according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 11, 2019

1 Identification · Product identifier · Trade name: Thiosulfate DT · Product code: EDST2940-B Recommended use and restriction on use · Recommended use: Laboratory chemicals Restrictions on use: No relevant information available. · Details of the supplier of the Safety Data Sheet · Manufacturer/Supplier: AquaPhoenix Scientific, Inc. 860 Gitts Run Road Hanover, PA 17331 Phone: (717)632-1291 Toll-Free: (866)632-1291 info@aquaphoenixsci.com Distributor: Aqua Analytics 39555 Orchard Hill Place, Suite 600 Novi, MI 48375 (888) 712-4000 · Emergency telephone number: ChemTel Inc. (800)255-3924 (North America) +1 (813)248-0585 (International) 2 Hazard(s) identification

· Classification of the substance or mixture

The product is not classified as hazardous according to the Globally Harmonized System (GHS).

- [•] Label elements
- · GHS label elements Not regulated.
- · Hazard pictograms: None.
- · Signal word: None
- · Hazard statements: None.
- · Precautionary statements: None.

• Other hazards There are no other hazards not otherwise classified that have been identified.

| · Chemical characterization: Mixtures | | | | | |
|---------------------------------------|-----------------------------------|---|--------|--|--|
| · Components: | | | | | |
| 7732-18-5 | Water | | 90.79% | | |
| 10102-17-7 | Sodium Thiosulfate, Pentahydrate | | 9.16% | | |
| 1303-96-4 | Disodium tetraborate, decahydrate | Repr. 1B, H360 Eye Irrit. 2A, H319 | 0.05% | | |

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 11, 2019

Trade name: Thiosulfate DT

(Cont'd. of page 1)

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret. For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

[•] Description of first aid measures

· General information: No special measures required.

· After inhalation: Supply fresh air; consult doctor in case of complaints.

· After skin contact:

Rinse with warm water.

If skin irritation is experienced, consult a doctor.

· After eye contact:

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

• After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting. Seek medical attention.

· Most important symptoms and effects, both acute and delayed:

Gastric or intestinal disorders when ingested.

Nausea in case of ingestion.

· Danger: No relevant information available.

Indication of any immediate medical attention and special treatment needed:

If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

Extinguishing media

· Suitable extinguishing agents: Use fire fighting measures that suit the environment.

• For safety reasons unsuitable extinguishing agents: No relevant information available.

• Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

• Advice for firefighters

• Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

6 Accidental release measures

[•] Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

For large spills, wear protective clothing.

• Environmental precautions

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Methods and material for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Send for recovery or disposal in suitable receptacles.

(Cont'd. on page 3)

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 11, 2019

(Cont'd. of page 2)

Trade name: Thiosulfate DT

[•] Reference to other sections

See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7 Handling and storage

[·] Handling

• Precautions for safe handling:

Use only in well ventilated areas.

Prevent formation of aerosols.

Avoid splashes or spray in enclosed areas.

· Information about protection against explosions and fires: No special measures required.

[•] Conditions for safe storage, including any incompatibilities

- Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility:
- Store away from foodstuffs.

Store away from caustic solutions.

Store away from oxidizing agents.

- Further information about storage conditions: Keep containers tightly sealed.
- Specific end use(s) No relevant information available.

8 Exposure controls/personal protection

[•] Control parameters

· Components with limit values that require monitoring at the workplace:

| 1303-96-4 Disodium tetraborate, decahydrate | | |
|---|--|--|
| REL (USA) | Long-term value: 5 mg/m ³ | |
| TLV (USA) | Short-term value: 6* mg/m³ Long-term value: 2* mg/m³ *as inhalable fraction | |
| EL (Canada) | Short-term value: 6 mg/m³ Long-term value: 2 mg/m³ | |
| EV (Canada) | Short-term value: 6 mg/m³ Long-term value: 2 mg/m³ inorganic, inhalable | |
| LMPE (Mexico) | Short-term value: 6* mg/m³ Long-term value: 2* mg/m³ A4, *fracción inhalable | |

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

• Engineering controls: No relevant information available.

(Cont'd. on page 4)

Safety Data Sheet according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 11, 2019

Trade name: Thiosulfate DT

| Breathing equipment: Not required under normal conditions of use. Use suitable respiratory protective device in case of insufficient ventilation. For large spills, respiratory protection may be advisable. Protection of hands: |
|--|
| Protective gloves |
| Material of gloves Butyl rubber, BR Fluorocarbon rubber (Viton) Nitrile rubber, NBR Penetration time of glove material The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed. Eye protection: |
| Safety glasses |
| Follow relevant national guidelines concerning the use of protective eyewear. • Body protection: Protective work clothing • Limitation and supervision of exposure into the environment No special requirements. |

• Risk management measures No special requirements.

| Information on basic physical a | and chemical properties | |
|---------------------------------|---|--|
| Appearance: | | |
| Form: | Liquid | |
| Color: | Clear, colorless | |
| Odor: | Not determined. | |
| Odor threshold: | Not determined. | |
| pH-value: | Not determined. | |
| Melting point/Melting range: | Not determined. | |
| Boiling point/Boiling range: | 105-110 °C (221-230 °F) | |
| Flash point: | The product is not flammable. | |
| Flammability (solid, gaseous): | Not applicable. | |
| Auto-ignition temperature: | Not determined. | |
| Decomposition temperature: | Not determined. | |
| Danger of explosion: | Product does not present an explosion hazard. | |
| Explosion limits | | |
| Lower: | Not determined. | |
| Upper: | Not determined. | |

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 11, 2019

Trade name: Thiosulfate DT

| | | (Cont'd. of page |
|--|------------------------------------|------------------|
| · Oxidizing properties: | Not determined. | |
| · Vapor pressure at 20 °C (68 °F): | 23 hPa (17.3 mm Hg) | |
| · Density: | | |
| Relative density: | Not determined. | |
| Vapor density: | Not determined. | |
| Evaporation rate: | Not determined. | |
| · Solubility in / Miscibility with | | |
| Water: | Fully miscible. | |
| · Partition coefficient (n-octanol/wat | er): Not determined. | |
| · Viscosity | | |
| Dynamic: | Not determined. | |
| Kinematic: | Not determined. | |
| [·] Other information | No relevant information available. | |

10 Stability and reactivity

· Reactivity: No relevant information available.

· Chemical stability: Stable under normal temperatures and pressures.

• Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

[•] Possibility of hazardous reactions

Toxic fumes may be released if heated above the decomposition point.

Reacts with strong alkali.

Reacts with oxidizing agents.

• Conditions to avoid Excessive heat.

· Incompatible materials Oxidizing agents.

· Hazardous decomposition products

Under fire conditions only:

Sulfur oxides (SOx)

11 Toxicological information

[·] Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification: None.

• Primary irritant effect:

· On the skin: Based on available data, the classification criteria are not met.

 \cdot On the eye: Based on available data, the classification criteria are not met.

• Sensitization: Based on available data, the classification criteria are not met.

· IARC (International Agency for Research on Cancer):

None of the ingredients are listed.

• NTP (National Toxicology Program):

None of the ingredients are listed.

(Cont'd. on page 6)

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 11, 2019

Trade name: Thiosulfate DT

(Cont'd. of page 5)

· OSHA-Ca (Occupational Safety & Health Administration):

None of the ingredients are listed.

· Probable route(s) of exposure:

Ingestion.

Inhalation.

Eye contact.

Skin contact.

• Acute effects (acute toxicity, irritation and corrosivity): No relevant information available.

- · Repeated dose toxicity: No relevant information available.
- Germ cell mutagenicity: Based on available data, the classification criteria are not met.
- · Carcinogenicity: Based on available data, the classification criteria are not met.
- Reproductive toxicity: Based on available data, the classification criteria are not met.
- STOT-single exposure: Based on available data, the classification criteria are not met.
- · STOT-repeated exposure: Based on available data, the classification criteria are not met.
- Aspiration hazard: Based on available data, the classification criteria are not met.

12 Ecological information

[·] Toxicity

- · Aquatic toxicity No relevant information available.
- * Persistence and degradability No relevant information available.
- · **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- · Additional ecological information
- · General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Other adverse effects No relevant information available.

13 Disposal considerations

[•] Waste treatment methods

· Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

Uncleaned packagings

· Recommendation: Disposal must be made according to official regulations.

14 Transport information

[·] UN-Number

DOT, ADR/RID/ADN, IMDG, IATA

Not regulated.

(Cont'd. on page 7)

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 11, 2019

Trade name: Thiosulfate DT

| | | (Cont'd. of page 6) |
|--|---------------------------------|---------------------|
| [·] UN proper shipping name [·] DOT, ADR/RID/ADN, IMDG, IATA | Not regulated. | |
| [·] Transport hazard class(es) | | |
| · DOT, ADR/RID/ADN, IMDG, IATA · Class | Not regulated. | |
| Packing group DOT, ADR/RID/ADN, IMDG, IATA | Not regulated. | |
| · Environmental hazards | Not applicable. | |
| · Special precautions for user | Not applicable. | |
| Transport in bulk according to Annex MARPOL73/78 and the IBC Code | II of Not applicable. | |

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture · United States (USA) · SARA Section 302 (extremely hazardous substances): None of the ingredients are listed. · Section 355 (extremely hazardous substances): None of the ingredients are listed. • Section 313 (Specific toxic chemical listings): None of the ingredients are listed. · TSCA (Toxic Substances Control Act) 1303-96-4 Disodium tetraborate, decahydrate 7732-18-5 Water · Proposition 65 (California) · Chemicals known to cause cancer: None of the ingredients are listed. · Chemicals known to cause developmental toxicity for females: None of the ingredients are listed.

· Chemicals known to cause developmental toxicity for males:

None of the ingredients are listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

· EPA (Environmental Protection Agency):

1303-96-4 Disodium tetraborate, decahydrate

I (oral)

(Cont'd. on page 8)

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: June 11, 2019

Trade name: Thiosulfate DT

(Cont'd. of page 7)

· IARC (International Agency for Research on Cancer):

None of the ingredients are listed.

Canadian Domestic Substances List (DSL):

None of the ingredients are listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association CAS: Chemical Abstracts Service (division of the American Chemical Society) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent OSHA: Occupational Safety & Health Administration Eye Irrit. 2A: Serious eye damage/eye irritation - Category 2A Repr. 1B: Reproductive toxicity - Category 1B Sources Website, European Chemicals Agency (echa.europa.eu) Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/ overview/home.do) Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org) Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6 Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5. Safety Data Sheets, Individual Manufacturers SDS Prepared by: ChemTel Inc. 1305 North Florida Avenue Tampa, Florida USA 33602-2902 Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573 Website: www.chemtelinc.com