

Safety Data Sheet SODIUM THIOSULFATE Pentahydrate

SDS no. 1WBVHJMJ5 • Version 1.0 • Date of issue: 2024-08-01

SECTION 1: Identification

GHS Product identifier

Product name SODIUM THIOSULFATE Pentahydrate

Recommended use of the chemical and restrictions on use

Photography (fixing agent to dissolve unchanged silver salts from exposed negatives), chrome tanning, removing chlorine in bleaching and papermaking, extraction of silver from its ores, dechlorination of water, mordant, analytical and laboratory reagent, bleaching, reducing agent in chrome dyeing, sequestrant in salt (up to 0.1%) and antidote for cyanide poisoning.

Supplier's details

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Australia

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Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

Not a hazardous substance or mixture.

GHS label elements, including precautionary statements

Not a hazardous substance or mixture.

Other hazards which do not result in classification

Not a hazardous substance or mixture.

SECTION 3: Composition/information on ingredients

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Mixtures

Molecular weight: 248.18

Components

Component	CAS no.	Concentration
Sodium Thiosulfate Pentahydrate (EC no.: 231-867-5)	10102-17-7	95 - 100 % (weight)
CLASSIFICATIONS: No data available. HAZARDS: No data available.		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain in work area.
If inhaled	Inhalation of any vapours from this product is not likely to present an acute hazard.
In case of skin contact	Wash with plenty of soap and water. If irritation occurs seek medical advice.
In case of eye contact	Irrigate with copious quantity of water for 15 minutes. Seek medical assistance if symptoms persist.
If swallowed	Rinse mouth thoroughly with water immediately. Do not induce vomiting. Seek medical advice if effects persist.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically based on judgement of doctor and individual reactions of the patient.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Use suitable measures to fight surrounding fire.

Specific hazards arising from the chemical

Hazards from Combustion Products: May liberate toxic fumes in fire (sulfur oxides).

Material does not burn.

Special protective actions for fire-fighters

Use suitable protective clothing and breathing equipment for surrounding fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid inhalation, contact with skin, eyes and clothing.

Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up

Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid generation or accumulation of dusts. Wash hands and face thoroughly after working with material.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry place. Store away from acids. Store away from oxidizing agents. Keep containers securely sealed and protected against physical damage.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls

In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.
Recommendation: Rubber or plastic gloves.

Body protection

Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance	White translucent crystals or powder.
Color	No data available.
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	48 °C
Boiling point or initial boiling point and boiling range	No data available.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.

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Decomposition temperature
Oxidizing properties
pH
Kinematic viscosity
Solubility

100 °C (release of crystalline water)

No data available.

6.0 - 7.5 (100 g/l, H₂O, 20 °C)

No data available.

Solubility in Water: Soluble (680 g/L @ 20 °C) Solubility in Organic Solvents: Soluble in oil of turpentine. Insoluble in alcohol.

Partition coefficient n-octanol/water (log value)
Vapor pressure
Evaporation rate
Density and/or relative density
Relative vapor density
Particle characteristics

No data available.

No data available.

No data available.

Specific Gravity: 1.74

No data available.

No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

Other Information: Deliquescent in moist air.

Efflorescent above 33 °C in dry air.

Cooling taste and bitter aftertaste.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Reacts with acids to release sulfur dioxide, a highly toxic gas by inhalation. Sulfur dioxide is detectable by taste at 1 ppm and smell at approximately 4 ppm, providing some warning of unsuitable working conditions.

Conditions to avoid

Strong heating. Incompatibles.

Incompatible materials

Sodium nitrate, nitrites, halogens, acids, fluorine, oxidising agents, peroxi compounds, iodine, silver salts, mercury salts, lead.

Hazardous decomposition products

Sulfur oxides, hydrogen sulfides.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute Toxicity - Oral: LD50 (rat): > 5000 mg/kg

Ingestion: May cause mild irritation to the gastrointestinal tract. Diarrhea, nausea and vomiting may occur by ingestion of large quantities.

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Inhalation: May cause respiratory tract irritation with symptoms including coughing and shortness of breath.

Skin corrosion/irritation

May cause skin irritation.

Serious eye damage/irritation

May cause mechanical irritation to the eye.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

Chronic Effects: Repeated or prolonged skin contact may cause chronic dermatitis.

SECTION 12: Ecological information

Bioaccumulative potential

No bioaccumulation is expected (log P(o/w)<1) log P(o/w) -4.53 anhydrous material.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Sewage disposal

No bioaccumulation is expected (log P(o/w)<1) log P(o/w) -4.53 anhydrous material.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: NS

Canadian Domestic Substances List (DSL)

Chemical name: Thiosulfuric acid (H₂S₂O₃), disodium salt

CAS: 7772-98-7

Chemical name: Thiosulfuric acid (H₂S₂O₃), disodium salt, pentahydrate

CAS: 10102-17-7

SECTION 16: Other information

Further information/disclaimer

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

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IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)