SECTION 1: Identification

1.1 GHS product identifier
GHS product identifier: Sodium Thiosulfate

1.2 Other means of identification
Alternative names: Sodium thiosulfate pentahydrate; Sodium thiosulphate pentahydrate; Thiosulfuric acid (H$_2$S$_2$O$_3$), disodium salt, pentahydrate; Thiosulfate, sodium, pentahydrate; Disodium thiosulfate pentahydrate; Sulfothiorine
CAS No.: 10102-17-7
Molecular formula: Na$_2$S$_2$O$_3$·5H$_2$O
Molecular weight: 248.183

1.3 Recommended use of the chemical and restrictions on use
Recommended use: Used in photography, papermaking, textile, leather, chemical, pesticide and other industries.
Restrictions on use: Use with adequate ventilation.

1.4 Supplier's details
Distributor: Connection Chemical, LP
126 South State St. Ste 200 Newtown, PA 18940
Tel: +1-215-493-4240
Fax: +1-215-493-3801
E-mail: sales@connectionchemical.com

1.5 Emergency phone number
CHEMTREC 1-800-424-9300

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
GHS: Not classified

2.2 GHS label elements, including precautionary statements
Pictogram(s): Not applicable
Signal word: Not applicable
Hazard statement(s): Not applicable
Precautionary statement(s): Not applicable

2.3 Other hazards which do not result in classification
May cause eye, skin and respiratory tract irritation. Ingestion may cause gastrointestinal disturbances. Prolonged or repeated skin contact may cause allergic dermatitis.

SECTION 3: Composition/information on ingredients

3.1 Substances
Chemical name: Thiosulfuric acid (H$_2$S$_2$O$_3$), disodium salt, pentahydrate
### Synonyms:
Sodium thiosulfate pentahydrate; Sodium thiosulphate pentahydrate; Thiosulfate, sodium, pentahydrate; Disodium thiosulfate pentahydrate; Sulfothiorine.

### CAS No.:
10102-17-7

### EC No.:
231-867-5

### 3.2 Mixtures
Not applicable

### SECTION 4: First-aid measures

#### 4.1 Description of necessary first-aid measures

**Eye contact**
Immediately flush eyes with running water for several minutes (remove contact lenses if easily possible), occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

**Skin contact**
Remove contaminated clothing. Wash affected skin with soap and water. Seek medical attention if irritation occurs. Wash clothing before reuse.

**Inhalation**
Not applicable for products in purchased form. If dusts are inhaled, remove to fresh air. If cough or difficulty breathing develops, seek medical attention. If breathing is difficult, give oxygen.

**Ingestion**
Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Seek medical attention immediately. Never give anything by mouth to an unconscious person.

#### 4.2 Most important symptoms/effects, acute and delayed
May cause eye and skin irritation. May cause respiratory and digestive tract irritation. Ingestion of large amounts may cause diarrhea. Prolonged or repeated skin contact may cause allergic dermatitis.

#### 4.3 Indication of immediate medical attention and special treatment needed, if necessary
Note to physicians: Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1 Suitable extinguishing media
Water fog or spray, dry chemical, foam, or CO₂. Use any means suitable for extinguishing surrounding fire.

#### 5.2 Special hazards arising from the chemical
This product is not combustible or explosive. Thermal decomposition will emit toxic/irritating fumes or gases. Gives off irritating or toxic fumes (or gases) in a fire.

#### 5.3 Special protective actions for fire-fighters
Firefighters should wear full protective clothing and positive pressure self-contained breathing apparatus (SCBA). Cool fire exposed containers with water spray from a protected location. Remove containers from fire area if this can be done without risk.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures
Isolate leakage areas and restrict access. Enhance ventilation. Use suitable protective equipment. Avoid contact with eyes and skin. Avoid breathing dust.
6.2 Environmental precautions
Do not let product enter streams, ponds, lakes or sewers.

6.3 Methods and material for containment and cleaning up
Stop leak if without risk. Move containers from leak area. Sweep spilled material into a suitable container for disposal. Avoid generating dusty conditions.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Provide appropriate exhaust ventilation at places where dust is formed.
- Minimize dust generation and accumulation.
- Keep away from incompatibles such as oxidizing agents, acids. Avoid exposure to air or water.
- Use personal protective equipment. Avoid eye and skin contact. Avoid breathing dust.
- Handle in accordance with good industrial hygiene and safety practices. Maintain good housekeeping practices.
- Do not eat, drink or smoke in working areas. Wash hands thoroughly before breaks and after handling.
- Use with adequate ventilation.
- If you feel unwell, seek medical attention and show the label when possible.

7.2 Conditions for safe storage, including any incompatibilities
- Store in a cool, dry and ventilated place. Store at room temperature.
- Hygroscopic. Keep container tightly closed when not in use. Protect from physical damage.
- Avoid direct sunlight, high temperature, and heat. Protect from moisture.
- Do not store together with oxidizing and acidic materials.
- Keep away from foodstuffs, beverages and food.
- Keep out of the reach of children.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
   Occupational exposure limits
   No occupational exposure limits are listed for this chemical.
   Biological exposure limits
   No data available.

8.2 Appropriate engineering controls
   Use adequate ventilation to keep airborne concentrations low. Ensure that eyewash stations and safety showers are close to the workstation location.

8.3 Individual protection measures, such as personal protective equipment (PPE)
   (a) Eye/face protection
   Wear safety glasses with side shields (or goggles) if dusty conditions exist.
   (b) Skin protection
   Wear protective gloves and protective clothing.
   (c) Respiratory protection
   In dusty atmospheres, use an approved particulate filter respirator.
   (d) Thermal hazards
   During the production of this product, wear appropriate thermal protective gloves to prevent thermal burns.
when necessary. None required for normal use.

SECTION 9: Physical and chemical properties

(a) Appearance (physical state, colour etc): Colourless transparent to white crystals or granules
(b) Odour: Odourless
(c) Odour threshold: Not applicable
(d) pH: 6.5 - 9.5 (20% aqueous solution)
7.0 - 8.1 (1% aqueous solution)
(e) Melting point/freezing point: 48°C (118.4°F)
(f) Initial boiling point and boiling range: >100°C (212°F)
(g) Flash point: Not applicable
(h) Evaporation rate: Not applicable
(i) Flammability (solid, gas): Non-flammable
(j) Upper/lower flammability or explosive limits: Not applicable
(k) Vapour pressure: Negligible at 20°C (68°F)
(l) Vapour density: Not applicable
(m) Relative density: 1.729
(n) Solubility(ies): Soluble in water and turpentine; insoluble in alcohol
(o) Partition coefficient: n-octanol/water: Not applicable
(p) Auto-ignition temperature: Not applicable
(q) Decomposition temperature: 100°C (212°F), Elimination of water of crystallization
(r) Viscosity: Not applicable
(s) Explosive properties: No explosive
(t) Oxidising properties: No oxidizing properties

SECTION 10: Stability and reactivity

10.1 Reactivity
Reactive with oxidizing agents and acids. Releases water of crystallization when heated.

10.2 Chemical stability
Stable under recommended storage conditions. Hygroscopic. Efflorescent in dry air above 33 °C (91.4°F).

10.3 Possibility of hazardous reactions
Reacts violently with strong oxidants. Reacts with acids to release sulfur dioxide. An explosion may occur if tritutrated with nitrates, chlorates, or permanganates.

10.4 Conditions to avoid
Direct sunlight, heat, exposure to air or water, and incompatible materials.

10.5 Incompatible materials
Oxidizing agents, acids, halogens, sodium nitrite, etc.

10.6 Hazardous decomposition products
Sulfur oxides, sodium oxides.
SECTION 11: Toxicological information

11.1 (a) Acute toxicity
No acute (oral, dermal, inhalation) toxicity data is available for this chemical.
Other information on acute toxicity: LD<sub>50</sub> Intravenous - rat: >2500 mg/kg
Sodium thiosulfate anhydrous is an agent with a low order of toxicity.

(b) Skin corrosion/irritation
Non-corrosive for skin. May cause skin irritation.

(c) Serious eye damage/irritation
May cause eye irritation.

(d) Respiratory or skin sensitization
Prolonged or repeated skin contact may cause allergic dermatitis.

(e) Germ cell mutagenicity
Genotoxicity in vitro, Ames test, Result: Negative.

(f) Carcinogenicity
Not listed by IARC, NTP, OSHA or ACGIH.

(g) Reproductive toxicity
Sodium thiosulfate anhydrous is classified as FDA pregnancy category C. There are no adequate and well-controlled studies of sodium thiosulfate use in pregnant women.

(h) STOT-single exposure
This product is not classified as a specific target organ toxicant, single exposure.

(i) STOT-repeated exposure
This product is not classified as a specific target organ toxicant, repeated exposure.

(j) Aspiration hazard
Not considered an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity
Ecotoxicity is expected to be low.

12.2 Persistence and degradability
The methods for determining biodegradability are not applicable for inorganic substances. The product may persist in the dry environment. It is soluble in water and can not persist in the aquatic environment.

12.3 Bioaccumulative potential
This product is not bioaccumulative.

12.4 Mobility in soil
If released into wet soil, this water-soluble product will absorb the water/moisture from the soil and may leach through soil into ground water.
If released into dry soil, this product effloresces in warm dry air and remains on the soil surface.

12.5 Other adverse effects
Slightly hazardous for water. Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Disposal methods
Recover or recycle if possible. Waste material must be disposed of in accordance with national, state and local regulations. Do not dispose directly into rivers, watercourses or drains.

Empty containers should be taken for local recycling, recovery or waste disposal.

**SECTION 14: Transport information**

14.1 UN number: Not applicable
14.2 UN proper shipping name: Not applicable
14.3 Transport hazard class(es)
   - ADR/RID: Not regulated
   - IMDG: Not regulated
   - ICAO/IATA: Not regulated
14.4 Packing group: Not applicable
14.5 Environmental hazards: Marine pollutant/Environmentally hazardous: No
14.6 Special precautions for user: No special precautions
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

**SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations specific for the product in question

   - **International**
     - Montreal Protocol
       This product does not contain substances that produce the depletion of the Ozone Layer.
     - Rotterdam Convention
       This product is not subjected to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.
     - Stockholm Convention
       This product does not contain Persistent Organic Pollutants.

   - **European Union (EU)**
     - Regulation (EC) No 1907/2006 (REACH)
       Annex XIV - List of substances subject to authorisation
       None of the ingredients in this product are listed.
       Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
       None of the ingredients in this product are listed.
     - Regulation (EC) No 1272/2008 (CLP)
       This mixture is not classified as hazardous according to Regulation (EC) No 1272/2008.
     - Regulation (EU) No 649/2012 concerning the export and import of dangerous chemicals, Annex I
       None of the ingredients in this product are listed.

   - **Water hazard class (Germany)**
     - WGK 1 (self-assessment): Low hazard to waters.

   - **United States**
     - OSHA Hazard status
       This product is considered as non-hazardous under the OSHA Hazard Communication Standard (29 CFR
CERCLA hazardous substances and corresponding RQs
None of the chemicals in this product have an RQ.

Clean Air Act
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 or Class 2 Ozone depletors.

Clean Water Act (CWA)
None of the chemicals in this product are listed as a Hazardous Substance under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

SARA Title III
- Section 302 Extremely hazardous substances: None.
- Section 313 Toxic chemicals: None.
- Section 311/312 Hazard classes
  Immediate (acute) health hazard: No
  Delayed (chronic) health hazard: No
  Fire hazard: No
  Sudden release of pressure hazard: No
  Reactive hazard: No

California Proposition 65
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

SECTION 16: Other information

(a) Creation/issue date
December 18, 2014; Revision 7/14/15

(b) Abbreviations and acronyms
GHS  Globally Harmonized System of Classification and Labelling of Chemicals
IARC  International Agency for Research on Cancer
NTP  National Toxicology Program
OSHA  Occupational Safety and Health Administration
ACGIH  American Conference of Governmental Industrial Hygienists
FDA  Food and Drug Administration
ADR  European Agreement concerning the International Carriage of Dangerous Goods by Road
RID  Regulations concerning the International Transport of Dangerous Goods by Rail
IMDG  International Maritime Code for Dangerous Goods
ICAO  International Civil Aviation Organization
IATA  International Air Transport Association
MARPOL 73/78  International convention for the prevention of pollution from ships, 1973 as modified by the protocol of 1978
IBC Code  International code for the construction and equipment of ships carrying dangerous chemicals in bulk
REACH  Registration, Evaluation, Authorisation and Restriction of Chemicals
CLP Classification, Labelling and Packaging Regulation [Regulation (EC) No 1272/2008]
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
SARA Superfund Amendments and Reauthorization Act
RTECS Registry of Toxic Effects of Chemical Substances
ICSC International Chemical Safety Cards

(c) Key literature references
[1] RTECS No.: WE6660000
[2] ICSC 1138 - Sodium Thiosulfate
[3] UBA (Federal Environment Agency of German), Administrative Regulation on the Classification of Substances hazardous to waters into Water Hazard Classes (VwVwS), Berlin, German, July 27, 2005

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******************************************************************************End of Safety Data Sheet******************************************************************************