

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

SODIUM THIOSULPHATE PENTAHYDRATE (CHLORINE REDUCER)

Version 5.0

Print Date 2023/03/29

Revision date / valid from 2023/03/29

MSDS code: MSTU300

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : SODIUM THIOSULPHATE PENTAHYDRATE (CHLORINE REDUCER)
Substance name : Sodium thiosulfate pentahydrate
CAS-No. : 10102-17-7
EC-No. : 231-867-5
EU REACH-Reg. No. : 01-2119531537-38-xxxx

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

Use of the Substance/Mixture : Laboratory chemicals, Reducing agents, Water treatment chemical
Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Brenntag UK Limited
Alpha House, Lawnswood Business Park
GB LS16 6QY Leeds
Telephone : +44 (0) 113 3879 200
Telefax : +44 (0) 113 3879 280
E-mail address : msds@brenntag.co.uk

1.4. Emergency telephone number

Emergency telephone number : Emergency only telephone number (open 24 hours):
+44 (0) 1865 407333 (N.C.E.C. Culham)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation S.I. 2019/720 (GB CLP)

The product is not classified as dangerous according to Regulation S.I. 2019/720 (GB CLP).

The product is not classified as dangerous according to Regulation (EC) No. 1272/2008.

Most important adverse effects

Human Health : See section 11 for toxicological information.

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Physical and chemical hazards : See section 9/10 for physicochemical information.
 Potential environmental effects : See section 12 for environmental information.

2.2. Label elements

Labelling according to Regulation S.I. 2019/720 (GB CLP)

The product is not labeled as dangerous according to Regulation S.I. 2019/720 (GB CLP).
 The product is not labeled as dangerous according to Regulation (EC) No. 1272/2008.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1. Substances

Remarks : No dangerous ingredients according to Regulation S.I. 2019/720 (GB CLP).
 No dangerous ingredients according to Regulation (EC) No. 1907/2006

Non-hazardous component

Chemical name	Identification Number	Amount [%]
Sodium thiosulfate pentahydrate	CAS-No. : 10102-17-7 REACH-Reg. No. 01-2119531537-38-xxxx	<= 100

SECTION 4: First aid measures

4.1. Description of first aid measures

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General advice	: Take off all contaminated clothing immediately.
If inhaled	: Move to fresh air. If symptoms persist, call a physician.
In case of skin contact	: Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Rinse mouth with water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If symptoms persist, call a physician.

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

Symptoms	: May cause eye and skin irritation. May cause irritation of respiratory tract. See Section 11 for more detailed information on health effects and symptoms.
Effects	: See Section 11 for more detailed information on health effects and symptoms.

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

Treatment	: Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	: High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting	: Heating or fire can release toxic gas.
Hazardous combustion products	: sulphur dioxide, Carbon monoxide, Carbon dioxide (CO ₂)

5.3. Advice for firefighters

Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus. Wear personal protective equipment.
Further advice	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up : Clean up promptly by scoop or vacuum. Keep in suitable, closed containers for disposal.

Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Keep container tightly closed. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation in confined areas. Do not breathe vapours/dust.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Further information on storage conditions : Keep tightly closed in a dry and cool place. Avoid moisture. Keep in a well-ventilated place.

Advice on common storage : Keep away from food, drink and animal feedingstuffs. Incompatible with oxidizing agents. Incompatible with strong acids and bases.

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7.3. Specific end use(s)

Specific use(s) : No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Occupational Exposure Limit Values

(Additional) Information : Contains no substances with occupational exposure limit values.

Component:	Sodium thiosulfate pentahydrate	CAS-No. 10102-17-7
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Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL		
Workers, Long-term - systemic effects, Inhalation	:	374 mg/m ³
DNEL		
Consumers, Long-term - systemic effects, Inhalation	:	110 mg/m ³
DNEL		
Consumers, Long-term - systemic effects, Oral	:	14 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

Fresh water	:	0.8 mg/l
Marine water	:	0.08 mg/l
Sewage treatment plant (STP)	:	102.6 mg/l

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice : If ventilation is insufficient, suitable respiratory protection must be provided
Required, if exposure limit is exceeded (e.g. OEL).
In the case of dust or aerosol formation use respirator with an

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approved filter.
Respiratory protection complying with EN 141.
Particle filter:P1
Half mask with a particle filter FFP2/FFP3 (EN149)

Hand protection

Advice : Protective gloves complying with EN 374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Protective gloves should be replaced at first signs of wear.

Material : Nitrile rubber
Permeation rate : > 480 min
Glove thickness : 0.4 mm

Eye protection

Advice : Safety goggles

Skin and body protection

Advice : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Wear appropriate chemical resistant clothing and boots.

Protective measures

Advice : The usual precautionary measures for the handling of chemicals have to be observed.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form : crystalline
Physical state : solid
Colour : white
Odour : odourless
Odour Threshold : No data available

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Melting point/range	: 48 °C
Boiling point/boiling range	: > 100 °C
Flammability (solid, gas)	: The product is not flammable.
Upper explosion limit / Upper flammability limit	: Not applicable
Lower explosion limit / Lower flammability limit	: Not applicable
Flash point	: No data available
Auto-ignition temperature	: not determined
Decomposition temperature	: No data available
Self-Accelerating decomposition temperature (SADT)	: No data available
pH	: 6.5 - 9.5 (20 °C) Concentration: 10 g/l
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Flow time	: No data available
Solubility(ies)	
Water solubility	: > 1000 g/l (20 °C)
Solubility in other solvents	: No data available
Dissolution Rate	: No data available
Partition coefficient: n-octanol/water	: No data available
Dispersion Stability	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Density	: No data available
Bulk density	: No data available
Relative vapour density	: No data available

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Particle characteristics
No data available

9.2 Other information

Explosives : Product is not explosive.
Oxidizing properties : not oxidising
Evaporation rate : Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Advice : No decomposition if stored and applied as directed.

10.2. Chemical stability

Advice : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : Contact with acids liberates toxic gas.

10.4. Conditions to avoid

Conditions to avoid : Exposure to moistureProtect from humidityExposure to sunlight.Avoid dust formation.

10.5. Incompatible materials

Materials to avoid : Keep away from oxidising agents, strongly alkaline and strongly acid materials.

10.6. Hazardous decomposition products

Hazardous decomposition products : sulphur dioxide, Carbon oxides

SECTION 11: Toxicological information

11.1. Information on the hazard classes within the meaning of Regulation (EC) No. 1272/2008

Component:	Sodium thiosulfate pentahydrate	CAS-No. 10102-17-7
Irritation		
Skin		
Result	: No skin irritation (Rabbit) (OECD Test Guideline 404)Read-across (Analogy)	
Eyes		

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Result : No eye irritation (Rabbit) (OECD Test Guideline 405)Read-across (Analogy)

Sensitisation

Result : not sensitizing (Mouse) (OECD Test Guideline 429)Read-across (Analogy)

Specific Target Organ Toxicity

Single exposure

Remarks : Not classified due to lack of data.

Repeated exposure

Remarks : Not classified due to lack of data.

Other toxic properties

Aspiration hazard

Not applicable,

11.2. Information on other hazards

Data for the product

Endocrine disrupting properties

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

12.1. Toxicity

Data for the product

Acute toxicity

Fish

: No data available

12.2. Persistence and degradability

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Component:	Sodium thiosulfate pentahydrate	CAS-No. 10102-17-7
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Persistence and degradability

Biodegradability

Result : No data available

12.3. Bioaccumulative potential

Component:	Sodium thiosulfate pentahydrate	CAS-No. 10102-17-7
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Bioaccumulation

Result : No data available

12.4. Mobility in soil

Component:	Sodium thiosulfate pentahydrate	CAS-No. 10102-17-7
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Mobility

Water : Good soluble in water.

Air : not volatile

12.5. Results of PBT and vPvB assessment

Data for the product

Results of PBT and vPvB assessment

Result :

Result : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Component:	Sodium thiosulfate pentahydrate	CAS-No. 10102-17-7
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Results of PBT and vPvB assessment

Result : No assessment is required for inorganic substances.

12.6. Endocrine disrupting properties

Data for the product

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SODIUM THIOSULPHATE PENTAHYDRATE (CHLORINE REDUCER)**12.7. Other adverse effects****Data for the product****Additional ecological information**

Result : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.

Contaminated packaging : Dispose of contaminated packaging in the same way as the product. In accordance with local and national regulations.

European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

Not dangerous goods for ADR, RID, IMDG and IATA.

14.1. UN number or ID number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for user

Not applicable.

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14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Component:	Sodium thiosulfate pentahydrate	CAS-No. 10102-17-7
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EU. Chemicals Subject : ; The substance/mixture does not fall under this legislation.
to PIC Procedure:
Regulation 649/2012/EU
on export and import of
dangerous chemicals, as
amended

Component:	Sodium thiosulfate pentahydrate	CAS-No. 10102-17-7
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EU. REACH, Annex XVII, : ; The substance/mixture does not fall under this legislation.
Marketing and Use
Restrictions (Regulation
1907/2006/EC)

EU. Regulation No : EC Number: , 231-867-5; Listed
1451/2007 [Biocides],
Annex I, OJ (L 325)

EU. Directive : ; The substance/mixture does not fall under this legislation.
2012/18/EU (SEVESO
III) on major accident
hazards involving
dangerous substances,
Annex I

Germany. Ordinance on : WGK 1: slightly hazardous to water: 386
Facilities Handling
Substances that are
Hazardous to Water,
((AwSV of 21 April 2017),
UBA, BAnz AT), as
amended

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15.2. Chemical safety assessment

No data available

SECTION 16: Other information

Abbreviations and Acronyms

AU AIICL	Australia. Industrial Chemicals Act (AIIC) List
BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
DSL	Canada. Environmental Protection Act, Domestic Substances List
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ENCS (JP)	Japan. Kashin-Hou Law List
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IECSC	China. Inventory of Existing Chemical Substances
INSQ	Mexico. National Inventory of Chemical Substances
ISHL (JP)	Japan. Inventory of Industrial Safety & Health
KECI (KR)	Korea. Existing Chemicals Inventory
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level
LOEL	lowest observed effect level
NDSL	Canada. Environmental Protection Act. Non-Domestic Substances List
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
NZIOC	New Zealand. Inventory of Chemicals
OECD	Organisation for Economic Cooperation and Development
OEL	occupational exposure limit
ONT INV	Canada. Ontario Inventory List
PBT	persistent, bioaccumulative and toxic

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PHARM (JP)	Japan. Pharmacopoeia Listing
PICCS (PH)	Philippines. Inventory of Chemicals and Chemical Substances
PNEC	predicted no-effect concentration
REACH Auth. No.:	REACH Authorisation Number
REACH AuthAppC. No.	REACH Authorisation Application Consultation Number
STOT	specific target organ toxicity
SVHC	substance of very high concern
TCSI	Taiwan. Existing Chemicals Inventory
TH INV	Thailand. Existing Chemicals Inventory from FDA
TSCA	US. Toxic Substances Control Act
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
VN INVL	Vietnam. National Chemical Inventory
vPvB	very persistent and very bioaccumulative

Further information

Key literature references : and sources for data	Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
Methods used for product classification	The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
Hints for trainings	The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
Other information	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.

|| Indicates updated section.