

Section 1. Product and Company Identification

**Product Name** Diethyl Sulfate  
**CAS Number** 64-67-5

**Parchem - fine & specialty chemicals**  
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**New Rochelle, NY 10801**  
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Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**  
**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 4), H302  
Acute toxicity, Inhalation (Category 4), H332  
Acute toxicity, Dermal (Category 3), H311  
Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318  
Germ cell mutagenicity (Category 1B), H340  
Carcinogenicity (Category 1B), H350

**GHS Label Elements**

**Pictograms:**



**Signal word:** DANGER

**Hazard and precautionary statements**

**Hazard statements**

H302 + H332 Harmful if swallowed or if inhaled  
H311 Toxic in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H340 May cause genetic defects.  
H350 May cause cancer.

**Precautionary statements**

P201 Obtain special instructions before use.



- P202 Do not handle until all safety precautions have been read and understood.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
- P322 Specific measures (see supplemental first aid instructions on this label).
- P361 Remove/Take off immediately all contaminated clothing.
- P363 Wash contaminated clothing before reuse.
- P405 Store locked up.
- P501 Dispose of contents/ container to an approved waste disposal plant.

**Hazards not otherwise classified (HNOC) or not covered by GHS:** Vesicant. Rapidly absorbed through skin.

Section 3. Composition / Information on Ingredients

**Common Name** Diethyl Sulfate  
**Synonym(s)** Sulfuric acid diethyl ester; Ethyl sulfate  
**Formula** C<sub>4</sub>H<sub>10</sub>O<sub>4</sub>S  
**CAS Number** 64-67-5

COMPONENT	CAS NUMBER	CONCENTRATION
Diethyl Sulfate	64-67-5	≤ 100%

Section 4. First Aid Measures

**Description of first aid measures**

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**Skin contact:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.



**Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in the labelling and/or in section 11

**Indication of any immediate medical attention and special treatment needed:** No data available

#### Section 5. Firefighting Measures

##### **Extinguishing media**

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special hazards arising from the substance or mixture:** Carbon oxides, Sulphur oxides

**Advice for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Further information:** No data available

#### Section 6. Accidental Release Measures

**Personal precautions, protective equipment, and emergency procedures:** Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up:** Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**Reference to other sections:** For disposal see section 13.

#### Section 7. Handling and Storage

**Precautions for safe handling:** Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Moisture sensitive.

#### Section 8. Exposure Controls / Personal Protection

##### **Control parameters**

**Components with workplace control parameters:** Contains no substances with occupational exposure limit values.



### Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

**Eye/face protection:** Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection:** Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## Section 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

**Form:** Clear, liquid

**Color:** Colorless

**Odor:** No data available

**Odor Threshold:** No data available

**pH:** No data available

**Melting point/freezing point:** Melting point/range: -24°C (-11°F) - lit.

**Initial boiling point and boiling range:** 208°C (406°F) - lit.

**Flash point:** 104°C (219°F) - closed cup

**Evaporation rate:** No data available

**Flammability (solid, gas):** No data available

**Upper/lower flammability or explosive limits:** Lower explosion limit: 4.1 %(V)

**Vapor pressure:** 0.1 hPa (0.1 mmHg) at 20°C (68°F)

**Vapor density:** 5.32 - (Air = 1.0)

**Relative density:** 1.177 g/mL at 25°C (77°F)

**Water solubility:** No data available

**Partition coefficient: noctanol/water:** No data available

**Auto-ignition temperature:** No data available

**Decomposition temperature:** No data available



**Viscosity:** No data available  
**Explosive properties:** No data available  
**Oxidizing properties:** No data available

**Other safety information:** Relative vapor density 5.32 - (Air = 1.0)

#### Section 10. Stability and Reactivity

**Reactivity:** No data available  
**Chemical stability:** Stable under recommended storage conditions.  
**Possibility of hazardous reactions:** No data available  
**Conditions to avoid:** No data available  
**Incompatible materials:** Strong oxidizing agents, Strong bases  
**Hazardous decomposition products:** In the event of fire: see section 5

#### Section 11. Toxicological Information

##### Information on toxicological effects

###### Acute toxicity

LD50 Oral - Rat - 880 mg/kg

LD50 Dermal - Rabbit - 706 mg/kg

**Skin corrosion/irritation:** No data available

**Serious eye damage/eye irritation:** No data available

**Respiratory or skin sensitization:** No data available

**Germ cell mutagenicity:** In vivo tests showed mutagenic effects

**Carcinogenicity:** This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification. Possible human carcinogen

**IARC:** 2A - Group 2A: Probably carcinogenic to humans (Diethyl sulfate)

**ACGIH:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**NTP:** Reasonably anticipated to be a human carcinogen (Diethyl sulfate)

**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** No data available

**Specific target organ toxicity - single exposure:** No data available

**Specific target organ toxicity - repeated exposure:** No data available

**Aspiration hazard:** No data available

##### Additional Information

RTECS: WS7875000



Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea  
Stomach - Irregularities - Based on Human Evidence

Section 12. Ecological Information

**Toxicity:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**Results of PBT and vPvB assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects:** No data available

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**DOT (US)**

**UN number:** UN1594

**Class:** 6.1

**Packing group:** II

**Proper shipping name:** Diethyl sulfate

**Reportable Quantity (RQ):** 10 lbs

**Poison Inhalation Hazard:** No

**IMDG**

**UN number:** UN1594

**Class:** 6.1

**Packing group:** II

**EMS-No:** F-A, S-A

**Proper shipping name:** DIETHYL SULFATE

**IATA**

**UN number:** UN1594

**Class:** 6.1

**Packing group:** II

**Proper shipping name:** Diethyl sulfate



Section 15. Regulatory Information

**SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** The following components are subject to reporting levels established by SARA Title III, Section 313:

Diethyl sulfate	CAS-No.	Revision Date
	64-67-5	1993-04-24

**SARA 311/312 Hazards:** Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

Diethyl sulfate	CAS-No.	Revision Date
	64-67-5	1993-04-24

**Pennsylvania Right To Know Components**

Diethyl sulfate	CAS-No.	Revision Date
	64-67-5	1993-04-24

**New Jersey Right To Know Components**

Diethyl sulfate	CAS-No.	Revision Date
	64-67-5	1993-04-24

**California Prop. 65 Components:** WARNING! This product contains a chemical known to the State of California to cause cancer.

Diethyl sulfate	CAS-No.	Revision Date
	64-67-5	2007-09-28

**HMIS Rating**

**Health Hazard:** 3\*

**Flammability:** 1

**Physical Hazard:** 0

Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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