

SAFETY DATA SHEET

Revision Date 14-Feb-2020

Revision Number 2

1. Identification

Product Name Tri(1-aziridinyl)phosphine sulfide

Cat No. : H61778

CAS-No 52-24-4
Synonyms Thio-TEPA; Tris(1-aziridinyl)phosphine sulfide

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.
Details of the supplier of the safety data sheet

Company

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Emergency Telephone Number

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.
After normal business hours, call Carechem 24 at (866) 928-0789.

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|------------------------|-------------|
| Acute oral toxicity | Category 2 |
| Germ Cell Mutagenicity | Category 1A |
| Carcinogenicity | Category 1A |
| Combustible dust | Yes |

Label Elements

Signal Word

Danger

Hazard Statements

May form combustible dust concentrations in air
Fatal if swallowed
May cause genetic defects
May cause cancer

**Precautionary Statements****Prevention**

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product

Response

IF exposed or concerned: Get medical attention/advice

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

WARNING. Cancer - <https://www.p65warnings.ca.gov/>.

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|-------------------------------------|---------|----------|
| Tris(1-aziridinyl)phosphine sulfide | 52-24-4 | > 98 |

4. First-aid measures

| | |
|--|--|
| Eye Contact | Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. |
| Skin Contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. |
| Inhalation | Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required. |
| Ingestion | Call a physician immediately. Clean mouth with water. |
| Most important symptoms and effects | No information available. |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---------------------------------------|--|
| Suitable Extinguishing Media | Water spray. Carbon dioxide (CO ₂). Dry chemical. Chemical foam. |
| Unsuitable Extinguishing Media | No information available |

| | |
|--------------------|--------------------------|
| Flash Point | No information available |
| Method - | No information available |

Autoignition Temperature**Explosion Limits**

| | |
|---|--------------------------|
| Upper | No data available |
| Lower | No data available |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

Fine dust dispersed in air may ignite.

Hazardous Combustion Products

Nitrogen oxides (NO_x). Carbon monoxide (CO). Carbon dioxide (CO₂). Sulfur oxides. Oxides of phosphorus. Burning produces obnoxious and toxic fumes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
4

Flammability
1

Instability
0

Physical hazards
N/A

6. Accidental release measures

Personal Precautions

Ensure adequate ventilation. Use personal protective equipment as required.

Environmental Precautions

See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up

Wear self-contained breathing apparatus and protective suit. Sweep up and shovel into suitable containers for disposal. Do not let this chemical enter the environment.

7. Handling and storage

Handling

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Handle product only in closed system or provide appropriate exhaust ventilation.

Storage

Keep in a dry place. Keep container tightly closed. Keep locked up. Keep refrigerated.

8. Exposure controls / personal protection

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment**Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

| | |
|---|---|
| Physical State | Powder Solid |
| Appearance | White |
| Odor | Slight |
| Odor Threshold | No information available |
| pH | No information available |
| Melting Point/Range | 54 - 57 °C / 129.2 - 134.6 °F |
| Boiling Point/Range | No information available |
| Flash Point | No information available |
| Evaporation Rate | Not applicable |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | Not applicable |
| Specific Gravity | No information available |
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | |
| Decomposition Temperature | No information available |
| Viscosity | Not applicable |
| Molecular Formula | C ₆ H ₁₂ N ₃ P S |
| Molecular Weight | 189.23 |

10. Stability and reactivity

| | |
|---|---|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Incompatible products. |
| Incompatible Materials | Strong oxidizing agents |
| Hazardous Decomposition Products | Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO ₂), Sulfur oxides, Oxides of phosphorus, Burning produces obnoxious and toxic fumes |
| Hazardous Polymerization | No information available. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information**Acute Toxicity****Product Information****Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------------------------------|-------------------------|-------------|-----------------|
| Tris(1-aziridinyl)phosphine sulfide | LD50 = 23 mg/kg (Rat) | Not listed | Not listed |

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|-------------------------------------|---------|---------|-------|------------|------|------------|
| Tris(1-aziridinyl)phosphine sulfide | 52-24-4 | Group 1 | Known | Not listed | X | Not listed |

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains.

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN2811

Hazard Class 6.1

Packing Group II

TDG

UN-No UN2811

Hazard Class 6.1

Packing Group II

IATA

UN-No UN2811

Proper Shipping Name TOXIC SOLID, ORGANIC, N.O.S.*

Hazard Class 6.1

Packing Group II

IMDG/IMO

UN-No UN2811

Proper Shipping Name Toxic solid, organic, n.o.s.

Hazard Class 6.1

Packing Group II

15. Regulatory information

United States of America Inventory

| Component | CAS-No | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|-------------------------------------|---------|------|---|-----------------------------|
| Tris(1-aziridinyl)phosphine sulfide | 52-24-4 | - | - | - |

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component | CAS-No | DSL | NDSL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|-------------------------------------|---------|-----|------|-----------|-------|------|------|-------|------|
| Tris(1-aziridinyl)phosphine sulfide | 52-24-4 | - | - | 200-135-7 | - | X | X | - | - |

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product contains the following Proposition 65 chemicals.

| Component | CAS-No | California Prop. 65 | Prop 65 NSRL | Category |
|-------------------------------------|---------|---------------------|--------------|------------|
| Tris(1-aziridinyl)phosphine sulfide | 52-24-4 | Carcinogen | 0.06 µg/day | Carcinogen |

U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-------------------------------------|---------------|------------|--------------|----------|--------------|
| Tris(1-aziridinyl)phosphine sulfide | X | X | X | X | X |

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

| | |
|-------------------------|---|
| Prepared By | Health, Safety and Environmental Department Email: tech@alfa.com www.alfa.com |
| Revision Date | 14-Feb-2020 |
| Print Date | 14-Feb-2020 |
| Revision Summary | SDS authoring systems update, replaces ChemGes SDS No. 52-24-4. |

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS