

SECTION 1: Identification of the Substance and of the Company/Undertaking

1.1 Product Identifier

Product Name	Trimethylsulfoxonium Bromide
Chemical Name	Trimethylsulfoxonium Bromide
Synonyms	Trimethylsulfoxonium bromide; Trimethylsulfonyl bromide
Molecular Formula	$[(CH_3)_3SO]^+Br^-$
Molecular Weight	173.07 g/mol
CAS Number	25596-24-1
EC Number	Not listed (EINECS/EC Inventory)
Product Code	T1833
Purity	Typically $\geq 98.0\%$

1.2 Relevant Identified Uses of the Substance and Uses Advised Against

Relevant Identified Uses	Pharmaceutical chemical intermediate; synthesis intermediate; sulfur ylide reagent (Corey–Chaykovsky reagent precursor) for R&D use.
Uses Advised Against	Medicinal use; household use; food, drug, pesticide, or biocidal product use; any use not specifically identified above.

1.3 Details of the Supplier of the Safety Data Sheet

Company Name	Intech Organics Limited
Registered Office	Plot No - 27, Sector – 34 Gurgaon, Haryana - 122004 India
Telephone	+91-124-4407000
E-mail	info@intech.in
Website	www.intech.in
SDS Responsible Person	Quality Control Department

1.4 Emergency Telephone Number

Emergency Telephone	+91-124-4407000
Available Hours	24 Hours Emergency Response
CHEMTREC (International)	US & Canada: +1-800-424-9300 International: +1-703-527-3887

SECTION 2: Hazards Identification

2.1 Classification of the Substance or Mixture

Classification according to Regulation 1272/2008 (CLP)	Acute Toxicity, Oral (Category 4), H302
	Skin Irritation (Category 2), H315
	Serious Eye Irritation (Category 2), H319
	Specific Target Organ Toxicity – Single Exposure; Respiratory Irritation (Category 3), H335
Physical Hazards	Not classified. No data available indicating explosive, oxidizing, or pyrophoric properties.

2.2 Label Elements

Hazard Pictograms	
Signal Word	GHS07
Hazard Statements	Warning H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation.
Precautionary Statements	P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash hands and exposed 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/doctor if you feel unwell. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P321 Specific treatment (see first aid advice on this label). P332 + P313 If skin irritation occurs: Get medical advice/attention. P337 + P313 If eye irritation persists: Get medical advice/attention. P362 Take off contaminated clothing and wash before reuse. 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 regulations.
Supplemental Hazard Information	None.

2.3 Other Hazards

PBT/vPvB Assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Ecological Information	The substance/mixture does not contain components considered to have endocrine-disrupting properties according to REACH Article 57(f), Commission Delegated Regulation (EU) 2017/2100, or Commission Regulation (EU) 2018/605, at levels of 0.1% or higher.
Toxicological Information	The substance/mixture does not contain components considered to have endocrine-disrupting properties according to REACH Article 57(f), Commission Delegated Regulation (EU) 2017/2100, or Commission Regulation (EU) 2018/605, at levels of 0.1% or higher.
Other	Dust formation should be avoided; finely divided solid dispersed in air may present a combustible dust hazard under certain conditions (see Section 5). Irritant classification (H315/H319/H335) means dust exposure should be minimized.

SECTION 3: Composition/Information on Ingredients

3.1 Substances

Structural Formula	$(\text{CH}_3)_3\text{S}(\text{O})^+\text{Br}^-$	Chemical Family	Sulfoxonium salt
CAS No.	25596-24-1	Molecular Weight	173.07 g/mol
Name	Product Identifier	Weight %	Classification
Trimethylsulfoxonium Bromide	25596-24-1	$\geq 98\%$	Acute Tox. Oral 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)

Remarks: 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	Show this safety data sheet to the doctor in attendance. First aiders should protect themselves and avoid unnecessary personal exposure.
If inhaled	Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if symptoms occur (may cause respiratory irritation, H335) or if you feel unwell.
In case of skin contact	Take off all contaminated clothing immediately. Rinse/wash skin well with plenty of water. Causes skin irritation (H315); if irritation or a rash occurs, get medical advice/attention.
In case of eye contact	Rinse cautiously with plenty of water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Causes serious eye irritation (H319); if eye irritation persists, get medical advice/attention.
If swallowed	Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Harmful if swallowed (H302); call a POISON CENTER/doctor if you feel unwell.
First aid facilities	Eyewash station and washroom facilities should be readily available in the work area.
Self-protection of the first aider	Use personal protective equipment as required. Avoid unnecessary personal exposure.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/effects	May cause skin irritation, serious eye irritation, and respiratory tract irritation. Harmful if swallowed. Specific delayed effects are not known; treat symptomatically.
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4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	None known. Treat symptomatically.
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SECTION 5: Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media	Dry chemical powder, foam, carbon dioxide (CO ₂), or water spray. Use extinguishing measures appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No specific extinguishing media limitations are known.

5.2 Special hazards arising from the substance or mixture

Specific hazards	As a finely divided combustible organic solid, dust formation and accumulation should be avoided as it may present a dust explosion hazard under specific conditions. Calculated flash point >60 °C; literature flash point 64 °C.
Hazardous combustion products	Hydrogen bromide, carbon monoxide, carbon dioxide, and other irritating decomposition products may be released.

5.3 Advice for firefighters

Special protective equipment for firefighters	Wear self-contained breathing apparatus (SCBA) in pressure-demand mode (MSHA/NIOSH approved or equivalent) and full protective gear.
Precautions for firefighters	Use extinguishing measures appropriate to local circumstances and surroundings. Immediately evacuate personnel to safe areas. Remove undamaged containers from the fire area if safe to do so.

5.4 NFPA 704 Rating

Health	0 – Poses no health hazard, no precautions necessary.
Fire	1 – Materials requiring considerable preheating before ignition can occur; flash point at or above 93.3 °C (200 °F) applies to the general category (e.g. mineral oil, ammonia).
Reactivity	0 – Normally stable, even under fire exposure conditions, and not reactive with water.
Special Hazard	None.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel	Avoid dust formation. Avoid breathing dust/mist/vapours. Avoid contact with skin and eyes. Wear suitable protective equipment (see Section 8). Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Control entry of non-involved personnel around the leakage area by roping off, etc.
Advice for emergency responders	Use personal protective equipment. Keep unprotected personnel away from the area.

6.2 Environmental precautions

Environmental precautions	Prevent further spillage or leakage if safe to do so. Do not let the product enter drains or watercourses. Discharge into the environment must be avoided.
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6.3 Methods and material for containment and cleaning up

Containment and cleanup	Pick up and arrange disposal without creating dust. Collect in suitable, closed, labelled containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment where dust may be present.
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6.4 Reference to other sections

Reference to other sections	For personal protective equipment, refer to Section 8. For disposal considerations, refer to Section 13. See also Sections 11 and 12.
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SECTION 7: Handling and Storage

7.1 Precautions for safe handling

General precaution	Handle in a well-ventilated place; use local exhaust ventilation. Avoid contact with skin, eyes, and clothing. Avoid formation of dust and aerosols. Use non-sparking tools; prevent fire caused by electrostatic discharge. Wear personal protective equipment as described in Section 8. Wash hands and face thoroughly after handling.
Hygiene measures	Remove contaminated clothing immediately. Wash hands before breaks and at the end of work.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions	Keep container tightly closed. Store in a cool, dry, shaded, and well-ventilated place. Store apart from foodstuff containers and incompatible materials.
Recommended storage temperature	Cool, shaded storage; see product label.
Incompatibilities	Strong oxidizing agents.
Storage class	TRGS 510 Storage Class 11 (combustible solids).

7.3 Specific end use(s)

Specific end use(s)	Laboratory and R&D applications identified in Section 1.2. No other specific uses are stipulated.
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SECTION 8: Exposure Controls / Personal Protection

8.1 Control parameters

Exposure limits	Contains no substances with established occupational exposure limit values.
Biological limit values	Not established.
Monitoring methods	Use workplace atmosphere/dust monitoring according to recognized methods and applicable local regulations where indicated by risk assessment.
Derived No Effect Level (DNEL)	No information available.
Predicted No Effect Concentration (PNEC)	No information available.

8.2 Exposure controls

Engineering measures

Engineering controls	Install a closed system or local exhaust ventilation. Ensure adequate general ventilation. Install safety shower and eyewash station near the workstation. Set up emergency exits and a risk elimination area.
Environmental exposure controls	Prevent product from entering drains.

Personal protective equipment

Eye/face protection	Chemical safety goggles with side-shields (not safety glasses alone, given H319 serious eye irritation classification), conforming to EN 166 (EU) or NIOSH (US).
Hand protection	Protective gloves inspected prior to use and satisfying EU Directive 89/686/EEC and standard EN 374.
Skin and body protection	Wear a protective suit and fire/flame-resistant, impervious clothing where indicated by risk assessment.
Respiratory protection	Given the H335 respiratory irritation classification, use a NIOSH/EN 149-approved dust respirator (e.g. P2/N95 or better) whenever dust may be generated; if exposure limits are exceeded or irritation/other symptoms are experienced, use a full-face respirator.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Wash hands and face thoroughly after handling.
Other precautions	Avoid contact with skin, eyes, and clothing. Avoid dust formation. Keep container tightly closed.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state	Solid	Colour	White
Odour	No data available	Odour threshold	No data available
Melting point / freezing point	252 °C (lit.)	Boiling point / range	71 °C at 12 mmHg (lit.)
Flash point	64 °C (lit.); calculated value >60 °C	Evaporation rate	No data available
Flammability (solid, gas)	No data available	Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available	Vapour density	No data available
Relative density / Specific gravity	No data available	Bulk density	No data available
Water solubility	No data available	Solubility in other solvents	No data available
Partition coefficient (n-octanol/water)	No data available	Auto-ignition temperature	275 °C
Decomposition temperature	No data available	Viscosity	No data available
Explosive properties	No data available	Oxidizing properties	Not an oxidizer.
Molecular formula	C ₃ H ₉ BrOS	Molecular weight	173.07 g/mol
Relative vapour density	No data available	Particle characteristics	No data available
pH	No data available	Kinematic viscosity	No data available

9.2 Other information

No relevant additional information.

SECTION 10: Stability and Reactivity

10.1 Reactivity

Reactivity	No data available. As a sulfoxonium salt, it may react as a source of a reactive methylide/methylene-transfer species under strongly basic conditions (relevant to synthetic use); no hazardous reactivity data are reported for the substance as supplied.
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10.2 Chemical stability

Chemical stability	Stable under normal conditions and recommended storage conditions.
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10.3 Possibility of hazardous reactions

Hazardous reactions	None under normal processing. Hazardous polymerization will not occur.
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10.4 Conditions to avoid

Conditions to avoid	Extremes of temperature, direct sunlight, and dust formation/accumulation.
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10.5 Incompatible materials

Incompatible materials	Strong oxidizing agents.
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10.6 Hazardous decomposition products

Hazardous decomposition products	Carbon monoxide, carbon dioxide, and hydrogen bromide may be generated during thermal decomposition or fire. In the event of fire, see Section 5.
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SECTION 11: Toxicological Information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Routes of exposure	Inhalation (dust), skin contact, eye contact, and ingestion.
Acute toxicity	Oral: Harmful if swallowed (Category 4, H302). Inhalation: No data available; respiratory irritation is classified separately under STOT SE (H335). Dermal: No data available.
Skin corrosion / irritation	Causes skin irritation (Category 2, H315).
Serious eye damage / irritation	Causes serious eye irritation (Category 2, H319).
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	May cause respiratory irritation (Category 3, H335).
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Other adverse effects	None known beyond the irritant/harmful-if-swallowed classification above.

11.2 Additional information

Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine-disrupting properties according to REACH Article 57(f), Commission Delegated Regulation (EU) 2017/2100, or Commission Regulation (EU) 2018/605, at levels of 0.1% or higher.
Symptoms / effects, both acute and delayed	None known.

SECTION 12: Ecological Information

12.1 Toxicity

Ecotoxicity	No data available.
Fish toxicity	No data available.
Aquatic invertebrates	No data available.
Toxicity to algae / microorganisms	No data available.

12.2 Persistence and degradability

Persistence	No data available.
Degradability	No data available.

12.3 Bioaccumulative potential

Bioaccumulation	No data available.
Log Pow	No data available.
Bioconcentration factor (BCF)	No data available.

12.4 Mobility in soil

Mobility	No data available.
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12.5 Results of PBT and vPvB assessment

PBT / vPvB assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB), at levels of 0.1% or higher.
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12.6 Endocrine disrupting properties

Assessment	The substance/mixture does not contain components considered to have endocrine-disrupting properties according to REACH Article 57(f), Commission Delegated Regulation (EU) 2017/2100, or Commission Regulation (EU) 2018/605, at levels of 0.1% or higher.
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12.7 Other adverse effects

Other adverse effects	Prevent product from entering drains or watercourses as a matter of good practice; no specific hazard data reported.
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SECTION 13: Disposal Considerations

13.1 Waste treatment methods

Waste from residues / unused products	Disposal in accordance with local and national regulations. Entrust disposal to a licensed waste disposal company. Material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed, or seed by storage or disposal. Do not discharge to sewer systems.
Contaminated packaging	Before disposal of used containers, remove contents completely. Containers can be triple-rinsed (or equivalent) and offered for recycling or reconditioning, or punctured to make unusable and disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.
European Waste Catalogue (EWC)	Waste codes should be assigned by the end user based on the actual application and contamination of the material, in consultation with the waste disposal contractor or competent authority.
Additional information	Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport Information

	US DOT	ADR/RID / IMDG	IATA
UN Number	Not regulated	Not regulated*	Not regulated*
Proper Shipping Name	Trimethylsulfoxonium Bromide	Not regulated*	Not regulated*
Transport Hazard Class	Not regulated	Not regulated*	Not regulated*
Packing Group	Not regulated	Not regulated*	Not regulated*
Environmental Hazards	No	No	No

14.6 Special precautions for user

Special precautions	Not classified as dangerous in the meaning of transport regulations per supplier data. Verify current classification with carrier prior to shipment.
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14.7 Maritime transport in bulk according to IMO instruments

Bulk transport	Not applicable for this substance as supplied.
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SECTION 15: Regulatory Information

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

REACH Restrictions (Annex XVII)	Not applicable.
REACH Candidate List (SVHC, Article 59)	Not applicable.
REACH Authorisation (Annex XIV)	Not applicable.
Ozone-depleting substances	Not applicable.
Persistent Organic Pollutants (Reg. (EU) 2019/1021 / (EC) 850/2004)	Not applicable.
Rotterdam Convention (Reg. (EU) 649/2012)	Not applicable.
Water hazard class (Germany, AwSV Annex 1)	WGK 3 – highly hazardous to water.
Chemical inventories	EINECS/EC Inventory: Not listed. TSCA (US): Not listed / not on inventory. China Catalog of Hazardous Chemicals (2015): Not listed. New Zealand Inventory of Chemicals (NZIoC): Not listed. PICCS (Philippines): Not listed. Vietnam National Chemical Inventory: Not listed. IECSC (China): Not listed. Korea (KECL): Not listed. Canada DSL/NDSL: Not listed. Japan ENCS: Not listed; ISHL: Listed/in compliance.

15.2 Chemical Safety Assessment

Chemical Safety Assessment	A Chemical Safety Assessment is not required for this substance.
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SECTION 16: Other Information

16.1 Full text of H-statements referred to in Sections 2 and 3

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

16.2 Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road.
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail.
IMDG	International Maritime Dangerous Goods Code.
IATA	International Air Transport Association.
LC50	Lethal Concentration, 50%.
LD50	Lethal Dose, 50%.
DNEL	Derived No Effect Level.
PNEC	Predicted No Effect Concentration.
PBT	Persistent, Bioaccumulative and Toxic.
vPvB	Very Persistent and Very Bioaccumulative.
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals.
CLP	Classification, Labelling and Packaging Regulation.
TRGS	Technical Rule for Hazardous Substances (Germany).
WGK	Water Hazard Class (Germany).

16.3 Key literature references and sources of data

- Regulation (EC) No. 1907/2006 (REACH), as amended.
- Regulation (EC) No. 1272/2008 (CLP), as amended.

16.4 Training advice

Personnel handling this substance should receive appropriate training in chemical hazard communication, safe handling of laboratory chemicals, dust control, spill response, and use of personal protective equipment (PPE).

16.5 Revision information

Revision date	10-08-2026
Revision No.	02
Revision notes	Formatted per Annex II of Regulation (EC) No 1907/2006 (REACH) SDS structure. Section 2/3/11/16 hazard classification revised to GHS07 and Warning.

Disclaimer

The information contained in this Safety Data Sheet is believed to be correct at the date of publication and is provided in good faith for guidance on the safe handling, use, processing, storage, transportation, disposal, and release of the substance. Data for physical properties, transport classification, and regulatory status were consolidated from multiple sources. The information relates only to the specific material designated and may not be valid when used in combination with other materials or in any process unless specified.

— End of Safety Data Sheet —