

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1071-66 Manganous sulfate PWD PLWS PK/50

Revision date: 19.03.2018

Product code: 107166

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

1071-66 Manganous sulfate PWD PLWS PK/50

CAS No: 7785-87-7
Index No: 025-003-00-4
EC No: 232-089-9

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

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
5, Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324
e-Mail: info-uk@hach.com

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

May cause damage to organs through prolonged or repeated exposure.

Toxic to aquatic life with long lasting effects.

2.2. Label elements**Regulation (EC) No. 1272/2008****Signal word:** Warning**Pictograms:****Hazard statements**

H373

May cause damage to organs through prolonged or repeated exposure.

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H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P314 Get medical advice/attention if you feel unwell.
P391 Collect spillage.

Additional advice on labelling

Classification according to EU Directives 67/548/EEC or 1999/45/EC
The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7785-87-7	manganese sulphate			100 %
	232-089-9	025-003-00-4		
	STOT RE 2, Aquatic Chronic 2; H373 ** H411			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take off all contaminated clothing immediately.

After inhalation

Move to fresh air. Get medical attention.

After contact with skin

Wash off immediately with plenty of water.
In the case of skin irritation or allergic reactions see a physician.

After contact with eyes

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

After ingestion

Clean mouth with water and drink afterwards plenty of water. Consult a physician.

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

None known.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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5.2. Special hazards arising from the substance or mixture

Not combustible. Fire may liberate hazardous vapours. The following may develop in event of fire: sulfur oxides.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing dust. Ensure adequate ventilation.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Use mechanical handling equipment. Avoid dust formation.

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Use only in well-ventilated areas.

Avoid breathing dust or vapour.

Avoid contact with skin, eyes and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in a dry, cool place.

Keep locked up or in an area accessible only to qualified or authorised persons.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

None known.

8.2. Exposure controls

Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Protective and hygiene measures

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Wash hands before breaks and after work.

Remove and wash contaminated clothing before re-use.

Smoking, eating and drinking should be prohibited in the application area.

Eye/face protection

Safety glasses with side-shields

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Hand protection

Chemical resistant protective gloves

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374.

Skin protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: Half mask with a particle filter P2 (EN 143).

Environmental exposure controls

Should not be released into the environment.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	pink
Odour:	odourless
pH-Value (at 20 °C):	3,0-3,5 (50g/l H ₂ O)

Changes in the physical state

Melting point:	700 °C
Initial boiling point and boiling range:	850 °C
Sublimation point:	not applicable
Softening point:	not applicable
Flash point:	not applicable

Flammability

Solid:	not applicable
Gas:	not applicable

Explosive properties

not applicable

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	not applicable

Auto-ignition temperature

Solid:	no data available
Gas:	no data available

Decomposition temperature: >850 °C

Vapour pressure: not applicable

Density (at 20 °C): 2,95 g/cm³

Bulk density: no data available

Water solubility:
(at 20 °C) 762 g/L**Solubility in other solvents**

no data available

Partition coefficient: no data available

Viscosity / dynamic: not applicable

Viscosity / kinematic: not applicable

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Flow time: not applicable
Vapour density: no data available
Evaporation rate: no data available

9.2. Other information

no data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Hazard: Oxidizing agents

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

To avoid thermal decomposition, do not overheat.

10.4. Conditions to avoid

No dangerous reaction known under conditions of normal use.

10.5. Incompatible materials

Acids

10.6. Hazardous decomposition products

The following may develop in event of fire: sulfur oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

LD50/oral/rat = 2150 mg/kg

Irritation and corrosivity

No known effect.

Sensitising effects

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

No known effect.

STOT-single exposure

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

STOT-repeated exposure

H373 - May cause damage to organs through prolonged or repeated exposure. (manganese sulphate)

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

Not mutagenic in Ames Test.

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1. Toxicity

LC50/96h/Fathead minnows = 30,6 mg/l (ECOTOX)

LC50/48h/daphnia = 8,3 mg/l (ECOTOX)

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12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

no data available

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

No known effect.

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Our local agencies will accept used cuvettes to ensure their proper disposal.
In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

Land transport (ADR/RID)

Other applicable information (land transport)

Not classified as dangerous in the meaning of transport regulations.
Special Provisions: 375

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

Other applicable information (marine transport)

Not classified as dangerous in the meaning of transport regulations.
Special Provisions: Chapter 2.10.2.7

Air transport (ICAO-TI/IATA-DGR)

Other applicable information (air transport)

Not classified as dangerous in the meaning of transport regulations.
Special Provisions: 197

14.5. Environmental hazards

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ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: manganese sulphate

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

Other applicable information

Not relevant

SECTION 15: Regulatory information

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

EU regulatory information

Additional information

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Revision: 19.03.2018

Safety datasheet sections which have been updated: 4, 8, 11, 13

Revision: 23.01.2015

Safety datasheet sections which have been updated: 14

Relevant H and EUH statements (number and full text)

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

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Product code: 107266

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

107266 Alkaline Iodide-Azide Reagent Powder Pillows

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

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
5, Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324
e-Mail: info-uk@hach.com

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Substance or mixture corrosive to metals: Met. Corr. 1

Acute toxicity: Acute Tox. 3

Acute toxicity: Acute Tox. 3

Acute toxicity: Acute Tox. 3

Skin corrosion/irritation: Skin Corr. 1A

Serious eye damage/eye irritation: Eye Dam. 1

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

May be corrosive to metals.

Toxic if swallowed.

Toxic in contact with skin.

Toxic if inhaled.

Causes severe skin burns and eye damage.

Causes serious eye damage.

May cause damage to organs through prolonged or repeated exposure.

Harmful to aquatic life with long lasting effects.

2.2. Label elements**Regulation (EC) No. 1272/2008**

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Hazard components for labelling

Lithium hydroxide
sodium azide

Signal word: Danger

Pictograms:



Hazard statements

H290 May be corrosive to metals.
H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
1310-65-2	Lithium hydroxide			55 - 65 %
	215-183-4			
	Acute Tox. 3, Acute Tox. 3, Skin Corr. 1A; H331 H301 H314			
7681-11-0	Potassium iodide			30-30%
	231-659-4			
	Skin Irrit. 2, Eye Irrit. 2; H315 H319			
26628-22-8	sodium azide			1-5 %
	247-852-1	011-004-00-7		
	Acute Tox. 1, Acute Tox. 2, Acute Tox. 2, Skin Corr. 1C, STOT SE 3, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H310 H330 H300 H314 H335 H373 H400 H410 EUH032			

Full text of H and EUH statements: see section 16.

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SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take off all contaminated clothing immediately.
Consult a physician. Show this safety data sheet to the doctor in attendance.

After inhalation

Move to fresh air.
Consult a physician. Show this safety data sheet to the doctor in attendance.

After contact with skin

Wash off immediately with plenty of water for at least 15 minutes.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. Show this safety data sheet to the doctor in attendance.

After contact with eyes

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Show this safety data sheet to the doctor in attendance.

After ingestion

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting.
Consult a physician. Show this safety data sheet to the doctor in attendance.

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

Toxic by inhalation. Toxic in contact with skin. Toxic if swallowed. Risk of serious damage to eyes. Acute dermal irritation/corrosion

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water, Dry powder, Carbon dioxide (CO₂)

The product itself does not burn.

Unsuitable extinguishing media

None known.

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.
Contact with metals liberates poisonous gas.
Container may explode if heated.
Cool closed containers exposed to fire with water spray.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.

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Do not breathe vapours, mist or gas. Ensure adequate ventilation.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.
Should not be released into the environment.

6.3. Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes.
Use only in well-ventilated areas. Do not breathe vapours/dust.
Wash thoroughly after handling.

Advice on protection against fire and explosion

See also section 5

Further information on handling

Observe label precautions.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

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

Hints on joint storage

Do not store together with Acids, Metals, Oxidizing agents

Further information on storage conditions

Accessible only for authorized persons.

7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
1310-65-2	Lithium hydroxide	-	1		STEL (15 min)	WEL
26628-22-8	Sodium azide (as NaN ₃)	-	0.1		TWA (8 h)	WEL
		-	0.3		STEL (15 min)	WEL

Additional advice on limit values

None known.

8.2. Exposure controls

Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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Protective and hygiene measures

- Wash hands before breaks and after work.
- General industrial hygiene practice.
- Ensure that eye flushing systems and safety showers are located close to the working place.
- Use only in area provided with appropriate exhaust ventilation.

Eye/face protection

- Safety glasses with side-shields

Hand protection

- Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
- Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.

In case of full contact:

- Glove material : Nitrile rubber
- Layer thickness: 0,11 mm
- Break through time: 480 min

In case of contact through splashing:

- Glove material : Nitrile rubber
- Layer thickness: 0,11 mm
- Break through time: 180 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves.

Skin protection

- Avoid contact with skin, eyes and clothing.
- Remove and wash contaminated clothing before re-use.

Respiratory protection

- Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In the case of vapour formation use a respirator with an approved filter.
- Suitable mask with particle filter P3 (European Norm 143)

Environmental exposure controls

- Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Crystalline powder
Colour:	white
Odour:	odourless
pH-Value (at 20 °C):	12,6 (5 % solution)

Changes in the physical state

Melting point:	110 °C
Initial boiling point and boiling range:	no data available
Sublimation point:	no data available
Softening point:	no data available
Pour point:	no data available
:	no data available
Flash point:	not applicable

Flammability

Solid:	not applicable
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Gas: not applicable

Explosive properties

no data available

Lower explosion limits: not applicable

Upper explosion limits: not applicable

Ignition temperature: not applicable

Auto-ignition temperature

Solid: no data available

Gas: no data available

Decomposition temperature: no data available

Oxidizing properties

no data available

Vapour pressure: no data available

Vapour pressure: no data available

Density (at 20 °C): 1,94 g/cm³

Bulk density: no data available

Water solubility: soluble

(at 20 °C)

Solubility in other solvents

no data available

Partition coefficient: no data available

Viscosity / dynamic: no data available

Viscosity / kinematic: no data available

Flow time: no data available

Vapour density: no data available

Evaporation rate: no data available

Solvent separation test: no data available

Solvent content: no data available

9.2. Other information

Solid content: no data available

Corrosive in contact with metals

Aluminium: 6,3 mm/a

SECTION 10: Stability and reactivity**10.1. Reactivity**

Corrosive to metals

The substance or mixture is not classified as self heating. The substance or mixture is not classified self-reactive.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.

Exposure to moisture.

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10.5. Incompatible materials

Metals, Acids, Combustible material, Oxidizing agents

10.6. Hazardous decomposition products

Hydrogen, by reaction with metals

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No toxicology information is available.

Acute toxicity

Toxic if swallowed, in contact with skin or if inhaled.

Toxic by inhalation, in contact with skin and if swallowed.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1310-65-2	Lithium hydroxide				
	oral	LD50 210 mg/kg	Ratte		
	inhalation vapour	ATE 3 mg/l			
	inhalation (4 h) aerosol	LC50 0,96 mg/l	Ratte		
7681-11-0	Potassium iodide				
	oral	LD50 2779 mg/kg	rat		
26628-22-8	sodium azide				
	oral	LD50 27 mg/kg	rat		
	dermal	LD50 20 mg/kg	rabbit		
	inhalation vapour	ATE 0,5 mg/l			
	inhalation aerosol	ATE 0,05 mg/l			

Irritation and corrosivity

Causes severe skin burns and eye damage.

Causes skin and eye burns.

Sensitising effects

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

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

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

Contains no ingredient listed as a carcinogen

STOT-single exposure

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

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

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

H373 - May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

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

No aspiration toxicity classification

Specific effects in experiment on an animal

No toxicology information is available.

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Practical experience

Observations relevant to classification

None known.

Other observations

None known.

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1. Toxicity

May cause long-term adverse effects in the aquatic environment.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7681-11-0	Potassium iodide					
	Acute fish toxicity	LC50	896 mg/l	96 h	Oncorhynchus mykiss (rainbow trout)	EPA
26628-22-8	sodium azide					
	Acute fish toxicity	LC50	0,68 mg/l	96 h	Lepomis macrochirus (Bluegill sunfish)	
	Acute crustacea toxicity	EC50	4,2 mg/l	48 h	Daphnia pulex (Water flea)	

12.2. Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

no data available

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

no data available

Further information

no data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

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107266 Alkaline Iodide-Azide Reagent Powder Pillows

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Waste disposal number of contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number: UN2680
14.2. UN proper shipping name: LITHIUM HYDROXIDE
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8



Classification code: C6
Limited quantity: 1 kg
Transport category: 2
Hazard No: 80
Tunnel restriction code: E

Other applicable information (land transport)

Excepted Quantities: E2

Inland waterways transport (ADN)**Other applicable information (inland waterways transport)**

Not tested

Marine transport (IMDG)

14.1. UN number: UN2680
14.2. UN proper shipping name: LITHIUM HYDROXIDE
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8



Special Provisions: -
Limited quantity: 1 kg
EmS: F-A, S-B

Other applicable information (marine transport)

Excepted Quantities: E2

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN2680
14.2. UN proper shipping name: LITHIUM HYDROXIDE
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8

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Limited quantity Passenger:	5 kg	
IATA-packing instructions - Passenger:		859
IATA-max. quantity - Passenger:		15 kg
IATA-packing instructions - Cargo:		863
IATA-max. quantity - Cargo:		50 kg

Other applicable information (air transport)

Excepted Quantities: E2

Passenger-LQ: Y844

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

Other applicable information

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P

SECTION 15: Regulatory information

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

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 2 - clearly water contaminating

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Revision: 24.10.2018

Safety datasheet sections which have been updated: 2, 10, 11, 15, 16

Revision: 02.11.2016

Safety datasheet sections which have been updated: 2-16

Revision: 01.03.2013

Safety Data Sheet

according to Regulation (EC) No 1907/2006

107266 Alkaline Iodide-Azide Reagent Powder Pillows

Revision date: 24.10.2018

Product code: 107266

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Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Acute Tox. 3; H301	Calculation method
Acute Tox. 3; H311	Calculation method
Acute Tox. 3; H331	Calculation method
Skin Corr. 1A; H314	On basis of test data
Eye Dam. 1; H318	Calculation method
STOT RE 2; H373	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H290	May be corrosive to metals.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

20762-66 Sulfamic Acid Powder Pillows

Revision date: 02.07.2015

Product code: 2076266

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

20762-66 Sulfamic Acid Powder Pillows

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

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
5, Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324
e-Mail: info-uk@hach.com

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Substance or mixture corrosive to metals: Met. Corr. 1

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

May be corrosive to metals.

Harmful if swallowed.

Causes serious eye irritation.

Causes skin irritation.

Harmful to aquatic life with long lasting effects.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

sulphamidic acid; sulphamic acid; sulfamic acid

Signal word: Warning

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Pictograms:



Hazard statements

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P270	Do not eat, drink or smoke when using this product.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P390	Absorb spillage to prevent material damage.

Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards

no data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
5329-14-6	sulphamidic acid; sulphamic acid; sulfamic acid			> 99 %
	226-218-8	016-026-00-0		
	Eye Irrit. 2, Skin Irrit. 2, Aquatic Chronic 3; H319 H315 H412			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take off contaminated clothing and shoes immediately.
Show this safety data sheet to the doctor in attendance.

After inhalation

Move to fresh air.
If symptoms persist, call a physician.

After contact with skin

Wash off immediately with plenty of water for at least 15 minutes.
Call a physician immediately.

After contact with eyes

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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according to Regulation (EC) No 1907/2006

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After ingestion

Clean mouth with water and drink afterwards plenty of 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

irritant effects

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours. The following may develop in event of fire: sulfur oxides.

5.3. Advice for firefighters

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing. In the event of fire, wear self-contained breathing apparatus.

Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Use mechanical handling equipment. Avoid dust formation. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Use only in well-ventilated areas. Avoid contact with skin and eyes. Do not breathe vapours/dust.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a dry and well-ventilated place.

Further information on storage conditions

Keep locked up or in an area accessible only to qualified or authorised persons.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

None known.

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20762-66 Sulfamic Acid Powder Pillows

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8.2. Exposure controls

Appropriate engineering controls

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Protective and hygiene measures

Wash hands before breaks and at the end of workday.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Skin protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Respirator must be worn if exposed to dust.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	white
Odour:	odourless
pH-Value (at 20 °C):	1,18

Changes in the physical state

Melting point:	205 °C
Initial boiling point and boiling range:	not applicable
Sublimation point:	no data available
Softening point:	no data available
Pour point:	not applicable
Flash point:	no data available

Flammability

Solid:	not applicable
Gas:	not applicable

Explosive properties

not applicable

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	not applicable

Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:	209 °C
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Oxidizing properties

not applicable

Vapour pressure: (at 20 °C)	0,0078 hPa
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20762-66 Sulfamic Acid Powder Pillows

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Density (at 20 °C): 2,13 g/cm³
 Bulk density: 600 kg/m³
 Water solubility: 213 g/L
 (at 20 °C)

Solubility in other solvents

soluble (Acid)

Partition coefficient: no data available

Viscosity / dynamic: no data available

Viscosity / kinematic: not applicable

Flow time: not applicable

Vapour density: 3,35

Evaporation rate: not applicable

Solvent separation test: not applicable

Solvent content: not applicable

9.2. Other information

Solid content: no data available

no data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Hazard: Nitric acid

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.6. Hazardous decomposition products

Ammonia, Sulphur oxides

Further information

Stable under recommended storage conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

No data is available on the product itself.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
5329-14-6	sulphamidic acid; sulphamic acid; sulfamic acid				
	oral	LD50 mg/kg	1450	Rat	

Safety Data Sheet

according to Regulation (EC) No 1907/2006

20762-66 Sulfamic Acid Powder Pillows

Revision date: 02.07.2015

Product code: 2076266

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Irritation and corrosivity

May cause eye and skin irritation.

Sensitising effects

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

No aspiration toxicity classification

Additional information on tests

None known.

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1. Toxicity

No data is available on the product itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
5329-14-6	sulphamidic acid; sulphamic acid; sulfamic acid					
	Acute fish toxicity	LC50 mg/l	70,3	96 h	Pimephales promelas	

12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

no data available

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

No known effect.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of used product

Safety Data Sheet

according to Regulation (EC) No 1907/2006

20762-66 Sulfamic Acid Powder Pillows

Revision date: 02.07.2015

Product code: 2076266

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160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Contaminated packaging

In accordance with local and national regulations.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number: UN 2967
14.2. UN proper shipping name: Sulphamic acid
14.3. Transport hazard class(es): 8
14.4. Packing group: III

Inland waterways transport (ADN)**Other applicable information (inland waterways transport)**

Not tested

Marine transport (IMDG)

14.1. UN number: UN 2967
14.2. UN proper shipping name: Sulphamic acid
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Marine pollutant: --
EmS: F-A,S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 2967
14.2. UN proper shipping name: Sulphamic acid
14.3. Transport hazard class(es): 8
14.4. Packing group: III

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

Other applicable information

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

20762-66 Sulfamic Acid Powder Pillows

Revision date: 02.07.2015

Product code: 2076266

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Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 2 - clearly water contaminating

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Revision: 2.07.2015

Safety datasheet sections which have been updated: 2

Relevant H and EUH statements (number and full text)

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

2267501 Sodium Thiosulfate, 0.2000 N

Revision date: 07.03.2018

Product code: 2267501

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

2267501 Sodium Thiosulfate, 0.2000 N

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

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
5, Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324
e-Mail: info-uk@hach.com

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

2.2. Label elements**Additional advice on labelling**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3. Other hazards

no data available

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2267501 Sodium Thiosulfate, 0.2000 N

Revision date: 07.03.2018

Product code: 2267501

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			95,0 - 99,0 %
	231-791-2			
7772-98-7	Sodium thiosulfate			1,0 - 5,0 %
	231-867-5			
	Skin Irrit. 2, Eye Irrit. 2A, STOT SE 3; H315 H319 H335			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Take off all contaminated clothing immediately.

After inhalation

Move to fresh air.

If symptoms persist, call a physician.

After contact with skin

Wash off immediately with plenty of water.

If skin irritation persists, call a physician.

After contact with eyes

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

After ingestion

Clean mouth with water and drink afterwards plenty of water.

Call a physician immediately.

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

No known effect.

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

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2267501 Sodium Thiosulfate, 0.2000 N

Revision date: 07.03.2018

Product code: 2267501

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6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. General hygiene considerations

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Wash off with plenty of water. General hygiene considerations

Do not breathe vapours or spray mist.

Advice on protection against fire and explosion

See also section 5

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container closed.

7.3. Specific end use(s)

Standard solution

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

None known.

8.2. Exposure controls

Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Protective and hygiene measures

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Wash hands before breaks and after work.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove

material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

Skin protection

Remove and wash contaminated clothing before re-use.

Respiratory protection

Provide adequate ventilation.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2267501 Sodium Thiosulfate, 0.2000 N

Revision date: 07.03.2018

Product code: 2267501

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SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	colourless, clear
Odour:	odourless
pH-Value (at 20 °C):	7,9

Changes in the physical state

Melting point:	not applicable
Initial boiling point and boiling range:	>100 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
:	no data available
Flash point:	not applicable
Sustaining combustion:	No data available

Flammability

Solid:	not applicable
Gas:	not applicable

Explosive properties

not applicable

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	not applicable

Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:	not applicable
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Oxidizing properties

not applicable

Vapour pressure:	no data available
Vapour pressure:	no data available
Density (at 20 °C):	0,996 g/cm ³
Bulk density:	no data available
Water solubility: (at 20 °C)	soluble

Solubility in other solvents

soluble

Partition coefficient:	no data available
Viscosity / dynamic:	no data available
Viscosity / kinematic:	no data available
Flow time:	no data available
Vapour density:	no data available
Evaporation rate:	0,74
Solvent separation test:	no data available

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2267501 Sodium Thiosulfate, 0.2000 N

Revision date: 07.03.2018

Product code: 2267501

Page 5 of 8

Solvent content: no data available

9.2. Other information

Solid content: not applicable

no data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

Further information

Stable under recommended storage conditions.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute toxicity**

No data is available on the product itself.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7772-98-7	Sodium thiosulfate				
	oral	LD50 mg/kg	>5000	rat	RTECS

Irritation and corrosivity

No known effect.

Sensitising effects

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

No data is available on the product itself.

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Additional information on tests

None known.

Practical experience

Observations relevant to classification

no data available

Other observations

no data available

Further information

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1. Toxicity

No data is available on the product itself.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7772-98-7	Sodium thiosulfate					
	Acute fish toxicity	LC50 mg/l	24000	96 h Gambusia affinis (Mosquito fish)	IUCLID	

12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

no data available

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
7772-98-7	Sodium thiosulfate	-4,35

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

No known effect.

Further information

No known effect.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

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Waste disposal number of contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

Land transport (ADR/RID)

Other applicable information (land transport)

Not subject to transport regulations.

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

Other applicable information (marine transport)

Not subject to transport regulations.

Air transport (ICAO-TI/IATA-DGR)

Other applicable information (air transport)

Not subject to transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

Other applicable information

no data available

SECTION 15: Regulatory information

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

National regulatory information

Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Revision: 07.03.2018

Safety datasheet sections which have been updated: 2, 4, 7

Relevant H and EUH statements (number and full text)

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

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Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
5, Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324
e-Mail: info-uk@hach.com

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

2.2. Label elements**Additional advice on labelling**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3. Other hazards

no data available

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			>98 %
	231-791-2			
9005-84-9	Starch			<1 %
	232-686-4			
69-72-7	Salicylic acid			<1 %
	200-712-3			
	Acute Tox. 4, Eye Irrit. 2; H302 H319			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Take off all contaminated clothing immediately.

After inhalation

Move to fresh air.

After contact with skin

Wash off immediately with plenty of water.

After contact with eyes

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

After ingestion

Clean mouth with water and drink afterwards plenty of water.

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

No known effect.

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

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

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6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Use only in well-ventilated areas.

Advice on protection against fire and explosion

See also section 5

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in a dry, cool place.

Hints on joint storage

None known.

7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

None known.

8.2. Exposure controls

Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Protective and hygiene measures

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Wash hands before breaks and after work.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove

material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

Skin protection

Remove and wash contaminated clothing before re-use.

Respiratory protection

Breathing apparatus only if aerosol or dust is formed. Recommended Filter type: ABEK-filter

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SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	colourless
Odour:	odourless
pH-Value (at 20 °C):	3,1

Changes in the physical state

Melting point:	not applicable
Initial boiling point and boiling range:	100 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
:	no data available
Flash point:	not applicable
Sustaining combustion:	No data available

Flammability

Solid:	not applicable
Gas:	not applicable

Explosive properties

not applicable

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	no data available

Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:	not applicable
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Oxidizing properties

not applicable

Vapour pressure:	no data available
Vapour pressure:	no data available
Density (at 20 °C):	0,986 g/cm ³
Bulk density:	not applicable
Water solubility:	soluble

Solubility in other solvents

soluble

Partition coefficient:	no data available
Viscosity / dynamic:	no data available
Viscosity / kinematic:	no data available
Flow time:	no data available
Vapour density:	no data available
Evaporation rate:	no data available
Solvent separation test:	no data available
Solvent content:	no data available

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9.2. Other information

Solid content: not applicable
no data available

SECTION 10: Stability and reactivity

10.1. Reactivity

None known.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

Further information

None known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.
No data is available on the product itself.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
69-72-7	Salicylic acid				
	oral	ATE 500 mg/kg			

Irritation and corrosivity

Based on available data, the classification criteria are not met.
No known effect.

Sensitising effects

Based on available data, the classification criteria are not met.
No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.
Contains no ingredient listed as a carcinogen

STOT-single exposure

Based on available data, the classification criteria are not met.
The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

Based on available data, the classification criteria are not met.
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

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Aspiration hazard

Based on available data, the classification criteria are not met.
No aspiration toxicity classification

Specific effects in experiment on an animal

No data is available on the product itself.

Additional information on tests

None known.

Practical experience**Observations relevant to classification**

no data available

Other observations

None known.

Further information

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1. Toxicity

No data is available on the product itself.
Do not flush into surface water or sanitary sewer system.

12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

no data available

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

No known effect.

Further information

No known effect.

SECTION 13: Disposal considerations

13.1. Waste treatment methods**Advice on disposal**

In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

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Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

Land transport (ADR/RID)

Other applicable information (land transport)

Not subject to transport regulations.

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

Other applicable information (marine transport)

Not subject to transport regulations.

Air transport (ICAO-TI/IATA-DGR)

Other applicable information (air transport)

Not subject to transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

Other applicable information

no data available

SECTION 15: Regulatory information

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

National regulatory information

Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Revision: 19.10.2017

Safety datasheet sections which have been updated: 11

Revision: 30.09.2017

Safety datasheet sections which have been updated: 2

Revision: 26.01.2015

Safety datasheet sections which have been updated: 2

Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product



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properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)