

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

**Product Identifier**

<b>Product Description:</b>	<b>Sodium thiosulfate pentahydrate, ACS</b>
<b>Cat No. :</b>	<b>14518</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

**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

**Details of the supplier of the safety data sheet**

<b>Importer</b>	<b>Supplier</b>
Fisher Scientific Korea	Thermo Fisher Scientific Chemicals, Inc.
D5,D6, Incheon Airport Logistics Complex	30 Bond Street
150, Gonghangdong-Ro 296 Beon-Gil	Ward Hill, MA 01835-8099
Jung-Gu, Incheon	
Tel: +82-1661-9555	
Fax: +82-2-2023-0603	

<b>E-mail address</b>	Chem.KR@thermofisher.com
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**Emergency Telephone Number**

Emergency telephone: Medical: +(82) 070-7686-0086 or + 1-703-741-5970  
 CHEMTREC: 080 822 1374 (Local), CHEMTREC: 1-800-424-9300 or + 1-703-527-3887  
 Korea: 00-308-13-2549 (24 hours a day, 7 days a week)

## SECTION 2: HAZARDS IDENTIFICATION

**Classification of the substance or mixture**
**Physical hazards**

Based on available data, the classification criteria are not met

**Health hazards**

Based on available data, the classification criteria are not met

**Environmental hazards**

Based on available data, the classification criteria are not met

**Label Elements**

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## Other Hazards

This product does not contain any known or suspected endocrine disruptors

## NFPA

Health  
1

Flammability  
1

Instability  
1

Physical hazards  
N/A

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Component	Common Name	CAS No	Index No	Weight %
Sodium thiosulfate pentahydrate	Sodium Hyposulfite; Disodium Thiosulfate Pentahydrate.; Disodium Salt Pentahydrate	10102-17-7	Not listed	99 - 100
Sodium thiosulfate	Thiosulfuric Acid Disodium Salt; Sodium Oxide Sulfide; Sodium Hyposulfite	7772-98-7	KE-31633	-

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

#### Ingestion

Do NOT induce vomiting. Get medical attention.

#### Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

#### Self-Protection of the First Aider

No special precautions required.

### Most important symptoms and effects, both acute and delayed

No information available.

### Indication of any immediate medical attention and special treatment needed

#### Notes to Physician

Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

Suitable Extinguishing Media

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Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

No information available.

## 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.

## Advice for fire-fighters

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

### Personal Precautions, Protective Equipment and Emergency Procedures

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

### Environmental precautions

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

### Methods and Material for Containment and Cleaning Up

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

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 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.

### Conditions for Safe Storage, Including any Incompatibilities

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

### Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	CAS No	Korea	ACGIH TLV	OSHA PEL
Sodium thiosulfate pentahydrate	10102-17-7	Not listed	Not listed	Not listed
Sodium thiosulfate	7772-98-7	Not listed	Not listed	Not listed

Component	CAS No	European Union	The United Kingdom	Germany
Sodium thiosulfate pentahydrate	10102-17-7	Not listed	Not listed	Not listed

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Sodium thiosulfate	7772-98-7	Not listed	Not listed	Not listed
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## ACGIH - Biological Exposure Indices

Component	CAS No	ACGIH - Biological Exposure Indices
Sodium thiosulfate pentahydrate	10102-17-7	Not listed
Sodium thiosulfate	7772-98-7	Not listed

## Exposure Controls

### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

### Personal protective equipment

#### Eye Protection

Wear safety glasses with side shields (or goggles)

#### Hand Protection

Protective gloves

#### 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.

#### Personal protective equipment

#### Respiratory Protection

Use only those certified by the Korea Occupational Safety and Health Administration.

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

#### Recommended Filter type:

Particle filter

## Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

## Environmental exposure controls

No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Appearance (Physical State, Color, White Solid etc.)

Odor

Odorless

Odor Threshold

No data available

pH

6.0-8.4

10% aq. sol

Melting Point/Range

48.5 °C / 119.3 °F

Softening Point

No data available

Boiling Point/Range

No information available

Flash Point

No information available

Method - No information available

Evaporation Rate

Not applicable

Solid

Flammability (solid,gas)

No information available

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**Explosion Limits** No data available

**Vapor Pressure** No data available  
**Vapor Density** Not applicable Solid  
**Specific Gravity / Density** No data available  
**Bulk Density** No data available  
**Water Solubility** 680 g/L (20°C)  
**Solubility in other solvents** No information available

## Partition Coefficient (n-octanol/water)

Component	CAS No	log Pow
Sodium thiosulfate pentahydrate	10102-17-7	No data available
Sodium thiosulfate	7772-98-7	-4.35

**Autoignition Temperature** No data available  
**Decomposition Temperature** > 45°C  
**Viscosity** Not applicable Solid  
**Explosive Properties** No information available  
**Oxidizing Properties** No information available

**Molecular Formula** Na<sub>2</sub> O<sub>3</sub> S<sub>2</sub> . 5 H<sub>2</sub> O  
**Molecular Weight** 248.18

## SECTION 10: STABILITY AND REACTIVITY

**Reactivity** None known, based on information available

**Chemical Stability** Stable under normal conditions.

### Possibility of Hazardous Reactions

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

**Conditions to Avoid** Avoid dust formation. Excess heat.

**Incompatible Materials** Strong oxidizing agents.

**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

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## Product Information

### Information on expected route of exposure

**Inhalation** May cause irritation of respiratory tract.  
**Ingestion** May cause irritation.  
**Eyes** May cause irritation.  
**Skin** May cause irritation.

### Information on Health Hazards

#### (a) acute toxicity;

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

Component	CAS No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium thiosulfate pentahydrate	10102-17-7	No data available	No data available	No data available
Sodium thiosulfate	7772-98-7	>8000 mg/kg (Rat)	No data available	No data available

(b) skin corrosion/irritation; No data available

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

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

**Respiratory** No data available  
**Skin** No data available

Component	CAS No	Test method	Test species	Study result
Sodium thiosulfate pentahydrate	10102-17-7	No data available	No data available	No data available
Sodium thiosulfate	7772-98-7	No data available	No data available	No data available

(e) germ cell mutagenicity; No data available

Component	CAS No	Test method	Test species	Study result
Sodium thiosulfate pentahydrate	10102-17-7	No data available	No data available	No data available
Sodium thiosulfate	7772-98-7	No data available	No data available	No data available

(f) carcinogenicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Sodium thiosulfate pentahydrate	10102-17-7	No data available	No data available	No data available
Sodium thiosulfate	7772-98-7	No data available	No data available	No data available

There are no known carcinogenic chemicals in this product

Component	CAS No	IARC	NTP	ACGIH	OSHA	UK
Sodium thiosulfate pentahydrate	10102-17-7	Not listed	Not listed	Not listed	Not listed	Not listed
Sodium thiosulfate	7772-98-7	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Sodium thiosulfate pentahydrate	10102-17-7	No data available	No data available	No data available
Sodium thiosulfate	7772-98-7	No data available	No data available	No data available

(h) STOT-single exposure; No data available

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(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Not applicable  
Solid

Other Adverse Effects  
No information available.

Component	CAS No	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Not applicable	Not applicable	Not applicable

## SECTION 12: ECOLOGICAL INFORMATION

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

Component	CAS No	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Sodium thiosulfate pentahydrate	10102-17-7	Pimephales promelas: LC50>10000mg/L/96 h	No data available	No data available	No data available
Sodium thiosulfate	7772-98-7	No data available	No data available	No data available	No data available

**Persistence and degradability**

Persistence Soluble in water, Persistence is unlikely, based on information available.

Degradability Not relevant for inorganic substances.

**Bioaccumulative potential** Bioaccumulation is unlikely

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

**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.

**Ozone Depletion Potential**

Component	CAS No	Ozone Depletion Potential
Sodium thiosulfate pentahydrate	10102-17-7	Not listed
Sodium thiosulfate	7772-98-7	Not listed

**Other adverse effects** No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

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

**Contaminated Packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

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## SECTION 14: TRANSPORT INFORMATION

**Road and Rail Transport** Not Regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated  
**Marine Pollutant** No hazards identified

**Special Precautions for User** No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

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

### International Inventories

Component	CAS No	KECL	TSCA	EINECS	IECSC	DSL	NDSL	PICCS	ENCS	ISHL	AICS
Sodium thiosulfate pentahydrate	10102-17-7	-	-	-	X	X	-	X	X	X	X
Sodium thiosulfate	7772-98-7	KE-31633	X	231-867-5	X	X	-	X	X	X	X

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	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential
Sodium thiosulfate pentahydrate	10102-17-7	Listed	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Listed	Not applicable	Not applicable

### Korean National Regulations

Component	CAS No	Act on Registration and Evaluation of Chemical Substances (K-REACH)	Authorised Chemicals	Existing Substances Subject to Registration
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Annex 1 - KE-31633	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Toxic Chemicals	Chemical Control Act - Prohibited Chemicals	Chemical Control Act - Use Restricted Chemicals
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Not applicable	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Accident Precaution Chemicals (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Storage (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Manufacture/Use (% in mixtures)
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Not applicable	Not applicable	Not applicable



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Component	CAS No	Waste Control Law	Ministry of Environment - CMR risk	Ministry of Environment - Critically Controlled Substance
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Harmful Agents Subject to Work Environment Monitoring	ISHA - Prohibited substances	ISHA - Substances requiring permission
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Substances subject to control	ISHA - Harmful Agents Requiring Health Examination	ISHA - Permissible Exposure Limits
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Subject to Process Safety Reports (minimum quantity)	ISHA - Threshold Limit Values (TLVs) Chemicals	ISHA - Special management materials
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Not applicable	Not applicable	Not applicable

**National Fire Association - Dangerous Substances** Minimum quantity requiring a permit

Component	CAS No	Class 1 - Oxidising solids	Class 2 - Flammable solid	Class 3 - Spontaneously Combustible Substances and Dangerous Substances When Wet	Class 4 - Flammable liquids	Class 5 - Self-reactive substances	Class 6 - Oxidising liquids
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

## Control Parameters

Component	CAS No	Korea	ACGIH - Biological Exposure Indices
Sodium thiosulfate pentahydrate	10102-17-7	Not listed	Not listed
Sodium thiosulfate	7772-98-7	Not listed	Not listed

## US Management Information

**OSHA** - Occupational Safety and Health Administration

Not applicable

Component	CAS No	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Not applicable	Not applicable

**CERCLA** Not applicable

Component	CAS No	CERCLA Extremely Hazardous Substances RQs	Hazardous Substances RQs	SARA 313 - Threshold Values %
Sodium thiosulfate pentahydrate	10102-17-7	Not applicable	Not applicable	Not applicable
Sodium thiosulfate	7772-98-7	Not applicable	Not applicable	Not applicable

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

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

## SECTION 16: OTHER INFORMATION

### 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

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average

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

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**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

**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)

### **Key literature references and sources for data**

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

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

### **Training Advice**

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

### **Prepared By**

Health, Safety and Environmental Department

### **Creation Date**

06-Aug-2009

### **Revision Date**

08-Jun-2024

### **Revision Number**

6

### **Revision Summary**

New emergency telephone response service provider.

## **MOEL's Public Notice No. 2023-9 (Standards for Classification and Labeling of Chemical Substances and Safety Data Sheets)**

### **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

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**End of Safety Data Sheet**