BRENNTAG

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

PH REDUCER

Version 2.0 Print Date 2022/11/21

Revision date / valid from 2022/11/21 **MSDS code: MAAD108**

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

1.1. Product identifier

Trade name	:	PH REDUCER
Substance name	:	sodium hydrogensulphate
Index-No.	:	016-046-00-X
CAS-No.	:	7681-38-1
EC-No.	:	231-665-7
EU REACH-Reg. No.	:	01-2119552465-36-xxxx

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

Use of the Substance/Mixture	:	Chemical agent
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)

Regulation S.I. 2019/720 (GB CLP)			
Hazard class	**Hazard category**	**Target Organs**	**Hazard statements**
Serious eye damage	Category 1	---	H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

Most important adverse effects

Human Health	:	See section 11 for toxicological information.
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)

Hazard symbols :

Signal word	:	Danger	
Hazard statements	:	H318	Causes serious eye damage.
Precautionary statements			
Prevention	:	P280	Wear eye protection/ face protection.
Response	:	P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

Hazardous components which must be listed on the label:

- sodium hydrogensulphate

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

Hazardous components	Amount [%]	Classification (Regulation S.I. 2019/720 (GB CLP))	
		Hazard class / Hazard category	Hazard statements
sodium hydrogensulphate Index-No. : 016-046-00-X CAS-No. : 7681-38-1 EC-No. : 231-665-7 EU REACH-Reg. No. : 01-2119552465-36-xxxx	<= 100	Eye Dam.1	H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice : Take off all contaminated clothing immediately.

If inhaled : Remove to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Call a physician immediately.

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 10 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.

If swallowed : Rinse mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.

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

Symptoms	: 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.For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	:	High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Incomplete combustion may form toxic pyrolysis products.
Hazardous combustion products	:	Sulphur oxides

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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Keep away unprotected persons. Ensure adequate ventilation. Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust.

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	:	Use mechanical handling equipment. Keep in suitable, closed containers for disposal.

up

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. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid formation of aerosol. Do not breathe spray. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

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. Take off all contaminated clothing immediately.

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.

Advice on common storage : Keep away from food, drink and animal feedingstuffs.

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 hydrogensulphate	CAS-No. 7681-38-1

Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

No DNEL value was derived. :

Predicted No Effect Concentration (PNEC)

Fresh water	:	11.09 mg/l
Marine water	:	1.109 mg/l
Intermittent releases	:	17.66 mg/l
Sewage treatment plant (STP)	:	800 mg/l
Fresh water sediment	:	40.2 mg/kg d.w.
Marine sediment	:	4.02 mg/kg d.w.
Soil	:	1.54 mg/kg d.w.

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice	:	Required, if exposure limit is exceeded (e.g. OEL). Equipment should conform to EN 143
Filter Type	:	P1 filter

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.
Advice	:	The following information applies to aqueous, saturated solutions.
Material	:	natural rubber
Break through time	:	> 480 min

Glove thickness	:	0.5 mm
Material	:	polychloroprene
Break through time	:	> 480 min
Glove thickness	:	0.5 mm
Material	:	Nitrile rubber
Break through time	:	> 480 min
Glove thickness	:	0.35 mm
Material	:	Butyl gloves
Break through time	:	> 480 min
Glove thickness	:	0.5 mm
Material	:	fluoroelastomer (FKM)
Break through time	:	> 480 min
Glove thickness	:	0.4 mm
Material	:	Polyvinylchloride
Break through time	:	> 480 min
Glove thickness	:	0.5 mm

Eye protection

Advice	:	Equipment should conform to EN 166 Tightly fitting safety goggles

Skin and body protection

Advice	:	Wear personal protective equipment.

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

Melting point/freezing point	:	179 °C
Boiling point	:	No data available
Flammability	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	460 °C
Self-Accelerating decomposition temperature (SADT)	:	No data available
pH	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Flow time	:	No data available
Solubility(ies)		
Water solubility	:	1050 g/l
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	:	2.44 g/cm3 (20 °C)
Bulk density	:	1,200 - 1,500 g/l
Relative vapour density	:	No data available

Particle characteristics
No data available

9.2 Other information

Molecular weight : 120.06 g/mol

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 : No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Conditions to avoid : Humidity
Thermal decomposition : 460 °C

10.5. Incompatible materials

Materials to avoid : Strong bases, Oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as: sulphur oxides (SOx)

SECTION 11: Toxicological information

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

Component:	sodium hydrogensulphate	CAS-No. 7681-38-1
Acute toxicity		
Oral		
LD50	:	2140 mg/kg (Rat) (No guideline followed)Read-across (Analogy)
Inhalation		
		Based on available data, the classification criteria are not met.
Dermal		

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

Irritation

Skin

Result	:	No skin irritation (Rabbit) (OECD Test Guideline 404)

Eyes

Result	:	Causes serious eye damage. (Rabbit) (OECD Test Guideline 405)

Sensitisation

Result	:	not sensitizing (Maximisation Test; Dermal; Guinea pig; Test substance: Sodium sulphate) (OECD Test Guideline 406)Read-across (Analogy)

CMR effects

CMR Properties

Carcinogenicity	:	Based on available data, the classification criteria are not met.
Mutagenicity	:	In vitro tests did not show mutagenic effects Read-across (Analogy)
Reproductive toxicity	:	Animal testing did not show any effects on fertility. Read-across (Analogy)

Genotoxicity in vitro

Result	:	negative (Bacterial Reverse Mutation Test; Salmonella typhimurium; Test substance: Sodium sulphate; with and without metabolic activation) Read-across (Analogy) negative (In vitro gene mutation study in mammalian cells; Mouse Lymphoma Cells; Test substance: Sodium sulphate; with and without metabolic activation) (OECD Test Guideline 476)Read-across (Analogy) negative (Chromosome aberration test in vitro; CHO (Chinese Hamster Ovary) cells; Test substance: Sodium sulphate) (OECD Test Guideline 473)Read-across (Analogy)

Teratogenicity

NOEL Develop.	:	1,000 mg/kg bw/day (Rat)(OECD Test Guideline 414)Read-across (Analogy)

Reproductive toxicity

NOEL Parent	:	1,000 mg/kg bw/day
NOEL Fertility	:	1,000 mg/kg bw/day (Reproduction/Developmental Toxicity Screening Test; Rat, wistar, male and female)(Oral)(OECD Guideline 421)Read-across (Analogy)

Specific Target Organ Toxicity

Single exposure

Remarks	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated exposure

Remarks	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties

Aspiration hazard

Not applicable,

Further information

Other relevant toxicity information	:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

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.

Component: sodium hydrogensulphate CAS-No. 7681-38-1

Endocrine disrupting properties

Assessment	:	No information available about endocrine disruption properties for human health.

SECTION 12: Ecological information

12.1. Toxicity

Component:	sodium hydrogensulphate	CAS-No. 7681-38-1
Acute toxicity		
Fish		
LC50	:	7,960 mg/l (Pimephales promelas (fathead minnow); 96 h; Test substance: Sodium sulphate) (static test; EPA 600/4-90/027)Read-across (Analogy)
Toxicity to daphnia and other aquatic invertebrates		
LC50	:	1,766 mg/l (Daphnia magna (Water flea); 48 h; Test substance: Sodium sulphate) (US-EPA)Read-across (Analogy)
algae		
	:	No data available
Bacteria		
NOEC	:	ca. 26 mg/l (activated sludge; 36 d; Test substance: Sodium sulphate) Read-across (Analogy)
Chronic toxicity		
Aquatic invertebrates		
NOEC		1109 mg/l (Ceriodaphnia dubia (water flea); Test substance: Sodium sulphate) (ASTM E 1295-01)Read-across (Analogy)

12.2. Persistence and degradability

Component:	sodium hydrogensulphate	CAS-No. 7681-38-1
Persistence and degradability		
Persistence		
Result	:	No data available
Biodegradability		

Result	:	The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Component:	**sodium hydrogensulphate**	**CAS-No. 7681-38-1**

Bioaccumulation

Result	:	Bioaccumulation is unlikely.

12.4. Mobility in soil

Component:	**sodium hydrogensulphate**	**CAS-No. 7681-38-1**

Mobility

Water	:	The product is water soluble.
Air	:	not volatile

12.5. Results of PBT and vPvB assessment

Data for the product

Results of PBT and vPvB assessment

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 hydrogensulphate**	**CAS-No. 7681-38-1**

Results of PBT and vPvB assessment

Result	:	The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to 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.

Component:	**sodium hydrogensulphate**	**CAS-No. 7681-38-1**

Endocrine disrupting potential	:	No information available about endocrine disruption properties for environment.

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.
Result	:	

Component:	**sodium hydrogensulphate**	**CAS-No. 7681-38-1**
Additional ecological information		
Result	:	Use neutralizing agent. 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	:	Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local 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.

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 hydrogensulphate**	**CAS-No. 7681-38-1**
EU. Chemicals Subject to PIC Procedure: Regulation 649/2012/EU on export and import of dangerous chemicals, as amended	:	; The substance/mixture does not fall under this legislation.
EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC)	:	; The substance/mixture does not fall under this legislation.
EU. Regulation No 1451/2007 [Biocides], Annex I, OJ (L 325)	:	EC Number: , 231-665-7; Listed
EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I	:	; The substance/mixture does not fall under this legislation.

Germany. Ordinance on Facilities Handling Substances that are Hazardous to Water, ((AwSV of 21 April 2017), UBA, BAnz AT), as amended	:	WGK 1: slightly hazardous to water: 376

15.2. Chemical safety assessment

No data available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H318	Causes serious eye damage.

Full text of the Notes referred to under section 3.

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
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 our knowledge at the date of its revision. The

information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.

The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.