

Safety Data Sheet

Sodium Thiosulfate Pentahydrate Crystals


Printing date 09/26/2014


Reviewed on 09/26/2014

1 Identification

- **Product identifier**
- **Trade name:** Sodium thiosulfate pentahydrate
- **Article number:** STPH
- **CAS Number:**
10102-17-7
- **Application of the substance / the preparation**
Chemical intermediate
Reducing agent/ Deoxidizer
Construction chemicals
Additive in construction industry
Processing aid/ Additive
Additive for cosmetic or pharmaceutical preparations
Laboratory chemicals
- **Details of the supplier of the safety data sheet**
Distributor:
Level 7 Chemical, Inc.
253 Sturgis Rd
Conway, AR 72034
1-855-927-1777
- **Emergency telephone number:** Chemtrec at 1-800-424-9300.

2 Hazard(s) identification

- **Classification of the substance or mixture**
The substance is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
- **Information concerning particular hazards for human and environment:** Not applicable.
- **Classification system:**
The classification is in line with internationally approved calculation standards. It is expanded, however, by information from technical literature and by information furnished by supplier companies.
- **Label elements**
- **Labelling according to EU guidelines:**
The substance is not subject to classification according to the sources of literature known to us.
Observe the general safety regulations when handling chemicals.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**


Health = 2
Fire = 0
Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**


Health = 2
Fire = 0
Reactivity = 0
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

Trade name: Sodium thiosulfate pentahydrate

· **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
10102-17-7 Sodium thiosulphate pentahydrate

4 First-aid measures

- **Description of first aid measures**
- **General information:** Remove severely contaminated clothing and clean before reuse.
- **After inhalation:**
Loosen tight clothing such as a collar, tie, belt or waistband.
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Remove contaminated clothing and shoes.
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Protect unharmed eye.
- **After swallowing:**
If swallowed do not induce vomiting, seek medical advice and show safety data sheet or label
- **Most important symptoms and effects, both acute and delayed**
See Section 11 for more detailed information on health effects and symptoms.
- **Information for doctor:** See Section 11 for more detailed information on health effects and symptoms.
- **Indication of any immediate medical attention and special treatment needed**
See Section 11 for more detailed information on health effects and symptoms.
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
Not flammable. Use appropriate extinguishing media for the combustible material involved in the fire.
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Sulphur dioxide (SO₂)
- **Advice for firefighters**
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.
No action shall be taken involving any personal risk or without suitable training.
Move containers from fire area if this can be done without risk.
- **Protective equipment:**
Wear fully protective suit.
Firefighters should use self-contained breathing apparatus.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

USA

Trade name: Sodium thiosulfate pentahydrate

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

No action shall be taken involving any personal risk or without suitable training.

Keep away unnecessary and unprotected personnel.

Put on appropriate personal protective equipment (see Section 8).

Avoid formation of dust.

Ensure adequate ventilation

- **Environmental precautions:**

Keep contaminated washing water and dispose of appropriately.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up:**

Stop leak if without risk.

Move containers from spill area.

Vacuum, sweep, shovel or use wet clean-up techniques and place waste material in closed container.

Dispose contaminated material as waste according to item 13.

- **Reference to other sections**

See Section 1 for emergency contact information.

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

- **Precautions for safe handling**

Prevent formation of dust.

Provide suction extractors if dust is formed.

- **Information about protection against explosions and fires:** The product is not flammable.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:** Store in accordance with local regulations.

- **Requirements to be met by storerooms and receptacles:**

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Do not store in unlabelled containers.

- **Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with oxidizing materials.

Avoid contact with strong acids or bases.

- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:**

Mechanical ventilation may be required to maintain exposure levels below limits.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:** Not required.

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Do not eat, drink, smoke or sniff while working.

Wash contaminated clothing before reusing.

Trade name: Sodium thiosulfate pentahydrate

Avoid contact with the eyes and skin.

Ensure that washing facilities are available at the work place.

- **Breathing equipment:**

Suitable respiratory protection for lower concentrations or short-term effect: Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

- **Protection of hands:**

Chemical resistant protective gloves (EN 374).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **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 with side-shields

- **Body protection:**

Protective work clothing

Boots

- **Limitation and supervision of exposure into the environment**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Crystalline powder

Color: White

- **Odor:** Odorless

- **Odour threshold:** Not determined.

- **pH-value (10 g/l) at 25 °C (77 °F):** 6.0 - 8.4

- **Change in condition**

Melting point/Melting range: Undetermined.

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Product is not flammable.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Specific gravity at 20 °C (68 °F):** 1.72 g/cm³ (14.353 lbs/gal)

- **Solubility in / Miscibility**

with Water at 25 °C (77 °F): 764 g/l

- **Other information** No further relevant information available.

Trade name: Sodium thiosulfate pentahydrate

10 Stability and reactivity

- **Reactivity**
- **Chemical stability** Stable under normal ambient conditions.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** Reacts with oxidizing agents.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Strong oxidizers such as chlorates, bromates, and nitrates.
- **Hazardous decomposition products:**
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

10102-17-7 Sodium thiosulphate pentahydrate

Oral	LD50	> 2000 mg/kg (Rat (female)) (OECD 425)
Dermal	LD50	> 2000 mg/kg (Rat (male))
Inhalative	LC0/4hr.	> 2.6 mg/lit (Rat (male))
	LD 50 Intravenous	> 2500 mg/kg (rat)

- **Repeated dose toxicity :**

10102-17-7 Sodium thiosulphate pentahydrate

Oral	NOAEL	108 mg/kg (rat)
------	-------	-----------------

- **Irritation / Corrosion :**

10102-17-7 Sodium thiosulphate pentahydrate

Irritation of skin	In vivo	- (rabbit) (OECD 404)
Irritation of eyes	In vivo	- (rabbit) (OECD 405)

- **Sensitisation :**

10102-17-7 Sodium thiosulphate pentahydrate

Sensitization	In vivo	- (mouse) (OECD 429)
---------------	---------	----------------------

- **Genetic toxicity :**

10102-17-7 Sodium thiosulphate pentahydrate

In vitro mammalian cell gene mutation assay	In	- (mouse) (OECD 476)
vitro mammalian chromosome aberration test		- (Hamster) (OECD 473)
Reverse mutation assay (Ames test)		- (Salmonella typhimurium) (OECD 471)

- **Toxicity to reproduction :**

- **Toxicity to reproduction:**

10102-17-7 Sodium thiosulphate pentahydrate

Oral	NOAEL	108 mg/kg bw/day (rat)
------	-------	------------------------

- **Teratogenicity :**

10102-17-7 Sodium thiosulphate pentahydrate

Oral	NOAEL	> 550 mg/kg bw/day (mouse) (OECD 414)
------	-------	---------------------------------------

- **Potential health effects :**

- **Ingestion :**

Expected to be a low ingestion hazard for usual industrial handling.

Trade name: Sodium thiosulfate pentahydrate

Ingestion of large doses may cause gastrointestinal irritation disturbances with nausea, vomiting, addominal cramping, diarrhea, metabolic acidosis, and hypernatremia.

May also affect respiration (cyanosis, respiratory stimulation), cardiovascular(hypotension), behavior (ataxia, convulsions)

- **Primary irritant effect:**

- **on the skin:**

May irritate the skin and mucous membranes

May cause dermatitis.

- **on the eye:** May irritate the eyes by mechanical effect.

- **by ingestion:** May cause irritation of the digestive tract and may cause purging.

- **Sensitization:** No sensitizing effects known.

- **Subacute to chronic toxicity:**

Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

The substance may be is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

- **Additional toxicological information:**

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

The substance is not subject to classification.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

12 Ecological information

- **Aquatic toxicity:**

- **Short- term toxicity :**

10102-17-7 Sodium thiosulphate pentahydrate

EC50/3 hr.	> 1000 mg/lit. (activated sludge) (OECD 209)
EC50/48 hr. (static)	230 mg/lit (Daphnia magna)
EC50/72 h. (static)	> 100 mg/lit (algae) (OECD 201)
LC50/96 h (static)	510 mg/lit (fish)

- **Long-term toxicity :**

10102-17-7 Sodium thiosulphate pentahydrate

NOEC (static)	> 316 mg/lit (fish) (OECD 210)
	> 10 mg/lit (Daphnia magna) (OECD 211)

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Ecotoxical effects:**

- **Remark:**

The product does not contain heavy metals in concentrations of concern for waste water.

The product does not release nitrogen which can contribute to eutrophication.

The product does not contain phosphates or organophosphorus compounds.

The product is oxygen-consuming. The declared action may be partly caused by lack of oxygen.

Trade name: Sodium thiosulfate pentahydrate· **Behavior in sewage processing plants:**· **Remark:**

Incidental down-the-drain disposal of small quantities of product will not affect the performance of wastewater treatment systems.

· **Additional ecological information:**· **General notes:**

Water hazard class 1 (Assessment by list): slightly hazardous for water

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

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations· **Waste treatment methods**· **Recommendation:**

Contact manufacturer for recycling information.

Contact waste processors for recycling information.

Smaller quantities can be disposed of with household waste.

Any disposal practice must be in compliance with all local and national laws and regulations. Do not dump into any sewers, on the ground, or into any body of water.

· **Uncleaned packagings:**· **Recommendation:**

Packaging can be reused or recycled after cleaning.

Disposal must be made according to official regulations.

Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

· **Special precautions :**

Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14 Transport information· **UN-Number**

· **DOT, ADR, ADN, IMDG, IATA** Void

· **UN proper shipping name**

· **DOT, ADR, ADN, IMDG, IATA** Void

· **Transport hazard class(es)**

· **DOT, ADR, ADN, IMDG, IATA**

· **Class** Void

· **Packing group**

· **DOT, ADR, IMDG, IATA** Void

· **Environmental hazards:**

· **Marine pollutant:** No

· **Special precautions for user** Not applicable.

· **Transport in bulk according to Annex II of MARPOL/73/78 and the IBC Code**

Not applicable.

Trade name: Sodium thiosulfate pentahydrate

- | | |
|--|---|
| · Transport/Additional information: | Not dangerous according to the above specifications.
Keep separated from foodstuffs. |
| · UN "Model Regulation": | - |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Section 355 (extremely hazardous substances):**

Substance is not listed.

- **CERCLA Hazardous Substances**

Substance is not listed.

- **Hazard Communication Standard (HCS)**

Substance is not listed.

- **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

- **TSCA (Toxic Substances Control Act):**

7732-18-5 water

- **Clean Air Act – Hazardous Air Pollutants (HAP)**

Substance is not listed.

- **Clean Water Act – Priority Pollutants (PP)**

Substance is not listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

- **Chemicals known to cause developmental toxicity:**

Substance is not listed.

- **Carcinogenicity categories**

- **EPA (Environmental Protection Agency)**

Substance is not listed.

- **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

- **Product related hazard informations:**

The substance is not subject to classification according to the sources of literature known to us.
Observe the general safety regulations when handling chemicals.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

USA

Trade name: Sodium thiosulfate pentahydrate**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.

· **Department issuing SDS:** Product safety department.

· **Contact:** Mr. Kwok

· **Date of preparation / last revision** 09/26/2014 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (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

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL : Non Observed Adverse Effects Level

LOAEC : Lowest Observable Adverse Effect Concentration

EC50 : Maximal effective concentration, 50 percent

· *** Data compared to the previous version altered.**

USA