Safety Data Sheet

——*Sodium Thiosulfate*

[Prepared according to GHS Rev. 5 (2013)]

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 ($H_2S_2O_3$), disodium salt, pentahydrate; Thiosulfate, sodium, pentahydrate; Disodium thiosulfate pentahydrate; Sulfothiorine

CAS No.: 10102-17-7

Molecular formula: $Na_2S_2O_3 \cdot 5H_2O$

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

Manufacturer: Yangzhou Chemical Co.,Ltd.

Address: 18 West Wenchang Road, Yangzhou, 225012, China

Website: www.yzchem.cn

Tel: +86-514-87859313

Fax:+86-513-87859301

E-mail: gutong@yzchem.cn

1.5 Emergency phone number

+86-514-87859313

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 ($H_2S_2O_3$), disodium salt, pentahydrate

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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 CO_2. 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.

(Contd. on page 3)

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

(Contd. on page 4)

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℃(118.4℉)
(f) Initial boiling point and boiling range:	＞100℃(212℉)
(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℃(68℉)
(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℃(212℉), 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. Effloresent in dry air above 33℃(91.4℉).

10.3 Possibility of hazardous reactions

Reacts violently with strong oxidants. Reacts with acids to release sulfur dioxide. An explosion may occur if triturated 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

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11.1 (a) Acute toxicity

No acute (oral, dermal, inhalation) toxicity data is available for this chemical.

Other information on acute toxicity: LD_{50} 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

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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

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1910.1200).

- **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

(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

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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