

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

Product Identifier

Product Description:

Cat No. :

Synonyms

CAS No

Molecular Formula

Sodium thiosulfate pentahydrate

S445-3; S445-10; S445-50; S445-500; S474-3; S474-12; S474-500; S475-12; S475-50KG; S475-212; XXS474-ET200LB; NC2030212; NC2251513

Sodium hyposulfite pentahydrate; Disodium thiosulfate pentahydrate
(Crystalline/USP/FCC/EP/BP/Certified ACS)

10102-17-7

Na₂ O₃ S₂ . 5 H₂ O

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use

Laboratory chemicals.

Uses advised against

No Information available

Details of the supplier of the safety data sheet

Importer

Fisher Scientific Korea
D5,D6, Incheon Airport Logistics Complex
150, Gonghangdong-Ro 296 Beon-Gil
Jung-Gu, Incheon
Tel: +82-1661-9555
Fax: +82-2-2023-0603

Supplier

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

E-mail address

Chem.KR@thermofisher.com

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

SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 06-Jun-2024

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

SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 06-Jun-2024

Extinguishing media

Suitable Extinguishing Media

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

SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 06-Jun-2024

Component	CAS No	European Union	The United Kingdom	Germany
Sodium thiosulfate pentahydrate	10102-17-7	Not listed	Not listed	Not listed
Sodium thiosulfate	7772-98-7	Not listed	Not listed	Not listed

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 compatibility, 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

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

Respiratory Protection

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

SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 06-Jun-2024

Evaporation Rate	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	

Vapor Pressure	No data available	Solid
Vapor Density	Not applicable	
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	Solid
Decomposition Temperature	> 45°C	
Viscosity	Not applicable	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Molecular Formula	Na ₂ O ₃ S ₂ . 5 H ₂ 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

SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 06-Jun-2024

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

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

SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 06-Jun-2024

- (h) STOT-single exposure; No data available
- (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

SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 06-Jun-2024

disposal.

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)

SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 06-Jun-2024

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	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

SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 06-Jun-2024

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

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.

Creation Date 06-Aug-2009

Revision Date 06-Jun-2024

Revision Number 5

Revision Summary SDS sections updated.

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

SAFETY DATA SHEET

Sodium thiosulfate pentahydrate

Revision Date 06-Jun-2024

End of Safety Data Sheet