Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera SiO3 Test, Reagenz 1

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

1.1. Product identifier

sera SiO3 Test, Reagenz 1

EAN

4001942049429

UFI: Y8E2-2VV5-EDGW-GHCU

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

Use of the substance/mixture

Solution for monitoring water parameters in aquarium and tap water.
The product is intended for consumer use.
The product is intended for professional use.

1.3. Details of the supplier of the safety data sheet

Company name:	sera Werke Heimtierbedarf J. Ravnak GmbH & Co. KG	
Street:	Borsigstraße 49	
Place:	D-52525 Heinsberg	
Post-office box:	1466 D-52518 Heinsberg	
Telephone:	+49 (0)2452 91260	Telefax: +49 (0)2452 5922
e-mail:	info@sera.de	
Contact person:	Dr. Matthias Dahm	
e-mail:	sds.info@sera.biz	
Internet:	www.sera.de	
Responsible Department:	Labor	

1.4. Emergency telephone number:

+49 (0)2452 91260 (Only available during office hours.)
+49 (0)2452 9126555

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Irrit. 2; H315
Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Warning

Pictograms:

Hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P280	Wear protective gloves and eye/face protection.
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.
P310	Immediately call a doctor.

Additional advice on labelling

The product is classified and labelled according to EC directives or corresponding national laws.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Highly thinned solution of an inorganic acid. Aqueous solution of inorganic salts.

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7664-93-9	sulphuric acid 96 %			< 15 %
	231-639-5	016-020-00-8	01-2119458838-20	
	Met. Corr. 1, Skin Corr. 1A, Eye Dam. 1; H290 H314 H318			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
7664-93-9	231-639-5	sulphuric acid 96 %	< 15 %
	oral: LD50 = 2140 mg/kg Skin Corr. 1A; H314: >= 15 - 100 Skin Irrit. 2; H315: >= 5 - < 15 Eye Irrit. 2; H319: >= 5 - < 15		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated, saturated clothing immediately.

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Observe risk of aspiration if vomiting occurs. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Rinse mouth immediately and drink plenty of water. Do not allow a neutralisation agent to be drunk. Call a physician immediately.

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

Serious eye damage/eye irritation
Skin corrosion/irritation
If swallowed danger of perforation of the esophagus and the stomach (strong corrosive 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

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-flammable. The product itself does not burn. Wear breathing apparatus if exposed to vapours/dusts/aerosols.
In case of fire may be liberated: Sulphur oxides, Nitrogen oxides (NOx), Pyrolysis products, toxic.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.
Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Avoid contact with skin, eyes and clothes. Use personal protection equipment.

For non-emergency personnel

First aider: Pay attention to self-protection! Remove persons to safety.

For emergency responders

Cover drains. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).
Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised. Suitable material for diluting or neutralizing: Water, Lime, Soda.

6.3. Methods and material for containment and cleaning up

For containment

Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Contain leaks or spills within cabinets with removable trays.

For cleaning up

Large amounts of spillages: Use approved industrial vacuum cleaner for removal.
Small amounts of spillages: Wipe up with absorbent material (eg. cloth, fleece).
Clear contaminated areas thoroughly. Wash with plenty of water.

Other information

Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13 Neutralize with chalk, alkali solution or ammonia.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Keep out of reach of children.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately.
Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product.
Wash hands and face before breaks and after work and take a shower if necessary. Draw up and observe skin protection programme.

Further information on handling

Handle and open container with care. Put lids on containers immediately after use.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only.
Keep/Store only in original container. Protect from direct sunlight.
Do not store at temperatures below 0°C. Recommended storage temperature: at room temperature

Hints on joint storage

Do not mix with alkali.

Further information on storage conditions

No special measures are necessary. The product is stable under storage at normal ambient temperatures.

7.3. Specific end use(s)

Solution for monitoring water parameters in aquarium and tap water.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7664-93-9	Sulphuric acid	-	0.05		TWA (8 h)	

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
7664-93-9	sulphuric acid 96 %			
Worker DNEL, long-term		inhalation	local	0,05 mg/m³
Worker DNEL, acute		inhalation	local	0,1 mg/m³

PNEC values

CAS No	Substance	
Environmental compartment		Value
7664-93-9	sulphuric acid 96 %	
Freshwater		0,003 mg/l
Marine water		0,0 mg/l
Freshwater sediment		0,002 mg/kg
Marine sediment		0,002 mg/kg
Micro-organisms in sewage treatment plants (STP)		8,8 mg/l

Additional advice on limit values

To date, no national critical limit values exist.
When using do not eat, drink, smoke, sniff.

8.2. Exposure controls

Appropriate engineering controls

No special technical protective measures are necessary.

Individual protection measures, such as personal protective equipment

Eye/face protection

Avoid contact with eyes. Wear eye/face protection. Suitable eye protection: goggles.

Hand protection

Avoid contact with skin. Wear suitable gloves.
Suitable gloves type acid-resistant
Suitable material: FKM (fluoro rubber), Butyl caoutchouc (butyl rubber)
Thickness of the glove material: 0,4-0,7 mm
Permeation time (maximum wear duration): > 2 h
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing. Not required because of small size of the container

Respiratory protection

Usually no personal respirative protection necessary. In case of inadequate ventilation wear respiratory protection. In the case of vapour formation use a respirator with filter model B2 (according to DIN 3181, 1980).

Thermal hazards

Non-flammable. The product itself does not burn. Thermal decomposition can lead to the escape of irritating gases and vapours. In case of fire may be liberated: Sulphur oxides, Nitrogen oxides (NOx), Pyrolysis products, toxic.

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	colourless
Odour:	odourless
Odour threshold:	not applicable
Melting point/freezing point:	0 °C

Boiling point or initial boiling point and boiling range:	100 °C
Flammability:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	> 100 °C
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value (at 20 °C):	-0,3-0,5
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not applicable (Product/Substance is inorganic.)
Vapour pressure: (at 20 °C)	23 hPa
Density (at 20 °C):	1,11 g/cm³
Bulk density:	not applicable
Relative vapour density:	not determined

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

May cause strong formation of hydrogen by contact with amphoteric metals (e.g. aluminia, lead, zinc) - danger of explosion.

Sustaining combustion:	Not sustaining combustion
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable

Oxidizing properties

Not oxidising.

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	No data available
Solvent content:	not determined
Solid content:	not determined
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not determined
Viscosity / dynamic:	not determined
Flow time:	not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

Possibility of hazardous reactions. During dilution or dissolving in water, strong heating-up always takes place.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Exothermic reaction with: Base, Peroxides, Oxidising agent.
No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Protect from direct sunlight.

10.5. Incompatible materials

Keep away from: Base, Oxidising agent, Alkali metals, Light metals, Peroxides.
May cause strong formation of hydrogen by contact with amphoteric metals (e.g. aluminia, lead, zinc) - danger of explosion.

10.6. Hazardous decomposition products

Sulphur oxides, Nitrogen oxides (NOx), Pyrolysis products, toxic.
Thermal decomposition can lead to the escape of irritating gases and vapours.

Further information

Corrodes base metals.

SECTION 11: Toxicological information

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

Toxicocinetics, metabolism and distribution

There are no data available on the preparation/mixture itself.

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7664-93-9	sulphuric acid 96 %				
	oral	LD50 2140 mg/kg	Rat	ECHA	OECD 401

Irritation and corrosivity

Causes skin irritation.
Causes serious eye irritation.
If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

Skin contact, Eye contact, Ingestion, Inhalation

Specific effects in experiment on an animal

There are no data available on the preparation/mixture itself.

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Practical experience

There are no data available on the preparation/mixture itself.

11.2. Information on other hazards

Endocrine disrupting properties

There are no data available on the preparation/mixture itself.

Other information

There are no data available on the preparation/mixture itself.

Further information

Handle in accordance with good industrial hygiene and safety practice.
Health injuries are not known or expected under normal use.

SECTION 12: Ecological information

12.1. Toxicity

The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised. Suitable material for diluting or neutralizing: Neutralize with chalk, alkali solution or ammonia. After neutralisation, toxicity is no longer observed. Ecological injuries are not known or expected under normal use.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
7664-93-9	sulphuric acid 96 %						
	Acute fish toxicity	LC50 mg/l	16-28	96 h	Lepomis macrochirus (Bluegill)	ECHA	
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Desmodesmus subspicatus	ECHA	OECD 201
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna (Big water flea)	ECHA	OECD 202
	Crustacea toxicity	NOEC mg/l	0,15	35 d	Tanytarsus dissimilis	ECHA	

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

The study does not need to be conducted because the substance is inorganic.

12.4. Mobility in soil

The study does not need to be conducted because the substance is inorganic.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised. Suitable material for diluting or neutralizing: Neutralize with chalk, alkali solution or ammonia.

List of Wastes Code - residues/unused products

160303 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; inorganic wastes containing hazardous substances; hazardous waste

List of Wastes Code - used product

160507 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded inorganic chemicals consisting of or containing hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled. Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 3264
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid 96 %)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C1
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 3264
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid 96 %)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C1
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 3264
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid 96 %)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Special Provisions:	223, 274
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-B
Segregation group:	1 - acids

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 3264
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid 96 %)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Special Provisions:	A3 A803
Limited quantity Passenger:	1 L
Passenger LQ:	Y841
Excepted quantity:	E1
IATA-packing instructions - Passenger:	852
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	856
IATA-max. quantity - Cargo:	60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: strongly corrosive. Safe handling: see section 7
Personal protection equipment: see section 8

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

Additional information

To follow: 2019/1148/EC
This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,3,4,5,6,7,8,9,16.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Key literature references and sources for data

Safety Data Sheet, ECHA

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

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method

Relevant H and EUH statements (number and full text)

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

Further Information

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP].
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(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

sera SiO3 Test, Reagenz 2

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

1.1. Product identifier

sera SiO3 Test, Reagenz 2

EAN

4001942049429

UFI: XDG6-Q4P5-XT7N-67M8

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

Use of the substance/mixture

Solution for monitoring water parameters in aquarium and tap water.
The product is intended for consumer use.
The product is intended for professional use.

1.3. Details of the supplier of the safety data sheet

Company name:	sera Werke Heimtierbedarf J. Ravnak GmbH & Co. KG	
Street:	Borsigstraße 49	
Place:	D-52525 Heinsberg	
Post-office box:	1466 D-52518 Heinsberg	
Telephone:	+49 (0)2452 91260	Telefax: +49 (0)2452 5922
e-mail:	info@sera.de	
Contact person:	Dr. Matthias Dahm	
e-mail:	sds.info@sera.biz	
Internet:	www.sera.de	
Responsible Department:	Labor	

1.4. Emergency telephone number:

+49 (0)2452 91260 (Only available during office hours.)
+49 (0)2452 9126555

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Corr. 1; H314
Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

tartaric acid

Signal word: Danger

Pictograms:

Hazard statements

H314	Causes severe skin burns and eye damage.

Precautionary statements

P102	Keep out of reach of children.
P280	Wear protective gloves and eye/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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 doctor.

Additional advice on labelling

The product is classified and labelled according to EC directives or corresponding national laws.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Aqueous solution of chemicals with organic substances (acids).

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
87-69-4	tartaric acid			< 25 %
	201-766-0		01-2119537204-47	
	Eye Dam. 1; H318			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
87-69-4	201-766-0	tartaric acid	< 25 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated, saturated clothing immediately.

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Observe risk of aspiration if vomiting occurs. Do NOT induce vomiting. Rinse mouth immediately and drink

plenty of water. Do not allow a neutralisation agent to be drunk. Call a physician immediately.

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

Serious eye damage/eye irritation
Skin corrosion/irritation

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

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-flammable. The product itself does not burn. Wear breathing apparatus if exposed to vapours/dusts/aerosols.
In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO2).

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Avoid contact with skin, eyes and clothes. Use personal protection equipment.

For non-emergency personnel

First aider: Pay attention to self-protection! Remove persons to safety.

For emergency responders

Cover drains. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised. Suitable material for diluting or neutralizing: Water, Lime, Soda.

6.3. Methods and material for containment and cleaning up

For containment

Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Contain leaks or spills within cabinets with removable trays.

For cleaning up

Large amounts of spillages: Use approved industrial vacuum cleaner for removal.
Small amounts of spillages: Wipe up with absorbent material (eg. cloth, fleece).
Clear contaminated areas thoroughly. Wash with plenty of water.

Other information

Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13 Neutralize with chalk, alkali solution or ammonia.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Keep out of reach of children.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately.
Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product.
Wash hands and face before breaks and after work and take a shower if necessary. Draw up and observe skin protection programme.

Further information on handling

Handle and open container with care. Put lids on containers immediately after use.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only.
Keep/Store only in original container. Protect from direct sunlight.
Do not store at temperatures below 0°C. Recommended storage temperature: at room temperature

Hints on joint storage

Do not mix with alkali.

Further information on storage conditions

No special measures are necessary. The product is stable under storage at normal ambient temperatures.

7.3. Specific end use(s)

Solution for monitoring water parameters in aquarium and tap water.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
87-69-4	tartaric acid			
Worker DNEL, long-term		inhalation	systemic	5,2 mg/m³
Worker DNEL, long-term		dermal	systemic	2,9 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	1,3 mg/m³
Consumer DNEL, long-term		dermal	systemic	1,5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	8,1 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
87-69-4	tartaric acid	
Freshwater		0,3125 mg/l
Marine water		0,3125 mg/l
Freshwater sediment		1,141 mg/kg
Marine sediment		1,141 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,0449 mg/kg

Additional advice on limit values

To date, no national critical limit values exist.
When using do not eat, drink, smoke, sniff.

8.2. Exposure controls

Appropriate engineering controls

No special technical protective measures are necessary.

Individual protection measures, such as personal protective equipment

Eye/face protection

Avoid contact with eyes. Wear eye/face protection. Suitable eye protection: goggles.

Hand protection

Avoid contact with skin. Wear suitable gloves.
Suitable gloves type acid-resistant
Suitable material: NBR (Nitrile rubber)
Thickness of the glove material: > 0,35 mm
Permeation time (maximum wear duration): > 8 h
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing. Not required because of small size of the container

Respiratory protection

Usually no personal respirative protection necessary. In the case of vapour formation use a respirator with filter model B2 (according to DIN 3181, 1980).

Thermal hazards

Non-flammable. The product itself does not burn. Thermal decomposition can lead to the escape of irritating gases and vapours. In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO_2).

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	light yellow
Odour:	odourless
Odour threshold:	not applicable
Melting point/freezing point:	0 °C

Boiling point or initial boiling point and boiling range:	100 °C
Flammability:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	> 100 °C
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value (at 20 °C):	0,5-1,5
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 20 °C)	23 hPa
Density (at 20 °C):	1,09 g/cm³
Bulk density:	not applicable
Relative vapour density:	not determined

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

May cause strong formation of hydrogen by contact with amphoteric metals (e.g. aluminia, lead, zinc) - danger of explosion.

Sustaining combustion:	Not sustaining combustion
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable

Oxidizing properties

Not oxidising.

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	No data available
Solvent content:	not determined
Solid content:	not determined
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not determined
Viscosity / dynamic:	not determined
Flow time:	not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

Possibility of hazardous reactions. During dilution or dissolving in water, strong heating-up always takes place.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Exothermic reaction with: Base, Peroxides, Oxidising agent.
No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Protect from direct sunlight.

10.5. Incompatible materials

Keep away from: Base, Oxidising agent, Alkali metals, Light metals, Peroxides.
May cause strong formation of hydrogen by contact with amphoteric metals (e.g. aluminia, lead, zinc) - danger of explosion.

10.6. Hazardous decomposition products

Carbon monoxide, Carbon dioxide (CO_2).
Thermal decomposition can lead to the escape of irritating gases and vapours.

Further information

Corrodes base metals.

SECTION 11: Toxicological information

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

Toxicocinetics, metabolism and distribution

There are no data available on the preparation/mixture itself.

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
87-69-4	tartaric acid				
	oral	LD50 > 2000 mg/kg	Rat		OECD 423
	dermal	LD50 > 2000 mg/kg	Rat		OECD 402

Irritation and corrosivity

Causes severe skin burns and eye damage. (On basis of test data)
Causes serious eye damage. (On basis of test data)

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

Skin contact, Eye contact, Ingestion, Inhalation

Specific effects in experiment on an animal

There are no data available on the preparation/mixture itself.

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Practical experience

There are no data available on the preparation/mixture itself.

11.2. Information on other hazards

Endocrine disrupting properties

There are no data available on the preparation/mixture itself.

Other information

There are no data available on the preparation/mixture itself.

Further information

Handle in accordance with good industrial hygiene and safety practice.
Health injuries are not known or expected under normal use.

SECTION 12: Ecological information

12.1. Toxicity

The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised. Suitable material for diluting or neutralizing: Neutralize with chalk, alkali solution or ammonia. After neutralisation, toxicity is no longer observed. Ecological injuries are not known or expected under normal use.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
87-69-4	tartaric acid					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Danio rerio (zebrafish)	ECHA	OECD 203
	Acute algae toxicity	ErC50 51,4 mg/l	72 h	Pseudokirchneriella subcapitata	SDB	OECD 201
	Acute crustacea toxicity	EC50 93,31 mg/l	48 h	Daphnia magna (Big water flea)	ECHA	OECD 202
	Acute bacteria toxicity	(EC50 > 1000 mg/l)	3 h	Activated sludge	ECHA	OECD 209

12.2. Persistence and degradability

Readily biodegradable (according to OECD criteria).

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
87-69-4	tartaric acid			
	OECD 306	85%	28	
	Readily biodegradable (according to OECD criteria).			

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
87-69-4	tartaric acid	-1,91

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised. Suitable material for diluting or neutralizing: Neutralize with chalk, alkali solution or ammonia.

List of Wastes Code - residues/unused products

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing hazardous substances; hazardous waste

List of Wastes Code - used product

160508 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded organic chemicals consisting of or containing hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled. Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 3265
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (tartaric acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C3
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 3265
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (tartaric acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C3
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 3265
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (tartaric acid)
14.3. Transport hazard class(es):	8

14.4. Packing group:	III
Hazard label:	8
Special Provisions:	223, 274
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 3265
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (tartaric acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Special Provisions:	A3 A803
Limited quantity Passenger:	1 L
Passenger LQ:	Y841
Excepted quantity:	E1
IATA-packing instructions - Passenger:	852
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	856
IATA-max. quantity - Cargo:	60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: strongly corrosive. Safe handling: see section 7

Personal protection equipment: see section 8

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3

2004/42/EC (VOC):	20 % (218 g/l)
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

Additional information

To follow: 850/2004/EC, 79/117/EEC, 689/2008/EC

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	1 - slightly hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,4,5,6,7,8,9,10,11,12,14,15,16.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Key literature references and sources for data

Safety Data Sheet, ECHA

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

Classification	Classification procedure
Skin Corr. 1; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data

Relevant H and EUH statements (number and full text)

H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

Further Information

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP].
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(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

sera SiO3 Test, Reagenz 3

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

1.1. Product identifier

sera SiO3 Test, Reagenz 3

EAN

4001942049429

UFI: VWPE-7UY4-FP80-KC63

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

Use of the substance/mixture

Solution for monitoring water parameters in aquarium and tap water.
The product is intended for consumer use.
The product is intended for professional use.

1.3. Details of the supplier of the safety data sheet

Company name:	sera Werke Heimtierbedarf J. Ravnak GmbH & Co. KG	
Street:	Borsigstraße 49	
Place:	D-52525 Heinsberg	
Post-office box:	1466 D-52518 Heinsberg	
Telephone:	+49 (0)2452 91260	Telefax: +49 (0)2452 5922
e-mail:	info@sera.de	
Contact person:	Dr. Matthias Dahm	
e-mail:	sds.info@sera.biz	
Internet:	www.sera.de	
Responsible Department:	Labor	

1.4. Emergency telephone number:

+49 (0)2452 91260 (Only available during office hours.)
+49 (0)2452 9126555

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Tox. 4; H302
Skin Sens. 1; H317
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

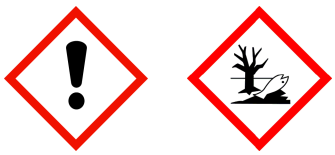
Regulation (EC) No 1272/2008

Hazard components for labelling

sodium hydrogensulphite; sodium bisulphite 37%
bis(4-hydroxy-N-methylanilinium) sulphate

Signal word: Warning

Pictograms:



Hazard statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P102	Keep out of reach of children.
P261	Avoid breathing Vapour.
P280	Wear protective gloves and eye/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

Special labelling of certain mixtures

EUH031	Contact with acids liberates toxic gas.

Additional advice on labelling

The product is classified and labelled according to EC directives or corresponding national laws.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Aqueous solution of organic and inorganic salts.

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7631-90-5	sodium hydrogensulphite; sodium bisulphite 37%			30 - < 35 %
	231-548-0	016-064-00-8	01-2119524563-42	
	Acute Tox. 4; H302 EUH031			
55-55-0	bis(4-hydroxy-N-methylanilinium) sulphate			1 - < 5 %
	200-237-1	650-031-00-4		
	Acute Tox. 4, Skin Sens. 1, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H302 H317 H373 H400 H410			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
7631-90-5	231-548-0	sodium hydrogensulphite; sodium bisulphite 37%	30 - < 35 %
	inhalation: LC50 = > 5,5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 500 mg/kg		
55-55-0	200-237-1	bis(4-hydroxy-N-methylanilinium) sulphate	1 - < 5 %
	dermal: LD50 = > 1000 mg/kg; oral: LD50 = 565 mg/kg		

Further Information

Contains no further substance with acute toxicity.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated, saturated clothing immediately.

After inhalation

Provide fresh air. After inhaling vapours, first symptoms of poisoning may develop hours later, so always consult a doctor.

After contact with skin

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Observe risk of aspiration if vomiting occurs. Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Call a physician immediately.

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

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Methaemoglobinaemia.
May cause an allergic skin reaction.

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

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-flammable. The product itself does not burn. In case of fire may be liberated: Sulphur oxides, Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO_2).

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.
Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Provide adequate ventilation. Do not breathe vapour. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

For non-emergency personnel

First aider: Pay attention to self-protection! Remove persons to safety.

For emergency responders

Cover drains. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).
Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

For containment

Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Contain leaks or spills within cabinets with removable trays.

For cleaning up

Large amounts of spillages: Use approved industrial vacuum cleaner for removal.
Small amounts of spillages: Wipe up with absorbent material (eg. cloth, fleece).
Clear contaminated areas thoroughly. Clean contaminated articles and floor according to the environmental legislation.

Other information

Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Keep out of reach of children.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately.
Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product.
Wash hands and face before breaks and after work and take a shower if necessary. Draw up and observe skin protection programme.

Further information on handling

Open drum carefully as content may be under pressure. Put lids on containers immediately after use.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Store in a place accessible by authorized persons only. Keep/Store only in original container. Ensure adequate ventilation of the storage area. Protect from direct sunlight.
Do not store at temperatures below 0°C. Recommended storage temperature: at room temperature

Hints on joint storage

No materials to be specially mentioned

Further information on storage conditions

No special measures are necessary. The product is stable under storage at normal ambient temperatures.

7.3. Specific end use(s)

Solution for monitoring water parameters in aquarium and tap water.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7631-90-5	Sodium bisulfite	-	5		TWA (8 h)	

DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
7631-90-5	sodium hydrogensulphite; sodium bisulphite 37%		
Worker DNEL, long-term	inhalation	systemic	246 mg/m³
Consumer DNEL, long-term	inhalation	systemic	73 mg/m³
Consumer DNEL, long-term	oral	systemic	9,5 mg/kg bw/day

PNEC values

CAS No	Substance
Environmental compartment	Value
7631-90-5	sodium hydrogensulphite; sodium bisulphite 37%
Freshwater	1,09 mg/l
Marine water	0,11 mg/l
Micro-organisms in sewage treatment plants (STP)	10,71 mg/l

Additional advice on limit values

To date, no national critical limit values exist.
When using do not eat, drink, smoke, sniff.

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe vapour.

Individual protection measures, such as personal protective equipment

Eye/face protection

Avoid contact with eyes. Wear eye/face protection. Suitable eye protection: goggles.

Hand protection

Avoid contact with skin. Wear suitable gloves.
Suitable gloves type acid-resistant
Suitable material: NBR (Nitrile rubber)
Thickness of the glove material: > 0,35 mm
Permeation time (maximum wear duration): > 8 h
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing. Not required because of small size of the container

Respiratory protection

Usually no personal respirative protection necessary. In case of inadequate ventilation wear respiratory protection. In the case of vapour formation use a respirator with filter model B2 (according to DIN 3181, 1980).

Thermal hazards

Non-flammable. The product itself does not burn. Thermal decomposition can lead to the escape of irritating gases and vapours. In case of fire may be liberated: Sulphur oxides, Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO2).

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	colourless
Odour:	stinging
Odour threshold:	not determined
Melting point/freezing point:	0 °C
Boiling point or initial boiling point and boiling range:	100 °C
Flammability:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	> 100 °C
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value (at 20 °C):	3,0-5,0
Viscosity / kinematic:	not determined
Water solubility:	completely miscible

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 20 °C)	40 hPa
Density (at 20 °C):	1,06 g/cm³
Bulk density:	not applicable
Relative vapour density:	not determined

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

No data available

Sustaining combustion:	Not sustaining combustion

Self-ignition temperature

Solid:	not applicable
Gas:	not applicable

Oxidizing properties

Not oxidising.

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	No data available
Solvent content:	not determined
Solid content:	not determined
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not determined
Viscosity / dynamic:	not determined
Flow time:	not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Contact with strong acids liberates sulphur dioxide.

10.4. Conditions to avoid

Protect from direct sunlight.

10.5. Incompatible materials

Keep away from: Acid

10.6. Hazardous decomposition products

Sulphur oxides, Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO2).
Thermal decomposition can lead to the escape of irritating gases and vapours.

SECTION 11: Toxicological information

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

Toxicocinetics, metabolism and distribution

There are no data available on the preparation/mixture itself.

Acute toxicity

Harmful if swallowed.

ATEmix calculated

ATE (oral) 1418,2 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7631-90-5	sodium hydrogensulphite; sodium bisulphite 37%				
	oral	LD50 500 mg/kg	Rat	SDB	ATE
	dermal	LD50 > 2000 mg/kg	Rat	ECHA	OECD 402
	inhalation (4 h) dust/mist	LC50 > 5,5 mg/l	Rat	ECHA	OECD 403
55-55-0	bis(4-hydroxy-N-methylanilinium) sulphate				
	oral	LD50 565 mg/kg	Rat	ECHA	
	dermal	LD50 > 1000 mg/kg	Guinea pig	ECHA	

Irritation and corrosivity

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

Sensitising effects

May cause an allergic skin reaction. (bis(4-hydroxy-N-methylanilinium) sulphate)

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

Skin contact, Eye contact, Ingestion, Inhalation

Specific effects in experiment on an animal

There are no data available on the preparation/mixture itself.

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Practical experience

There are no data available on the preparation/mixture itself.

11.2. Information on other hazards

Endocrine disrupting properties

There are no data available on the preparation/mixture itself.

Other information

There are no data available on the preparation/mixture itself.

Further information

Handle in accordance with good industrial hygiene and safety practice.
Health injuries are not known or expected under normal use.

SECTION 12: Ecological information

12.1. Toxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
7631-90-5	sodium hydrogensulphite; sodium bisulphite 37%						
	Acute fish toxicity	LC50 mg/l	147-215	96 h	Oncorhynchus mykiss (Rainbow trout)	ECHA	
	Acute algae toxicity	ErC50 mg/l	43,8	72 h	Desmodesmus subspicatus	ECHA	OECD 201
	Acute crustacea toxicity	EC50	89 mg/l	48 h	Daphnia magna (Big water flea)	ECHA	
	Fish toxicity	NOEC mg/l	> 316	34 d	Danio rerio (zebrafish)	ECHA	OECD 210
	Crustacea toxicity	NOEC mg/l	> 10	21 d	Daphnia magna (Big water flea)	ECHA	OECD 211
	Acute bacteria toxicity	(EC50 mg/l)	> 1000	3 h	Activated sludge	ECHA	OECD 209
55-55-0	bis(4-hydroxy-N-methylanilinium) sulphate						
	Acute fish toxicity	LC50 mg/l	0,25	96 h	Pimephales promelas (fathead minnow)	ECHA	
	Acute algae toxicity	ErC50 mg/l	0,506	72 h	Pseudokirchneriella subcapitata	ECHA	calculated.
	Acute crustacea toxicity	EC50 mg/l	0,724	48 h	Daphnia magna (Big water flea)	ECHA	calculated.
	Crustacea toxicity	NOEC mg/l	0,019	4 d	Daphnia magna (Big water flea)	ECHA	

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
55-55-0	bis(4-hydroxy-N-methylanilinium) sulphate			
	Closed Bottle test	30%		
	Not readily biodegradable (according to OECD criteria)			

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
55-55-0	bis(4-hydroxy-N-methylanilinium) sulphate	0,79

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing hazardous substances; hazardous waste

List of Wastes Code - used product

160508 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded organic chemicals consisting of or containing hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled. Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number: UN 3082

14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis(4-hydroxy-N-methylanilinium) sulphate)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	-

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis(4-hydroxy-N-methylanilinium) sulphate)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis(4-hydroxy-N-methylanilinium) sulphate)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Special Provisions:	274 335 969
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis(4-hydroxy-N-methylanilinium) sulphate)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Special Provisions:	A97 A158 A197 A215
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y964
Excepted quantity:	E1
IATA-packing instructions - Passenger:	964
IATA-max. quantity - Passenger:	450 L
IATA-packing instructions - Cargo:	964
IATA-max. quantity - Cargo:	450 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:	Yes
Danger releasing substance:	bis(4-hydroxy-N-methylanilinium) sulphate

14.6. Special precautions for user

Warning: Toxic.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 75

Information according to 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment

Additional information

To follow: 850/2004/EC, 79/117/EEC, 689/2008/EC

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	3 - highly hazardous to water
Skin resorption/Sensitization:	Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,4,5,6,7,8,9,10,11,12,13,14,15,16.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Key literature references and sources for data

Safety Data Sheet, ECHA

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

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
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.
H411	Toxic to aquatic life with long lasting effects.

EUH031 Contact with acids liberates toxic gas.

Further Information

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP].
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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