

Creation Date 06-Aug-2009

Revision Date 20-Oct-2023

Revision Number 6

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

|                                  |                                                                                    |
|----------------------------------|------------------------------------------------------------------------------------|
| <b>Product Description:</b>      | <b><u>Sodium thiosulfate pentahydrate</u></b>                                      |
| <b>Cat No. :</b>                 | <b><u>S/7160/70, S/7160/71, S/7160/63</u></b>                                      |
| <b>Synonyms</b>                  | Sodium Hyposulfite; Disodium Thiosulfate Pentahydrate.; Disodium Salt Pentahydrate |
| <b>CAS No</b>                    | 10102-17-7                                                                         |
| <b>Molecular Formula</b>         | Na <sub>2</sub> O <sub>3</sub> S <sub>2</sub> . 5 H <sub>2</sub> O                 |
| <b>REACH registration number</b> | 01-2119531537-38 (for the anhydrous form)                                          |

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

|                             |                          |
|-----------------------------|--------------------------|
| <b>Recommended Use</b>      | Laboratory chemicals.    |
| <b>Uses advised against</b> | No Information available |

### 1.3. Details of the supplier of the safety data sheet

#### Company

**UK entity/business name**  
Fisher Scientific UK  
Bishop Meadow Road, Loughborough,  
Leicestershire LE11 5RG, United Kingdom

**EU entity/business name**  
Thermo Fisher Scientific  
Janssen Pharmaceuticaaan 3a  
2440 Geel, Belgium

**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

Tel: 01509 231166  
Chemtrec US: (800) 424-9300  
Chemtrec EU: 001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567**

#### **Physical hazards**

Based on available data, the classification criteria are not met

#### **Health hazards**

# SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 20-Oct-2023

Based on available data, the classification criteria are not met

## **Environmental hazards**

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## **2.2. Label elements**

None required

## **2.3. Other hazards**

This product does not contain any known or suspected endocrine disruptors

## **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

### **3.1. Substances**

| Component                       | CAS No     | EC No     | Weight % | CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567 |
|---------------------------------|------------|-----------|----------|-----------------------------------------------------------------------------------------|
| Sodium thiosulfate pentahydrate | 10102-17-7 |           | <= 100   | -                                                                                       |
| Sodium thiosulfate              | 7772-98-7  | 231-867-5 | -        | -                                                                                       |

**REACH registration number**

01-2119531537-38 (for the anhydrous form)

Full text of Hazard Statements: see section 16

## **SECTION 4: FIRST AID MEASURES**

### **4.1. Description of first aid measures**

|                                           |                                                                                                                         |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>                        | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.         |
| <b>Skin Contact</b>                       | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur. |
| <b>Ingestion</b>                          | Do NOT induce vomiting. Get medical attention.                                                                          |
| <b>Inhalation</b>                         | Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.       |
| <b>Self-Protection of the First Aider</b> | No special precautions required.                                                                                        |

### **4.2. Most important symptoms and effects, both acute and delayed**

# SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 20-Oct-2023

No information available.

## **4.3. Indication of any immediate medical attention and special treatment needed**

Notes to Physician

Treat symptomatically.

## **SECTION 5: FIREFIGHTING MEASURES**

### **5.1. Extinguishing media**

#### **Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

### **5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapors.

#### **Hazardous Combustion Products**

Sulfur oxides, Sodium oxides.

### **5.3. Advice for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

### **6.2. Environmental precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information.

### **6.3. Methods and material for containment and cleaning up**

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

### **6.4. Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

## **SECTION 7: HANDLING AND STORAGE**

### **7.1. Precautions for safe handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Avoid dust formation.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do

# SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 20-Oct-2023

not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

## 7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

Technical Rules for Hazardous Substances (TRGS) 510 Class 13  
Storage Class (LGK) (Germany)

## 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s):

#### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

#### Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

| Component                           | Acute effects local<br>(Inhalation) | Acute effects<br>systemic (Inhalation) | Chronic effects local<br>(Inhalation) | Chronic effects<br>systemic (Inhalation) |
|-------------------------------------|-------------------------------------|----------------------------------------|---------------------------------------|------------------------------------------|
| Sodium thiosulfate<br>7772-98-7 (-) |                                     |                                        |                                       | DNEL = 374mg/m <sup>3</sup>              |

#### Predicted No Effect Concentration (PNEC)

See values below.

| Component                           | Fresh water    | Fresh water<br>sediment | Water Intermittent | Microorganisms in<br>sewage treatment | Soil (Agriculture) |
|-------------------------------------|----------------|-------------------------|--------------------|---------------------------------------|--------------------|
| Sodium thiosulfate<br>7772-98-7 (-) | PNEC = 0.8mg/L |                         |                    | PNEC = 102.6mg/L                      |                    |

| Component                           | Marine water    | Marine water<br>sediment | Marine water<br>intermittent | Food chain | Air |
|-------------------------------------|-----------------|--------------------------|------------------------------|------------|-----|
| Sodium thiosulfate<br>7772-98-7 (-) | PNEC = 0.08mg/L |                          |                              |            |     |

### 8.2. Exposure controls

#### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

# SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 20-Oct-2023

## Personal protective equipment

### Eye Protection

Wear safety glasses with side shields (or goggles) (European standard - EN 166)

### Hand Protection

Protective gloves

| Glove material                                      | Breakthrough time                    | Glove thickness | EU standard | Glove comments        |
|-----------------------------------------------------|--------------------------------------|-----------------|-------------|-----------------------|
| Natural rubber<br>Nitrile rubber<br>Neoprene<br>PVC | See manufacturers<br>recommendations | -               | EN 374      | (minimum requirement) |

### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.  
(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

### Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** Particle filter

### Small scale/Laboratory use

Maintain adequate ventilation

### Environmental exposure controls

No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

|                                         |                          |                                   |
|-----------------------------------------|--------------------------|-----------------------------------|
| Physical State                          | Solid                    |                                   |
| Appearance                              | White                    |                                   |
| Odor                                    | Odorless                 |                                   |
| Odor Threshold                          | No data available        |                                   |
| Melting Point/Range                     | 48.5 °C / 119.3 °F       |                                   |
| Softening Point                         | No data available        |                                   |
| Boiling Point/Range                     | No information available |                                   |
| Flammability (liquid)                   | Not applicable           | Solid                             |
| Flammability (solid,gas)                | No information available |                                   |
| Explosion Limits                        | No data available        |                                   |
| Flash Point                             | No information available | Method - No information available |
| Autoignition Temperature                | No data available        |                                   |
| Decomposition Temperature               | > 45°C                   |                                   |
| pH                                      | 6.0-8.4                  | 10% aq. sol                       |
| Viscosity                               | Not applicable           | Solid                             |
| Water Solubility                        | 680 g/L (20°C)           |                                   |
| Solubility in other solvents            | No information available |                                   |
| Partition Coefficient (n-octanol/water) |                          |                                   |
| Component                               | log Pow                  |                                   |
| Sodium thiosulfate                      | -4.35                    |                                   |

# SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 20-Oct-2023

|                            |                   |       |
|----------------------------|-------------------|-------|
| Vapor Pressure             | No data available |       |
| Density / Specific Gravity | No data available |       |
| Bulk Density               | No data available |       |
| Vapor Density              | Not applicable    | Solid |
| Particle characteristics   | No data available |       |

## 9.2. Other information

|                   |                                                                    |
|-------------------|--------------------------------------------------------------------|
| Molecular Formula | Na <sub>2</sub> O <sub>3</sub> S <sub>2</sub> . 5 H <sub>2</sub> O |
| Molecular Weight  | 248.18                                                             |
| Evaporation Rate  | Not applicable - Solid                                             |

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

|                          |                                          |
|--------------------------|------------------------------------------|
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions      | None under normal processing.            |

### 10.4. Conditions to avoid

Avoid dust formation. Excess heat.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Sulfur oxides. Sodium oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Product Information

#### (a) acute toxicity;

|            |                                                                  |
|------------|------------------------------------------------------------------|
| Oral       | Based on available data, the classification criteria are not met |
| Dermal     | No data available                                                |
| Inhalation | No data available                                                |

| Component          | LD50 Oral         | LD50 Dermal | LC50 Inhalation |
|--------------------|-------------------|-------------|-----------------|
| Sodium thiosulfate | >8000 mg/kg (Rat) | -           | -               |

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

#### (d) respiratory or skin sensitization;

|             |                   |
|-------------|-------------------|
| Respiratory | No data available |
|-------------|-------------------|

# SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 20-Oct-2023

|                                            |                                                                                                                   |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Skin                                       | No data available                                                                                                 |
| (e) germ cell mutagenicity;                | No data available                                                                                                 |
| (f) carcinogenicity;                       | No data available<br>There are no known carcinogenic chemicals in this product                                    |
| (g) reproductive toxicity;                 | No data available                                                                                                 |
| (h) STOT-single exposure;                  | No data available                                                                                                 |
| (i) STOT-repeated exposure;                | No data available                                                                                                 |
| Target Organs                              | No information available.                                                                                         |
| (j) aspiration hazard;                     | Not applicable<br>Solid                                                                                           |
| Other Adverse Effects                      | The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information |
| Symptoms / effects, both acute and delayed | No information available.                                                                                         |

## 11.2. Information on other hazards

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecotoxicity effects** Do not empty into drains. Do not flush into surface water or sanitary sewer system.

| Component                       | Freshwater Fish                            | Water Flea | Freshwater Algae |
|---------------------------------|--------------------------------------------|------------|------------------|
| Sodium thiosulfate pentahydrate | Pimephales promelas:<br>LC50>10000mg/L/96h |            |                  |

### 12.2. Persistence and degradability

**Persistence** Soluble in water, Persistence is unlikely, based on information available.  
**Degradability** Not relevant for inorganic substances.

### 12.3. Bioaccumulative potential

Bioaccumulation is unlikely

| Component          | log Pow | Bioconcentration factor (BCF) |
|--------------------|---------|-------------------------------|
| Sodium thiosulfate | -4.35   | No data available             |

### 12.4. Mobility in soil

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

# SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 20-Oct-2023

**12.5. Results of PBT and vPvB assessment** No data available for assessment.

**12.6. Endocrine disrupting properties**

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors

**12.7. Other adverse effects**  
**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

**13.1. Waste treatment methods**

**Waste from Residues/Unused Products** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

**Contaminated Packaging** Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

**European Waste Catalogue (EWC)** According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used.

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO** Not regulated

**14.1. UN number**

**14.2. UN proper shipping name**

**14.3. Transport hazard class(es)**

**14.4. Packing group**

**ADR**

Not regulated

**14.1. UN number**

**14.2. UN proper shipping name**

**14.3. Transport hazard class(es)**

**14.4. Packing group**

**IATA**

Not regulated

**14.1. UN number**

**14.2. UN proper shipping name**

**14.3. Transport hazard class(es)**

**14.4. Packing group**

**14.5. Environmental hazards**

No hazards identified

# SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 20-Oct-2023

**14.6. Special precautions for user** No special precautions required.

**14.7. Maritime transport in bulk according to IMO instruments** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component                       | CAS No     | EINECS    | ELINCS | NLP | IECSC | TCSI | KECL     | ENCS | ISHL |
|---------------------------------|------------|-----------|--------|-----|-------|------|----------|------|------|
| Sodium thiosulfate pentahydrate | 10102-17-7 | -         | -      | -   | X     | X    | -        | X    | X    |
| Sodium thiosulfate              | 7772-98-7  | 231-867-5 | -      | -   | X     | X    | KE-31633 | X    | X    |

| Component                       | CAS No     | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|---------------------------------|------------|------|-----------------------------------------------|-----|------|------|-------|-------|
| Sodium thiosulfate pentahydrate | 10102-17-7 | -    | -                                             | X   | -    | X    | X     | X     |
| Sodium thiosulfate              | 7772-98-7  | X    | ACTIVE                                        | X   | -    | X    | X     | X     |

**Legend:** X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**Authorisation/Restrictions according to EU REACH** Not applicable

| Component                       | CAS No     | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---------------------------------|------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Sodium thiosulfate pentahydrate | 10102-17-7 | -                                                                   | -                                                                             | -                                                                                                     |
| Sodium thiosulfate              | 7772-98-7  | -                                                                   | -                                                                             | -                                                                                                     |

#### Seveso III Directive (2012/18/EC)

| Component                       | CAS No     | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|---------------------------------|------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Sodium thiosulfate pentahydrate | 10102-17-7 | Not applicable                                                                            | Not applicable                                                                           |
| Sodium thiosulfate              | 7772-98-7  | Not applicable                                                                            | Not applicable                                                                           |

**Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals**

Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

#### National Regulations

# SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 20-Oct-2023

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification See table for values

| Component                       | Germany - Water Classification (AwSV) | Germany - TA-Luft Class |
|---------------------------------|---------------------------------------|-------------------------|
| Sodium thiosulfate pentahydrate | WGK1                                  |                         |
| Sodium thiosulfate              | WGK1                                  |                         |

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3

#### Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer  
Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

#### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

#### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Creation Date 06-Aug-2009  
Revision Date 20-Oct-2023  
Revision Summary Not applicable.

This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as

# SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 20-Oct-2023

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amended.

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**