SAFETY DATA SHEET

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

1.1 Product identifier

Product Name:	Chlorine Reducer
Datasheet Number:	SDS 055
Chemical Name:	Sodium thiosulphate pentahydrate; Thiosulfuric acid ($H_2S_2O_3$), disodium salt, pentahydrate
CAS No.:	10102-17-7; 7772-98-7 (anhydrous)
EC No.:	600-156-5; 231-867-5 (anhydrous)
REACH Registration Number:	01-2119531537-38-XXXX
UFI:	HQ40-Q0MC-U00N-S3SC

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

Use of the substance/mixture:	Pool / spa treatment; chlorine level reducer
Use advised against:	No information available

1.3 Details of the supplier of the safety data sheet

Name of Supplier:	Plastica Ltd
Address of Supplier:	Perimeter House Napier Road St Leonards-on-Sea East Sussex United Kingdom TN38 9NY
Telephone:	+44 (0) 1424 857857
Email:	info@plasticapools.net

1.4 Emergency telephone number

Emergency Telephone:	0800 043 0891 (technical) 0800 043 0892 (emergency)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Not classified

Additional information: For full text of Hazard and EU Hazard statements: see section 16

2.2 Label elements

Hazard pictograms:	None
Signal Word:	None

Hazard statements

None

Precautionary statements

None

Supplemental Hazard information (EU)

None

2.3 Other hazards

SECTION 2: Hazards identification (....)

Not a PBT according to REACH Annex XIII

Not a vPvB according to REACH Annex XIII

Has not been identified as having endocrine disrupting properties

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical Name	Conc.	CAS No.	EC No.	Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]	SCL/ M-Factor/ ATE	REACH Registration Number	WEL/ OEL
Sodium thiosulphate; Thiosulfuric acid ($H_2S_2O_3$), disodium salt, pentahydrate	100 %	10102-17-7 (7772-98-7)	600-156-5 (231-867-5) 231-867-5	Not classified	-	01-2119531537-38 XXXX	No

3.2 Mixtures

Not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

Rescuers should put on approved personal protective equipment (PPE) before administering first aid

Rescuers should take suitable precautions to avoid becoming casualties themselves

Contact with eyes

If substance has got into eyes, immediately wash out with plenty of water for several minutes
Irrigate eyes thoroughly whilst lifting eyelids
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Contact with skin

Gently wash with plenty of soap and water.
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.

Ingestion

If swallowed, rinse mouth with water (only if the person is conscious)
Never give anything by mouth to an unconscious person
Give plenty of water to drink
IF exposed or concerned: Get medical advice/attention.

Inhalation

No hazard expected under normal conditions of use
If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF exposed or concerned: Get medical advice/attention

4.2 Most important symptoms and effects, both acute and delayed

Contact with eyes

SECTION 4: First aid measures (....)

May cause redness and irritation

Contact with skin

May cause mild skin irritation

Ingestion

The ingestion of significant quantities may cause nausea/vomiting
May cause diarrhoea

Inhalation

Dust may cause respiratory irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically

Symptoms from inhaling sulphurous fumes may not be readily apparent. Keep under medical supervision for at least 24 hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:	Not flammable. In case of fire use extinguishing media appropriate to surrounding conditions
Unsuitable extinguishing media:	No information available

5.2 Special hazards arising from the substance or mixture

Gives off irritating or toxic fumes (or gases) in a fire.

Decomposition products may include sulphur oxides. Highly toxic hydrogen sulphide gas can also be produced.

5.3 Advice for firefighters

Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.

Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.

Clothing for firefighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Rescuers should take suitable precautions to avoid becoming casualties themselves

Only trained and authorised personnel should carry out emergency response

Personal precautions for non-emergency personnel: Do not breathe dust; Do not get in eyes, on skin, or on clothing; Contaminated clothing should be laundered before reuse; Wash thoroughly after handling.

Personal precautions for emergency responders: Evacuate the area and keep personnel upwind; Avoid formation of dust; If dust is formed, wear approved dust mask; Wear protective clothing as per section 8; Wash thoroughly after dealing with spillage

6.2 Environmental precautions

Avoid release to the environment.

SECTION 6: Accidental release measures (....)

Do not allow to penetrate the ground/soil.

Do not allow to enter public sewers and watercourses

6.3 Methods and material for containment and cleaning up

Stop leak if safe to do so.

Avoid formation of dust

Contain the spillage using bunding

Vacuum or sweep spillage and remove to a safe place

Place in appropriate container

Seal containers and label them

Remove contaminated material to safe location for subsequent disposal

Ventilate the area and wash spill site after material pick-up is complete

Seek expert advice for removal and disposal of all contaminated materials and wastes

6.4 Reference to other sections

See section(s): 7, 8 & 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure adequate ventilation

Avoid formation of dust

Do not get in eyes, on skin, or on clothing.

Wear protective clothing as per section 8

Contaminated clothing should be laundered before reuse

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry well-ventilated place. Keep container tightly closed.

Keep only in the original container

Storage containers should not be made from metal

Protect from moisture

Keep away from food, drink and animal feedingstuffs

Incompatible with strong acids, alkalis (strong bases), strong oxidizing substances

7.3 Specific end use(s)

Pool / spa treatment

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological

SECTION 8: Exposure controls/personal protection (....)

monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace exposure - Measurement of exposure by inhalation to chemical agents - Strategy for testing compliance with occupational exposure limit values). European Standard EN 14042 (Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents). European Standard EN 482 (Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents).
Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Sodium thiosulphate

No exposure limits have been set for this substance
The UK HSE (EH40) recommends the following limits for dusts: 10 mg/m³ (8hr TWA) total inhalable dust; 4 mg/m³ (8hr TWA) total respirable dust

8.2 Exposure controls

Selection and use of personal protective equipment should be based on a risk assessment of exposure potential

Engineering controls

Ensure adequate ventilation
Provide appropriate exhaust ventilation at places where airborne dust is generated

Respiratory protection

No respiratory protection is needed during normal handling, if dust is formed, wear approved dust mask
Use type FFP1 or FFP2 (EN 143) dust masks

Eye/face protection

Wear safety glasses approved to standard EN 166.
If dust is formed, wear goggles giving complete eye protection approved to standard EN 166.

Skin protection

No special clothing is required under normal conditions of use
Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.
Nitrile rubber are recommended

Glove material: Nitrile rubber
Thickness: 0.11 mm
Breakthrough time: ≥ 480 min
Reference: Literature

Thermal hazards

Not applicable

Hygiene measures

Do not eat, drink or smoke when using this product.
Use good personal hygiene practices
Wash thoroughly after handling.
Contaminated clothing should be laundered before reuse
Contaminated work clothing should not be allowed out of the workplace.
Eyewash bottles should be available

Environmental exposure controls

SECTION 8: Exposure controls/personal protection (....)

Do not empty into drains
Do not allow to penetrate the ground/soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Solid
Colour:	Colourless
Odour:	Odourless
Melting point/freezing point:	No data available
Boiling point or initial boiling point and boiling range:	No data available
Flammability:	Not flammable
Lower and upper explosion limit:	Not applicable
Flash point:	Not applicable
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH:	No information available
Kinematic viscosity:	No data available
Solubility:	Solubility in water: 764 g/L @ 25 °C
Partition coefficient n-octanol/water (log value):	Not applicable, inorganic
Vapour pressure:	No data available
Density and/or relative density:	1.69 g/cm³ @ 20 °C
Relative vapour density:	No data available
Particle characteristics:	No data available

9.2 Other information

No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under normal conditions

10.2 Chemical stability

Stable under normal conditions

10.3 Possibility of hazardous reactions

No hazardous reactions known if used for its intended purpose

10.4 Conditions to avoid

Keep away from heat and sources of ignition

Protect from moisture

10.5 Incompatible materials

Incompatible with strong acids, alkalis (strong bases), strong oxidizing substances

10.6 Hazardous decomposition products

Decomposition products may include sulphur oxides. Highly toxic hydrogen sulphide gas can also be produced.

SECTION 10: Stability and reactivity (....)

SECTION 11: Toxicological information

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

Acute Toxicity

Based on available data, the classification criteria are not met

Substances

Chemical Name	LD_{50} (oral, rat)	LC_{50} (inhalation, rat)	LD_{50} (dermal, rabbit)
Sodium thiosulphate	2 000 - 5 000 mg/kg	(4 h) 2.6 - 5.5 mg/L	2 000 mg/kg

Skin corrosion/irritation

Based on available data, the classification criteria are not met

Substances

Chemical Name	Irritation/corrosion
Sodium thiosulphate	No adverse effect observed (not irritating)

Serious eye damage/irritation

Based on available data, the classification criteria are not met

Substances

Chemical Name	Irritation/corrosion
Sodium thiosulphate	Adverse effect observed (irritating)

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met

Substances

Chemical Name	Skin sensitisation	Respiratory sensitisation
Sodium thiosulphate	No adverse effect observed (not sensitising)	No adverse effect observed (not sensitising)

Germ cell mutagenicity

No evidence of mutagenic effects

Substances

Chemical Name	Toxicity - In Vitro	Toxicity - In Vivo
Sodium thiosulphate	No adverse effect observed (negative)	No study available

Carcinogenicity

No evidence of carcinogenic effects

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Sodium thiosulphate	No data available	No data available	No data available

Reproductive toxicity

No evidence of reproductive effects

SECTION 11: Toxicological information (....)

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Sodium thiosulphate	No data available	No data available	No data available

Specific target organ toxicity (STOT) - single exposure

Based on available data, the classification criteria are not met

Substances

Chemical Name	Route	Remarks
Sodium thiosulphate	Respiratory	No study available

Specific target organ toxicity (STOT) - repeated exposure

Based on available data, the classification criteria are not met

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Sodium thiosulphate	108 - 955 mg/kg bw/day	No data available	No data available

Aspiration hazard

Based on available data, the classification criteria are not met

Contact with eyes

May cause redness and irritation

Contact with skin

May cause mild skin irritation

Ingestion

The ingestion of significant quantities may cause nausea/vomiting
May cause diarrhoea

Inhalation

Dust may cause respiratory irritation.

11.2 Information on other hazards

Has not been identified as having endocrine disrupting properties

SECTION 12: Ecological information

12.1 Toxicity

Based on available data, the classification criteria are not met

Substances

Chemical Name	LC_{50} (fish)	EC_{50} (aquatic invertebrates)	EC_{50} (aquatic algae)
Sodium thiosulphate	(4 days) 147 - 770 mg/L	(48 h) 89 - 230 mg/L	(72 h) 43.8 - 100 mg/L

12.2 Persistence and degradability

SECTION 12: Ecological information (....)

Substances

Chemical Name	Biodegradation
Sodium thiosulphate	Not applicable, inorganic

12.3 Bioaccumulative potential

Substances

Chemical Name	Bioconcentration Factor (BCF)	Log Kow
Sodium thiosulphate	Bioaccumulation is not expected	Not applicable, inorganic

12.4 Mobility in soil

Soluble in water

Substances

Chemical Name	Adsorption/desorption
Sodium thiosulphate	No data available

12.5 Results of PBT and vPvB assessment

Not a PBT according to REACH Annex XIII

Not a vPvB according to REACH Annex XIII

12.6 Endocrine disrupting properties

Has not been identified as having endocrine disrupting properties

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Disposal should be in accordance with local, state or national legislation

Do not discharge into drains or the environment, dispose to an authorised waste collection point

Do not reuse empty containers without commercial cleaning or reconditioning

13.2 Classification

The waste must be identified according to the List of Wastes (2000/532/EC)

Hazardous Property Code(s): None assigned

SECTION 14: Transport information

Not classified as hazardous for transport

14.1 UN number or ID number

UN No.: Not applicable

14.2 UN proper shipping name

Proper Shipping Name: Not applicable

14.3 Transport hazard class(es)

SECTION 14: Transport information (....)

Hazard Class: Not applicable

14.4 Packing group

Packing Group: Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Not applicable

14.8 Road/Rail (ADR/RID)

ADR UN No.:	Not applicable
Proper Shipping Name:	Not applicable
ADR Hazard Class:	Not applicable
ADR Packing Group:	Not applicable
Tunnel Code:	Not applicable

14.9 Sea (IMDG)

IMDG UN No.:	Not applicable
Proper Shipping Name:	Not applicable
IMDG Hazard Class:	Not applicable
IMDG Packing Group.:	Not applicable

14.10 Air (ICAO/IATA)

ICAO UN No.:	Not applicable
Proper Shipping Name:	Not applicable
ICAO Hazard Class:	Not applicable
ICAO Packing Group:	Not applicable

SECTION 15: Regulatory information

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

This safety data sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 (as amended by Regulation (EU) 2020/878) and UK REACH

The GB Classification, Labelling and Packaging Regulation (GB CLP) applies in Great Britain

Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe

Restrictions on use according to Annex XVII to REACH Regulation: None

Seveso III Directive (2012/18/EU, Dangerous Substances in Annex I: Not applicable

15.2 Chemical safety assessment

A REACH chemical safety assessment has been carried out

SECTION 16: Other information

This information relates only to the specific material designated and may not be valid for such material used in

SECTION 16: Other information (....)

combination with any other materials or in any process. Such information is, to the best of PLASTICA'S limited knowledge and belief, accurate, and reliable as of the date of authorisation of this safety data sheet. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to be satisfied as to the suitability and completeness of such information for the product as used.

Sources of data: Information from published literature and supplier safety data sheets

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Changes made: Updated to conform to latest version of REACH Annex II

Training advice

Workers must be informed of the presence of hazardous ingredients and trained in the proper use and handling of this product as required under applicable regulations

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

None

Acronyms

ATE: Acute Toxicity Estimate

CAS: Chemical Abstracts Service

DNEL: Derived No-Effect Level

EC: European Community

EC_{50}: Effective Concentration, 50%

GHS: Globally Harmonised System

LC_{50}: Lethal Concentration, 50%

LD_{50}: Lethal Dose, 50%

NOAEC: No Observed Adverse Effect Concentration

NOAEL: No Observed Adverse Effect Level

OEL: Occupational Exposure Limit

PBT: Persistent, Bioaccumulative and Toxic

PNEC: Predicted No-Effect Concentration

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

SCL: Specific Concentration Limit

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

WEL: Workplace Exposure Limit