5.0 ppm (TWA) TLV = 2.0 ppm (TWA) = 5.0 ppm (STEL)

### SECTION III - PHYSICAL DATA

**BOILING POINT (F):** -10 °C (14 °F) @ 760 mm Hg      **SPECIFIC GRAVITY (at 0 °C):** 1.436

**VAPOR PRESSURE (mm Hg):** (at 20 °C) 2475      **% VOLATILE, BY VOLUME:** 100%

**VAPOR DENSITY (air = 1):** 2.926 g/L      **EVAPORATION RATE:** about 40 g/m<sup>2</sup>/s @ 21 °C

**SOLUBILITY IN WATER:** 11.9% by weight @ 15 °C

**APPEARANCE AND ODOR:** Colorless gas or liquid. Strong pungent odor.

### SECTION IV - FIRE AND EXPLOSION DATA

**FLASH POINT:**  
Nonflammable

**FLAMMABLE LIMITS:**  
Lel: N/A      Uel: N/A

**EXTINGUISHING MEDIA:**  
Use appropriate media to extinguish source of fire.





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carries, loss of fillings, gum disorders and the rapid and painless destruction of teeth may result from overexposure.

**Ingestion:** Causes severe burns to the mouth, throat and gastrointestinal system.

### STATEMENT OF PRACTICAL TREATMENT:

**Contact:** Flush exposed area thoroughly with water for at least 15 minutes. Start flushing while removing contaminated clothing. If irritation persists, repeat flushing. Obtain medical attention *immediately*. Treat frostbite by *immediately* immersing affected area in warm water until the skin has warmed up and turned pink. Obtain medical attention *immediately*. For eyes, immediately flush with cool water for at least 15 minutes and get *immediate* medical attention.

**Inhalation:** Move victim to fresh air. If breathing has stopped, begin artificial respiration. Give CPR if there is no breathing and no pulse. Obtain medical attention *immediately*.

**Ingestion:** Since material is a gas at room temperature, ingestion is unlikely to occur. If victim is alert and *not* convulsing, give several glasses of water or milk. **Do not** induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down and give more fluids. Do not give anything by mouth to an unconscious or convulsing person. Obtain medical attention *immediately*.

**NOTE TO PHYSICIAN:** No specific antidote is available. All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

### SECTION VII - SPECIAL PRECAUTIONS

#### **HANDLING AND STORAGE PRECAUTIONS:**

Only trained personnel using appropriate protective equipment should handle Sulfur dioxide. Avoid breathing gas. Do not get in eyes, on skin or on clothing. Store in a cool, dry area in properly designated pressure vessels. Keep away from heat sources. Segregate from combustible material.

#### **STEPS TO BE TAKEN IF MATERIAL SPILLS OR LEAKS:**

Move unprotected personnel upwind. If a SO<sub>2</sub> container is leaking, try to position it so that gas, rather than liquid, leaks. Using full protective equipment, apply emergency sealing device if possible. Cover leak area with tarpaulin or plastic sheet to limit spread of SO<sub>2</sub>. Leaking SO<sub>2</sub> cylinder should *never* be immersed in water. Neutralize with dilute solutions of soda ash, caustic soda, hydrated lime or sodium bicarbonate. Maintain alkaline pH during neutralization. Alkaline solutions must be oxidized before disposal due to their oxygen demands.

#### **WASTE DISPOSAL METHOD:**

Alkaline solutions must be oxidized before disposal due to their oxygen demands. Dispose of waste material at an approved waste treatment /disposal facility, in accordance with local, state and federal regulations. Do not dispose of waste with normal garbage or to sewer systems.



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SECTION VIII - SPECIAL PROTECTION INFORMATION

**RESPIRATORY PROTECTION:**

NIOSH/MSHA approved air-purifying respirator equipped with acid gas cartridges for concentrations up to 20 ppm. Air-supplied respirator for higher or unknown concentrations.

**VENTILATION:**

Local exhaust ventilation preferred. SO<sub>2</sub> should be collected and neutralized in a suitable scrubbing system.

**EYE PROTECTION:**

Tight fitting chemical goggles and face shield.

**SKIN PROTECTION:**

Heavy-weight coveralls, safety boots and insulated impervious gloves.

**OTHER PROTECTIVE EQUIPMENT:**

Impervious gas-tight overall body protection depending on exposure. Safety showers and eyewash stations should be readily available in an area not likely to be affected by a release of Sulfur dioxide, and near storage and handling areas. Insulated gloves should be worn if liquid contact is anticipated.

<b>ACGIH</b>	= American Conference of Governmental Industrial Hygienists
<b>CL</b>	= Ceiling Level
<b>IARC</b>	= International Agency for Research on Cancer: Monographs
<b>OSHA</b>	= Occupational Safety and Health Administration
<b>N/A</b>	= Not Applicable
<b>NTP</b>	= National Toxicology Program: Annual Report on Carcinogens
<b>PEL</b>	= Permissible Exposure Level (OSHA)
<b>TLV</b>	= Threshold Limit Value (ACGIH)
<b>TWA</b>	= Time Weighted Average over 8 Hours
<b>STEL</b>	= Short Term Exposure Limit (ACGIH)
<b>ND</b>	= Not Determined

This information is, to the best of our knowledge, accurate but may not be complete. THATCHER COMPANY furnishes this information in good faith, but without warranty, representation or guarantee of its accuracy, completeness, or reliability.