

SAFETY DATA SHEET

Creation Date 22-Sep-2009

Revision Date 14-Feb-2020

Revision Number 2

1. Identification

Product Name Tetraethylene glycol

Cat No. : B23880

CAS-No 112-60-7
Synonyms Bisó2-(2-hydroxyethoxy)ethyl ether

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**

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|-------------|
| Skin Corrosion/Irritation | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Germ Cell Mutagenicity | Category 2 |
| Reproductive Toxicity | Category 1B |
| Specific target organ toxicity - (repeated exposure) | Category 2 |
| Target Organs - Liver, Kidney, Blood. | |

Label Elements

None required

Signal Word

Danger

Causes eye irritation
Causes skin irritation
May cause damage to organs through prolonged or repeated exposure

Suspected of causing genetic defects
May damage fertility or the unborn child

**Prevention**

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Do not get in eyes, on skin, or on clothing
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood

Response

Get medical attention/advice if you feel unwell
IF exposed or concerned: Get medical attention/advice

Skin

Take off contaminated clothing and wash before reuse
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Storage

Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|----------------------|----------|----------|
| Tetraethylene glycol | 112-60-7 | 99.5 |

4. First-aid measures

| | |
|--|---|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Get medical attention. Wash off immediately with plenty of water for at least 15 minutes. |
| Inhalation | Remove to fresh air. Get medical attention. |
| Ingestion | Do NOT induce vomiting. Get medical attention. |
| Most important symptoms and effects | Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting |
| 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 | 176 °C / 348.8 °F |
| Method - | No information available |
| Autoignition Temperature | 358 °C / 676.4 °F |
| 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

Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

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
2

Flammability
1

Instability
1

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 | Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Do not let this chemical enter the environment. |
|---|--|

7. Handling and storage

| | |
|-----------------|--|
| Handling | Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid contact with skin and eyes. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. |
| Storage | Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed. Store under an inert atmosphere. |

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 | None under normal use conditions. |
|-----------------------------|-----------------------------------|

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 | No protective equipment is needed under normal use conditions. |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |

9. Physical and chemical properties

| | |
|---|---|
| Physical State | Liquid |
| Appearance | Light yellow |
| Odor | Odorless |
| Odor Threshold | No information available |
| pH | No information available |
| Melting Point/Range | -4.1 °C / 24.6 °F |
| Boiling Point/Range | 324 - 330 °C / 615.2 - 626 °F @ 760 mmHg |
| Flash Point | 176 °C / 348.8 °F |
| Evaporation Rate | No information available |
| Flammability (solid,gas) | Not applicable |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | 0.01 hPa @ 20 °C |
| Vapor Density | 6.7 |
| Specific Gravity | 1.120 |
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | 358 °C / 676.4 °F |
| Decomposition Temperature | No information available |
| Viscosity | 44.9 mPa s at 25 °C |
| Molecular Formula | C ₈ H ₁₈ O ₅ |
| Molecular Weight | 194.23 |

10. Stability and reactivity

| | |
|---|---|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Incompatible products. Exposure to moisture. |
| Incompatible Materials | Acids, Strong oxidizing agents, Strong bases |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO ₂) |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity

| | |
|------------------------------|---|
| Product Information | No acute toxicity information is available for this product |
| Component Information | |

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|----------------------|--|----------------------------|-----------------|
| Tetraethylene glycol | LD50 = 29 g/kg (Rat) LD50 = 28900 µL/kg (Rat) | LD50 = 20 mL/kg (Rabbit) | Not listed |

| | |
|------------------------------------|--------------------------|
| Toxicologically Synergistic | No information available |
|------------------------------------|--------------------------|

Products**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 |
|----------------------|----------|------------|------------|------------|------------|------------|
| Tetraethylene glycol | 112-60-7 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects Not mutagenic in AMES Test

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure Liver Kidney Blood

Aspiration hazard No information available

Symptoms / effects, both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

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.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|----------------------|---|--|---------------------|---|
| Tetraethylene glycol | EC50: > 1000 mg/L, 96h (Pseudokirchneriella subcapitata) | LC50: > 1000 mg/L, 96h static (Oncorhynchus mykiss) | EC50 > 100 mg/L 6 h | EC50: > 1000 mg/L, 48h (Daphnia magna) |

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 Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. Regulatory information

United States of America Inventory

| Component | CAS-No | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|----------------------|----------|------|---|-----------------------------|
| Tetraethylene glycol | 112-60-7 | X | ACTIVE | - |

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

| Component | CAS-No | DSL | NDL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|----------------------|----------|-----|-----|-----------|-------|------|------|-------|----------|
| Tetraethylene glycol | 112-60-7 | X | - | 203-989-9 | X | X | X | X | KE-27692 |

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 does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations Not applicable

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

Creation Date 22-Sep-2009

| | |
|-------------------------|--|
| Revision Date | 14-Feb-2020 |
| Print Date | 14-Feb-2020 |
| Revision Summary | SDS authoring systems update, replaces ChemGes SDS No. 112-60-7/2. |

Disclaimer

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End of SDS