SECTION-1: Identification of the substance / mixture and the company / undertaking

Catalogue Number	CS-O-38864
Product Name	Sulphur dioxide
CAS No.	7446-09-5
Category	Building Blocks
Synonyms	Sulfur dioxide
Brand	Clearsynth Labs Ltd.
Identified uses	Laboratory Chemicals
Uses advised against	Not available
Company	Clearsynth Labs Ltd. Mumbai, India
Emergency Phone #	+91-22-245045900
REACH No.	Not available

SECTION 2: Hazards identification

Disclaimer: This is sample MSDS. Please email **sales@clearsynth.com** for more details.

2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Serious eye damage/eye irritation (Category 2)

2.2 Label Elements

Signal Word: Warning

Hazard Statement(s)

Code	Statement
H314	Not available
H331	Not available
H370	Not available
H280	Not available

H319	Causes serious eye irritation.
H372	Not available
H318	Causes serious eye damage.

Precautionary Statement(s)

Code	Statement
P260	Not available
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Not available
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	Not available
P302+P361+P354	Not available
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P354+P338	Not available
P308+P316	Not available
P316	Not available
P321	Specific treatment (see … on this label).
P363	Not available
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio
P410+P403	Not available
P264+P265	Not available
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if presen
P319	Get medical help if you feel unwell.
P337+P317	If eye irritation persists: Get medical help.
P317	Not available

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : Sulphur dioxide
CAS Number : 7446-09-5
Molecular Formula : O2S
Molecular Weight : 64.06
Parent Chemical : -
Synonyms : Sulfur dioxide
Concentration : Not available

SECTION 4: First aid measures

SECTION 4: First-aid measures

4.1 Description of first aid measures
- General advice: Remove victim from exposure. Keep at rest. Seek medical attention if symptoms persist or are severe.
- Inhalation: Move person to fresh air immediately. Keep warm and at rest. If breathing is difficult, seek medical attention.
- Skin contact: Remove contaminated clothing. Rinse skin with plenty of water. Seek medical attention if irritation persists.
- Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.
- Ingestion: Not a typical route of exposure for this product. Rinse mouth if conscious. Do not induce vomiting. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed
- Irritation and/or burns to eyes, skin, and respiratory tract.
- Coughing, shortness of breath, chest tightness.
- Delayed respiratory effects may occur.

4.3 Indication of any immediate medical attention and special treatment needed
- Treat symptomatically. No data available on specific antidote.

SECTION 5: Firefighting measures

SECTION 5: Fire-fighting measures

5.1 Extinguishing media
- Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media: Not available.

5.2 Special hazards arising from the substance or mixture
- Substance is not combustible; may release irritating/toxic gases when heated or involved in fire.
- Thermal decomposition products: Sulfur oxides. Additional decomposition products: Not available.

5.3 Advice for firefighters
- Wear self-contained breathing apparatus (SCBA) and full protective gear.
- Cool containers with water spray if exposed to fire.
- Prevent fire-fighting water from entering drains or waterways where possible.

SECTION 6: Accidental release measures

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Evacuate area and keep upwind.
- Avoid breathing gas/vapors. Avoid contact with eyes and skin.
- Use appropriate respiratory protection and chemical protective equipment.

6.2 Environmental precautions
- Prevent release to the environment where possible.
- Avoid discharge to drains, surface waters, and soil.

6.3 Methods and material for containment and cleaning up
- Ventilate area.
- Stop leak if safe to do so.
- For gas releases: Isolate hazard area; allow to disperse with adequate ventilation or use appropriate gas scrubbing/abatement where available.

6.4 Reference to other sections
- See Section 8 for exposure controls/personal protection and Section 13 for disposal considerations.

SECTION-7: Handling and storage

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Handle in a well-ventilated area or under local exhaust.
- Avoid breathing gas/vapors and avoid contact with eyes and skin.
- Use appropriate PPE.
- Keep containers tightly closed when not in use.

7.2 Conditions for safe storage, including any incompatibilities
- Store in a cool, dry, well-ventilated place.
- Protect containers from physical damage.
- Keep away from incompatible materials.
- Incompatible materials: Strong oxidizing agents, strong bases, reducing agents. Additional incompatibilities: Not available.

7.3 Specific end use(s)
- Not available.

SECTION 8: Exposure controls / personal protection

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
- Occupational exposure limits: Not available.
- Biological limit values: Not available.

8.2 Exposure controls

- Engineering controls: Provide adequate general and local exhaust ventilation. Use closed systems where feasible.
- Personal protective equipment (PPE):
- Eye/face protection: Chemical safety goggles and/or face shield as appropriate.
- Skin protection: Chemical-resistant gloves; protective clothing as appropriate.
- Respiratory protection: Use appropriate respirator for gas/vapor where ventilation is inadequate; for emergency response use SCBA.
- Hygiene measures: Wash hands after handling. Remove contaminated clothing and wash before reuse.
- Environmental exposure controls: Avoid release to the environment; use appropriate containment/abatement.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Test	Result
Appearance	No data available
IR spectrum	No data available
pH	No data available
Solubility	No data available

Property	Value
a) Physical State	No data available
b) Color	No data available
c) Odor	No data available
d) pH	No data available
e) Vapour Pressure	No data available
f) Viscosity	No data available
g) Initial Boiling Point and boiling range	No data available
h) Melting Point / Freezing Point	No data available
i) Auto Ignition Temperature	No data available
j) Flash Point	No data available
k) Explosion Limit, Lower	No data available
l) Explosion Limit, Upper	No data available
m) Decomposition Temperature	No data available

Property	Value
n) Loss on Drying	No data available
o) Relative Density	No data available
p) Solubility (in DMSO)	No data available
q) Oxidizing Properties	No data available

SECTION 10: Stability and reactivity

SECTION 10: Stability and reactivity

10.1 Reactivity
- Reactivity: Not available.

10.2 Chemical stability
- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
- Hazardous reactions: Not available.

10.4 Conditions to avoid
- Heat, moisture, and incompatible materials. Additional conditions to avoid: Not available.

10.5 Incompatible materials
- Strong oxidizing agents, strong bases, reducing agents. Additional incompatibilities: Not available.

10.6 Hazardous decomposition products
- Sulfur oxides. Additional decomposition products: Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: Exposures of less than an hour to SO2 at levels above 10 ppm in air are irritating to the nose and throat, sometimes causing a choking sensation followed by nasal discharge, sneezing, coughing, and increased mucous secretion. The minimum lethal human exposure is an airborne concentration of 400 ppm for 1 minute. Other reported minimum lethal concentrations of sulfur dioxide include 3000 ppm for 5 minutes and 1000 ppm for 10 minutes. Elderly patients with asthma may be more sensitive; a 76-year-old woman with asthma died following inhalation exposure to approximately 150 ppm over a period of minutes. LC50 (rat) = 2,520 ppm/1H.
- Skin corrosion/irritation: When breathed alone, 0.37 ppm of sulfur dioxide had no effect on any measurement of lung function; a 2 hr exposure to 0.75 ppm of sulfur dioxide alone dropped the maximal mid-expiratory flow rate to 90% of its control value. When sulfur dioxide and ozone were present together, ventilatory function measurements declined; it was concluded that sulfur dioxide and ozone are exceedingly corrosive when present together.
- Serious eye damage/eye irritation: Severe injuries of human eyes by sulfur dioxide have been produced only by liquified form. Throat and conjunctival irritation and lacrimation start at 8 to 12 ppm. Eye irritation occurs at 6 ppm/4 hr in rabbits.
- Respiratory or skin sensitization: No data available.
- Germ cell mutagenicity: The frequencies of chromosomal aberrations and sister-chromatid exchange (SCE) in peripheral blood lymphocytes of 40 workers chronically exposed to SO2 were higher than controls. In human

lymphocytes SO2 caused significant increases in the frequency of sister chromatid exchange and micronuclei and also induced mitotic delays and decreased mitotic index and replication index. SO2 increased the frequencies of chromosome aberrations and aberrant cells in mouse bone marrow in a dose-dependent manner; SO2 inhalation caused an increase of micronuclei frequencies in the polychromatic erythrocytes; SO2 caused significant, dose-dependent increases in DNA damage by inhalation exposure of mice.
- Carcinogenicity: There is inadequate evidence for the carcinogenicity in humans of sulfur dioxide, sulfites, bisulfites and metabisulfites. There is limited evidence for the carcinogenicity in experimental animals of sulfur dioxide. Overall evaluation: Sulfur dioxide, sulfites, bisulfites and metabisulfites are not classifiable as to their carcinogenicity to humans (Group 3). A4; Not classifiable as a human carcinogen.
- Reproductive toxicity: The potential risk of low birth-weight baby might be higher in elder women exposed to SO2 during pregnancy. In mice, fetal weight was reduced by 5% by exposure to SO2; ossification of the sternebrae and occipital was retarded, but the incidence of malformations was not significantly increased. In rabbits, the incidence of a few minor skeletal variants was significantly increased in group exposed to SO2.
- STOT-single exposure: No data available.
- STOT-repeated exposure: After a 120-hr exposure to SO2 concentration of 1.1 ppm, guinea pigs showed proliferative interstitial pneumonia, bronchitis, and tracheitis and an increased histamine content in the lungs, while exposure to 0.06 ppm of SO2 for one month led to interstitial changes in the respiratory tract. In rats continuously exposed to SO2 for 5 months (0.7 ppm and 7.0 ppm), it increased the activity of serum cholinesterase and aspartate aminotransferase and caused morphological changes in the upper respiratory tract. Prolonged exposure of dogs to high concentrations of SO2 (200 ppm) causes a syndrome similar to human chronic bronchitis, involving chronic airway obstruction, airway inflammation, and symptoms of cough and mucus hypersecretion.
- Aspiration hazard: No data available.

Likely routes of exposure
- No data available.

Symptoms related to the physical, chemical and toxicological characteristics
- Exposures of less than an hour to SO2 at levels above 10 ppm in air are irritating to the nose and throat, sometimes causing a choking sensation followed by nasal discharge, sneezing, coughing, and increased mucous secretion. The odor or taste is noticeable at airborne concentrations of 3 to 5 ppm; throat and conjunctival irritation and lacrimation start at 8 to 12 ppm; symptoms become severe at 50 ppm. Severe injuries of human eyes by sulfur dioxide have been produced only by liquified form.

SECTION 12: Ecological information

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

- Not available.

12.6 Endocrine disrupting properties
- Not available.

12.7 Other adverse effects
- No data available.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1 Waste treatment methods
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Do not discharge to drains.
- For pressurized containers/cylinders (if applicable): Do not puncture or incinerate; return to supplier where possible.
- Waste code: Not available.

SECTION 14: Transport information

SECTION 14: Transport information

- UN number: Not available.
- UN proper shipping name: Not available.
- Transport hazard class(es): Not available.
- Packing group: Not available.
- Environmental hazards: Not available.
- Special precautions for user: Not available.
- Transport in bulk according to IMO instruments: Not available.

SECTION 15: Regulatory information

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Regulatory listings: Not available.

15.2 Chemical safety assessment
- Not available.

SECTION 16: Other information

SECTION 16: Other information

- Product name: Sulphur dioxide
- CAS No.: 7446-09-5
- Synonyms: Sulfur dioxide
- Supplier: Clearsynth Labs Ltd., Mumbai, India
- Emergency phone: +91-22-245045900

Disclaimer
- The information provided is based on available product identification details and is intended for SDS-style guidance. No data available for several regulatory and toxicological parameters; users should obtain and review the supplier's official SDS and comply with applicable regulations.

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