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

1.1 **Product identifiers**

- **Product name**: Thionyl bromide
- **Product Number**: 251259
- **Brand**: 
- **CAS-No.**: 507-16-4

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

- **Identified uses**: Laboratory chemicals, Manufacture of substances

2. **HAZARDS IDENTIFICATION**

2.1 **Classification of the substance or mixture**

- **Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**
  - Acute toxicity, Inhalation (Category 4)
  - Acute toxicity, Dermal (Category 4)
  - Skin corrosion (Category 1B)

- **Classification according to EU Directives 67/548/EEC or 1999/45/EC**
  - Reacts violently with water. Causes burns. Harmful by inhalation and in contact with skin.

2.2 **Label elements**

- **Labelling according Regulation (EC) No 1272/2008 [CLP]**
  - **Signal word**: Danger
  - **Pictogram**: 
    - **Hazard statement(s)**
      - H312: Harmful in contact with skin.
      - H314: Causes severe skin burns and eye damage.
      - H332: Harmful if inhaled.
    - **Precautionary statement(s)**
      - P280: Wear protective gloves/ protective clothing/ eye protection/ face 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.
      - P310: Immediately call a POISON CENTER or doctor/ physician.

- **Supplemental Hazard information (EU)**
  - EUH014: Reacts violently with water.

**According to European Directive 67/548/EEC as amended.**

- **Hazard symbol(s)**

  - **R-phrase(s)**
    - R14: Reacts violently with water.
    - R34: Causes burns.
    - R20/21: Harmful by inhalation and in contact with skin.
  - **S-phrase(s)**
    - 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).

2.3 **Other hazards**

- Lachrymator.

3. **COMPOSITION/INFORMATION ON INGREDIENTS**

3.1 **Substances**

- **Formula**: SOBr2
- **Molecular Weight**: 207.87 g/mol
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.

**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.

4.2 **Most important symptoms and effects, both acute and delayed**
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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

5. **FIREFIGHTING MEASURES**

5.1 **Extinguishing media**

**Suitable extinguishing media**
Dry powder

5.2 **Special hazards arising from the substance or mixture**

Sulphur oxides, Hydrogen bromide gas

5.3 **Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 **Further information**

No data available.

6. **ACCIDENTAL RELEASE MEASURES**

6.1 **Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2 **Environmental precautions**

Do not let product enter drains.

6.3 **Methods and materials 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.

7. **HANDLING AND STORAGE**

7.1 **Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

7.2 **Conditions for safe storage, including any incompatibilities**

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. Never allow product to get in contact with water during storage.

Recommended storage temperature: 2 - 8 °C

Light sensitive. Handle and store under inert gas. Handle and open container with care.
7.3 Specific end uses
no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace control parameters

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. 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.

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

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 multi-purpose 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).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Appearance</td>
<td>Form: liquid</td>
</tr>
<tr>
<td></td>
<td>Colour: dark red</td>
</tr>
<tr>
<td>b) Odour</td>
<td>unpleasant</td>
</tr>
<tr>
<td>c) Odour Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>d) pH</td>
<td>no data available</td>
</tr>
<tr>
<td>e) Melting point/freezing point</td>
<td>Melting point/range: 52 °C</td>
</tr>
<tr>
<td>f) Initial boiling point and boiling range</td>
<td>48 °C at 27 hPa</td>
</tr>
<tr>
<td>g) Flash point</td>
<td>no data available</td>
</tr>
<tr>
<td>h) Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>i) Flammability (solid, gas)</td>
<td>no data available</td>
</tr>
<tr>
<td>j) Upper/lower flammability or explosive limits</td>
<td>no data available</td>
</tr>
<tr>
<td>k) Vapour pressure</td>
<td>13 hPa at 31 °C</td>
</tr>
<tr>
<td>l) Vapour density</td>
<td>no data available</td>
</tr>
<tr>
<td>m) Relative density</td>
<td>2,683 g/mL at 25 °C</td>
</tr>
<tr>
<td>n) Water solubility</td>
<td>no data available</td>
</tr>
<tr>
<td>o) Partition coefficient: n- octanol/water</td>
<td>no data available</td>
</tr>
<tr>
<td>p) Autoignition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>q) Decomposition temperature</td>
<td>no data available</td>
</tr>
</tbody>
</table>
9.2 Other safety information

10. STABILITY AND REACTIVITY

10.1 Reactivity

10.2 Chemical stability

10.3 Possibility of hazardous reactions

10.4 Conditions to avoid

10.5 Incompatible materials

10.6 Hazardous decomposition products

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

- Acute toxicity

- Skin corrosion/irritation

- Serious eye damage/eye irritation

- Respiratory or skin sensitization

- Germ cell mutagenicity

- 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.

- Reproductive toxicity

- Specific target organ toxicity - single exposure

- Specific target organ toxicity - repeated exposure

- Aspiration hazard

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Aspiration hazard

Potential health effects

- Inhalation: Harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

- Ingestion: May be harmful if swallowed. Causes burns.

- Skin: Harmful if absorbed through skin. Causes skin burns.

- Eyes: Causes eye burns.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonia, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: Not 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  
no data available

12.6 Other adverse effects  
no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

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

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 3264  IMDG: 3264  IATA: 3264

14.2 UN proper shipping name

ADR/RID: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Thionyl dibromide)
IMDG: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Thionyl dibromide)
IATA: Corrosive liquid, acidic, inorganic, n.o.s. (Thionyl dibromide)

14.3 Transport hazard class(es)

ADR/RID: 8  IMDG: 8  IATA: 8

14.4 Packaging group

ADR/RID: I  IMDG: I  IATA: I

14.5 Environmental hazards

ADR/RID: no  IMDG Marine pollutant: no  IATA: no

14.6 Special precautions for user

no data available

15. REGULATORY INFORMATION

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

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

15.2 Chemical Safety Assessment

no data available

- 251259

16. OTHER INFORMATION

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.