MATERIAL SAFETY DATA SHEET

Sulphur Trioxide

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name:	Sulphur Trioxide
CAS Number:	7446-11-9
EC Number:	231-197-3

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use: Laboratory chemicals, Industrial & for professional use only

1.3 Details of the supplier of the safety data sheet

Company name: East Harbour Group Ltd
20 Clough Road, Severalls Industrial Park
Colchester, Essex, CO4 9QS
United Kingdom

Telephone: +44 (0) 333 242 0100
Email: info@eastharbourgroup.com

1.4 Emergency telephone number

Emergency telephone: 0800 246 1274

Section 2: Hazardous identification

2.1 Classification of the substance or mixture

Skin corrosion, Category 1A
Specific target organ toxicity \u2013 single exposure, Category 3

2.2 Label elements

Pictogram

Signal Word Danger

Hazard statement(s)

H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Sulphur Trioxide

Precautionary statement(s)

P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
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 + P310	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363	Wash contaminated clothing before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS
Reacts violently with water.

Section 3: Composition/information on ingredients

3.1 Substances

Synonyms:	Sulfuric anhydride
Formula:	O3S
Molecular weight:	80.06 g/mol
CAS-No.:	7446-11-9
EC-No.:	231-197-3

Hazardous components

Component	Classification	Concentration
Sulphur trioxide	Skin Corr. 1A; Eye Dam. 1; STOT SE 3; H314, H335	90 - 100 %

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

Section 4: First aid measures

4.1 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.

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. Continue rinsing eyes during transport to hospital.

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

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

Section 5: Fire-fighting measures

5.1 Fire Fighting Media and Instructions:
Suitable extinguishing media: Dry powder

5.2 Special hazards arising from the substance or mixture
No data available

5.3 Advice for firefighters
Special protective equipment: Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and material for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Do not flush with water. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13

Sulphur Trioxide

Section 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.

7.2 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. Never allow product to get in contact with water during storage. Reacts violently with water. Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure controls/personal protection

8.1 Control parameters
Components with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls /
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment
Eye/face protection
Tightly fitting safety goggles. Face shield (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, Flame retardant protective clothing, 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 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).

Control of environmental exposure
Do not let product enter drains.

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Sulphur Trioxide

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: liquid
Odor	No data available
Odor Threshold	No data available
pH	No data available
Melting Point/Freezing Point	Melting point/range: 16.8 °C (62.2 °F) - lit.
Initial Boiling Point and Boiling Range	44.7 °C (112.5 °F) - lit.
Flash Point	No data available
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Upper/Lower Flammability or Explosive Limits	No data available
Vapor Pressure	680 hPa (510 mmHg) at 37.7 °C (99.9 °F) 373 hPa (280 mmHg) at 25 °C (77 °F)
Vapor Density	2.76 - (Air = 1.0)
Relative Density	1.97 g/mL at 25 °C (77 °F)
Water Solubility	No data available
Partition Coefficient: n-octanol/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	The substance or mixture is not classified as oxidizing

9.2 Other safety information

Relative vapour density	2.76 - (Air = 1.0)

Section 10: Stability and Reactivity

10.1 Reactivity	Reacts violently with water
10.2 Chemical Stability	Stable under recommended storage conditions
10.3 Possibility of hazardous reactions	Reacts violently with water
10.4 Conditions to avoid	Exposure to moisture
10.5 Incompatible materials	Organic materials, Powdered metals, Bases, Strong bases, Metals, Water, Sulphur 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, picrate's, Sulphide's

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10.6 Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Sulphur oxides Other decomposition products - No data available In the event of fire: see section 5

Section 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity
LC50 Inhalation - Rat - 4 h - 375 mg/m3
Remarks: Extremely corrosive and destructive to tissue.
Dermal: No data available
Skin corrosion/irritation Skin - Rabbit
Result: Severe skin irritation
Serious eye damage/eye irritation
Eyes - Rabbit
Result: Severe eye irritation
Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
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. 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.

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: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens. No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Sulphur Trioxide

Additional Information
RTECS: WT4830000
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

Section 12: Ecological Information

12.1 Toxicity	No data available
12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available
12.4 Mobility in soil	No data available
12.5 Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
12.6 Other adverse effects	No data available

Section 13: Disposal considerations

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. 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.

Section 14: Transport Information

DOT (US)
UN number: 1829 Class: 8 (6.1) Packing group: I
Proper shipping name: Sulphur trioxide, stabilized
Reportable Quantity (RQ):
Poison Inhalation Hazard: Hazard zone B

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

IATA
UN number: 1829 Class: 8
Proper shipping name: Sulphur trioxide, stabilized

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Sulphur Trioxide

IATA Passenger: Not permitted for transport
IATA Cargo: Not permitted for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Section 15: Regulatory Information

SARA 302 Components
The following components are subject to reporting levels established by SARA Title III, Section 302:

Sulphur trioxide	CAS-No. 7446-11-9	Revision Date 1993-04-24

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard
Massachusetts Right To Know Components

Sulphur trioxide	CAS-No. 7446-11-9	Revision Date 1993-04-24
Sulphur trioxide	CAS-No. 7446-11-9	Revision Date 1993-04-24

Pennsylvania Right To Know Components

Sulphur trioxide	CAS-No. 7446-11-9	Revision Date 1993-04-24
Sulphur trioxide	CAS-No. 7446-11-9	Revision Date 1993-04-24
Sulphur trioxide	CAS-No. 7446-11-9	Revision Date 1993-04-24

New Jersey Right To Know Components

Sulphur trioxide	CAS-No. 7446-11-9	Revision Date 1993-04-24
Sulphur trioxide	CAS-No. 7446-11-9	Revision Date 1993-04-24

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

Sulphur trioxide	CAS-No. 7446-11-9	Revision Date 2007-09-28

WARNING! This product contains a chemical known to the State of California to cause cancer.

Sulphur trioxide	CAS-No. 7446-11-9	Revision Date 2007-09-28

Section 16: Other Information

Full text of H-Statements referred to under sections 2 and 3.

Eye Dam.	Serious eye damage
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
Skin Corr.	Skin corrosion
STOT SE	Specific target organ toxicity - single exposure

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Sulphur Trioxide

HMIS Rating

Health hazard:	3
Chronic Health Hazard:	
Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	3
Fire Hazard:	0
Reactivity Hazard:	0

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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