1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name: Sulfur trioxide

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

According to Regulation (EC) No 1272/2008
- Oxidizing liquids (Category 1)
- Acute toxicity, Inhalation (Category 1)
- Skin corrosion (Category 1B)
- Carcinogenicity (Category 1B)

May cause cancer. Contact with combustible material may cause fire. Reacts violently with water. Causes burns. Very toxic by inhalation.

Label elements

Pictogram

Signal word: Danger

Hazard statement(s)
- H271: May cause fire or explosion; strong oxidiser.
- H314: Causes severe skin burns and eye damage.
- H330: Fatal if inhaled.
- H50: May cause cancer.

Precautionary statement(s)
- P201: Obtain special instructions before use.
- P220: Keep/Store away from clothing/combustible materials.
- P260: Do not breathe dust/fume/gas/mist/vapours/spray.
- P280: Wear protective gloves and protective clothing/eye protection/face protection.
- P264: Wear respiratory protection.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazard symbol(s)
- O: Oxidising
- T: Very toxic

R-phrase(s)
- R45: May cause cancer.
- R26: Also very toxic by inhalation.
- R8: Contact with combustible material may cause fire.
- R14: Reacts violently with water.
- R34: Causes burns.

S-phrase(s)
- S53: Avoid exposure - obtain special instructions before use.
- S17: Keep away from combustible material.
- S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
- S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Sulfuric anhydride

Formula : O3S

Molecular Weight : 80.06 g/mol

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7446-11-9</td>
<td>231-197-3</td>
<td>Ox. Liq. 1; Acute Tox. 1; Skin Corr. 1B; Carc. 1B; H271, H314, H330, H350 Q, T+. R45 - R8 - R14 - R34 - R26</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

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

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

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

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2) Dry powder

Extinguishing media which shall not be used for safety reasons
Water

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

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
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Do not flush with water.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid inhalation of vapour or mist. Avoid exposure - obtain special instructions before use. Keep away from sources of ignition - No smoking. Keep away from combustible material.

Conditions for safe storage
Store in cool place. 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.

Reacts violently with water.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (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).

Hand protection
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Handle with gloves.

Eye protection
Tightly fitting safety goggles. Faceshield (8-inch minimum).

Skin and body protection
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form: liquid

Safety data
pH: no data available
Melting point: 16.8 °C - 1.0
Boiling point: 44.7 °C - 1.0
Flash point: no data available
Ignition temperature: no data available
Lower explosion limit: no data available
Upper explosion limit: no data available
Vapour pressure: 680 hPa at 37.7 °C
373 hPa at 25 °C
Density: 1.97 g/mL at 25 °C
Water solubility: no data available
Relative vapour density: 2.76 - (Air = 1.0)

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
Reacts violently with water.

**Conditions to avoid**
Exposure to moisture.

**Materials to avoid**
Organic materials, Powdered metals, Bases, Strong bases, Metals, Water, Sulfur trioxide reacts violently with water to form sulfuric acid. Contact with air causes rapid absorption of moisture and the release of dense, white, sulfuric acid fumes, incompatible with; Nitrates, Chlorates, Cyanides, picrates, Sulfides

**Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Sulphur oxides

11. **TOXICOLOGICAL INFORMATION**

**Acute toxicity**
LC50 Inhalation - rat - 4 h - 375 mg/m3

**Skin corrosion/irritation**
Skin - rabbit - Severe skin irritation

**Serious eye damage/eye irritation**
Eyes - rabbit - Severe eye irritation

**Respiratory or skin sensitization**
no data available

**Germ cell mutagenicity**
no data available

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

Possible human carcinogen

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**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

**Potential health effects**

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed. Causes burns.</td>
</tr>
<tr>
<td>Skin</td>
<td>May be harmful if absorbed through skin. Causes skin burns.</td>
</tr>
<tr>
<td>Eyes</td>
<td>Causes eye burns.</td>
</tr>
</tbody>
</table>

**Signs and Symptoms of Exposure**
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

**Additional Information**
RTECS: WT48300000

12. **ECOLOGICAL INFORMATION**
12. ECOLOGICAL INFORMATION

Toxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

Product
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID
UN-Number: 1829 Class: 8  Packing group: I
Proper shipping name: SULPHUR TRIOXIDE, STABILIZED

IMDG
UN-Number: 1829 Class: 8  Packing group: I
EMS-No: F-A, S-B
Proper shipping name: SULPHUR TRIOXIDE, STABILIZED
Marine pollutant: No

IATA
UN-Number: 1829 Class: 8
Proper shipping name: Sulphur trioxide, stabilized
IATA Passenger: Not permitted for transport
IATA Cargo: Not permitted for transport

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. OTHER INFORMATION

Text of H-code(s) and R-phrase(s) mentioned in Section 3

<table>
<thead>
<tr>
<th>Acute Tox.</th>
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<td>H330</td>
<td>Fatal if inhaled.</td>
</tr>
<tr>
<td>H350</td>
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<td>Ox. Liq.</td>
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</tr>
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<td>Skin Corr.</td>
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</tr>
<tr>
<td>O</td>
<td>Oxidising</td>
</tr>
<tr>
<td>T+</td>
<td>Very toxic</td>
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Further information

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 this document is based on the resent 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. guidechem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.