

## Certificate for *sera* Koi aqua-test box

Manufacturer

sera Werke Heimtierbedarf  
J. Ravnak GmbH & Co. KG  
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Responsible Department/Contact Person

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### Declaration

The product *sera* Koi aqua-test box (EAN 4001942077156) contains the following test-kits:

*sera* pH Test: single reagent (EAN 4001942043106)  
*sera* kH Test: single reagent (EAN 4001942042109)  
*sera* gH Test: single reagent (EAN 4001942041102)  
*sera* Fe Test: reagents 1-2 (EAN 4001942046107)  
*sera* NO<sub>2</sub> Test: reagents 1-2 (EAN 4001942044103)  
*sera* NO<sub>3</sub> Test: reagents 1-4 (EAN 4001942045100)  
*sera* NH<sub>4</sub>/NH<sub>3</sub> Test: reagents 1-3 (EAN 4001942049108)  
*sera* PO<sub>4</sub> Test: reagents 1-3 (EAN 4001942049306)  
*sera* Cu Test: reagents 1-2 (EAN 4001942047104)

For safety information see Safety Data Sheet of each test-kit.

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.

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J. Ravnak GmbH & Co. KG  
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**Handelsregister:** Aachen, HRA-Nr. 5223

**Bankverbindung:** Persönl. haftende Gesellschafterin: sera Werke Heimtierbedarf  
J. Ravnak GmbH, Amtsgericht Aachen, HRB-Nr. 9881  
Volksbank Heinsberg eG  
IBAN: DE 71 3706 9412 2300 3710 11  
BIC: GENODE33HRB

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

Revision date: 06.09.2023

**sera pH Test**

Product code: pH

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

sera pH Test

**EAN**

4001942040006  
4001942040020  
4001942040037  
4001942040044  
4001942043106  
4001942043120  
4001942077156

**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**

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

Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH).

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

**2.3. Other hazards**

No information available.

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

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**Chemical characterization**

Non-aqueous solution of inorganic and organic substances.

**Hazardous components**

none (according to Regulation (EC) No 1907/2006 (REACH))

**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 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. Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Call a physician immediately.

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

No information available.

**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. Vapours can form explosive mixtures with air.

In case of fire may be liberated: Sulphur oxides, Nitrogen oxides (NO<sub>x</sub>), Hydrogen halide, Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).**5.3. Advice for firefighters**

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

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. 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**

Do not breathe vapour. Avoid contact with skin, eyes and clothes.

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**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).

**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. 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

**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**

Take off contaminated clothing. Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**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. 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**

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**

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### Occupational exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
64-17-5	Ethanol	1000	-		STEL (15 min)	
57-55-6	Propane-1,2-diol, total (vapour and particulates)	150	470		TWA (8 h)	

### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
57-55-6	propyleneglycol			
Worker DNEL, long-term	inhalation	systemic	168 mg/m <sup>3</sup>	
Worker DNEL, long-term	inhalation	local	10 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	systemic	50 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	local	10 mg/m <sup>3</sup>	
Consumer DNEL, long-term	dermal	systemic	213 mg/kg bw/day	
Consumer DNEL, long-term	oral	systemic	85 mg/kg bw/day	

### PNEC values

CAS No	Substance	Value
57-55-6	propyleneglycol	
Freshwater		260 mg/l
Marine water		26 mg/l
Freshwater sediment		572 mg/kg
Marine sediment		57,2 mg/kg
Micro-organisms in sewage treatment plants (STP)		20000 mg/l
Soil		50 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

Suitable eye protection: goggles. not required under normal use.

##### Hand protection

Hand protection is not required..

##### Skin protection

Body protection: not required.

##### 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. Thermal decomposition can lead to the escape of irritating gases and vapours. Vapours can

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form explosive mixtures with air.

In case of fire may be liberated: Sulphur oxides, Nitrogen oxides (NOx), Hydrogen halide, 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:	orange
Odour:	slight sweetish
Odour threshold:	not determined
Melting point/freezing point:	-50 °C
Boiling point or initial boiling point and boiling range:	188 °C
Flammability:	not applicable
Lower explosion limits:	2,6 vol. %
Upper explosion limits:	17,4 vol. %
Flash point:	99-101 °C
Auto-ignition temperature:	371 °C
Decomposition temperature:	not determined
pH-Value:	not applicable
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density:	1,03 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:	98,94 %
Solid content:	not determined
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not determined
Viscosity / dynamic:	not determined
Flow time:	not determined

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**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**

No known hazardous reactions.

**10.4. Conditions to avoid**

Protect from direct sunlight.

**10.5. Incompatible materials**

none

**10.6. Hazardous decomposition products**

Sulphur oxides, Nitrogen oxides (NO<sub>x</sub>), Hydrogen halide, Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

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****Toxicokinetics, 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.

**Irritation and corrosivity**

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

**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 not 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.

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**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**

There are no data available on the preparation/mixture itself. According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for the environment". Ecological injuries are not known or expected under normal use.

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**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**

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

**List of Wastes Code - residues/unused products**

160306 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes other than those mentioned in 16 03 05

**List of Wastes Code - used product**

160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

**List of Wastes Code - contaminated packaging**

150102 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); plastic packaging

**Contaminated packaging**

Wash with plenty of water. Completely emptied packages can be recycled.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.



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### Inland waterways transport (ADN)

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

### Marine transport (IMDG)

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### 14.6. Special precautions for user

No information available.

### 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 40

2010/75/EU (VOC):	98,944 % (1019,126 g/l)
2004/42/EC (VOC):	98,953 % (1019,213 g/l)
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

#### Additional information

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

#### National regulatory information

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.

### 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

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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

**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.)*

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

sera kH Test

**EAN**

4001942040006  
4001942040020  
4001942040037  
4001942040044  
4001942042109  
4001942042123  
4001942077156

**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**

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

Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH).

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

**2.3. Other hazards**

No information available.

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

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**Chemical characterization**

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

**Hazardous components**

none (according to Regulation (EC) No 1907/2006 (REACH))

**Further Information**

No need for classification as corrosive in spite of the extreme pH.

**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. Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Call a physician immediately.

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

Subsequent observance for pneumonia and lung oedema.

**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. In case of fire may be liberated: Sulphur oxides, Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).**5.3. Advice for firefighters**

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

**Additional information**

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**

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

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**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.

**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**

Take off contaminated clothing. Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**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**

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**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**

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: 0,2-0,3 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**

No personal respiratory protective equipment normally required. 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, Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

**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:	orange
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):	1,3-1,7
Viscosity / kinematic:	not determined

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Water solubility:	completely miscible
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density:	1,00 g/cm <sup>3</sup>
Bulk density:	not applicable
Relative vapour density:	not determined

**9.2. Other information****Information with regard to physical hazard classes****Explosive properties**

No ignition, explosion, self-heating or visible decomposition.

The product is not: Explosive

**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**

Exothermic reaction with: Base, Peroxides, Oxidising agent.

**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. alumina, lead, zinc) - danger of explosion.

**10.6. Hazardous decomposition products**Sulphur oxides, Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

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**

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**Toxicokinetics, 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.

**Irritation and corrosivity**

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

Due to its pH value (see section 9), irritation of the skin and eyes cannot be ruled out. Ingestion may cause irritation to mucous membranes.

**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 not 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.

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**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.



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### 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

Do not allow to enter into surface water or drains. 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.

## SECTION 14: Transport information

### Land transport (ADR/RID)

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

### Inland waterways transport (ADN)

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

### Marine transport (IMDG)

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

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**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

No information available.

**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

2004/42/EC (VOC): 0,019 % (0,19 g/l)

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

**Additional information**

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

**National regulatory information**

Water hazard class (D): - - non-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.

**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

**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.



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*(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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**EAN**

4001942040006  
4001942040020  
4001942040037  
4001942041102  
4001942077156

**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**

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

Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH).

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

**2.3. Other hazards**

No information available.

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

Non-aqueous solution of inorganic and organic substances.

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**Hazardous components**

none (according to Regulation (EC) No 1907/2006 (REACH))

**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 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. Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Call a physician immediately.

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

No information available.

**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. Vapours can form explosive mixtures with air.

In case of fire may be liberated: Nitrogen oxides (NO<sub>x</sub>), Sulphur oxides, Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).**5.3. Advice for firefighters**

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

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. 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**

Do not breathe vapour. Avoid contact with skin, eyes and clothes.

**For non-emergency personnel**

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

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**For emergency responders**

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

**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. 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

**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**

Take off contaminated clothing. Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**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. 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**

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**

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### Occupational exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
57-55-6	Propane-1,2-diol, total (vapour and particulates)	150	470		TWA (8 h)	

### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
57-55-6	propyleneglycol			
Worker DNEL, long-term	inhalation	systemic	168 mg/m <sup>3</sup>	
Worker DNEL, long-term	inhalation	local	10 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	systemic	50 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	local	10 mg/m <sup>3</sup>	
Consumer DNEL, long-term	dermal	systemic	213 mg/kg bw/day	
Consumer DNEL, long-term	oral	systemic	85 mg/kg bw/day	

### PNEC values

CAS No	Substance	Value
57-55-6	propyleneglycol	
Freshwater		260 mg/l
Marine water		26 mg/l
Freshwater sediment		572 mg/kg
Marine sediment		57,2 mg/kg
Micro-organisms in sewage treatment plants (STP)		20000 mg/l
Soil		50 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

Suitable eye protection: goggles. not required under normal use.

##### Hand protection

Hand protection is not required..

##### Skin protection

Body protection: not required.

##### 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. Thermal decomposition can lead to the escape of irritating gases and vapours. Vapours can form explosive mixtures with air.

In case of fire may be liberated: Nitrogen oxides (NOx), Sulphur oxides, Carbon monoxide, Carbon dioxide

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(CO<sub>2</sub>).**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:	dark green
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:	99 °C
Auto-ignition temperature:	325 °C
Decomposition temperature:	not determined
pH-Value:	not applicable
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density:	1,08 g/cm <sup>3</sup>
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:	92,01 %
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**



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**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**

No known hazardous reactions.

**10.4. Conditions to avoid**

Protect from direct sunlight.

**10.5. Incompatible materials**

Acid

**10.6. Hazardous decomposition products**

Nitrogen oxides (NO<sub>x</sub>), Sulphur oxides, Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

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****Toxicokinetics, 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.

**Irritation and corrosivity**

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

**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 not 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.

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Health injuries are not known or expected under normal use.

**SECTION 12: Ecological information****12.1. Toxicity**

There are no data available on the preparation/mixture itself. According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for the environment". Ecological injuries are not known or expected under normal use.

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**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**

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

**List of Wastes Code - residues/unused products**

160306 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes other than those mentioned in 16 03 05

**List of Wastes Code - used product**

160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

**List of Wastes Code - contaminated packaging**

150102 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); plastic packaging

**Contaminated packaging**

Wash with plenty of water. Completely emptied packages can be recycled.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

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**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**14.4. Packing group:** No dangerous good in sense of this transport regulation.

### Marine transport (IMDG)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**14.4. Packing group:** No dangerous good in sense of this transport regulation.

### Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**14.4. Packing group:** No dangerous good in sense of this transport regulation.

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### 14.6. Special precautions for user

No information available.

### 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

2010/75/EU (VOC): 42,014 % (453,751 g/l)

2004/42/EC (VOC): 42,014 % (453,751 g/l)

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

#### Additional information

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

#### National regulatory information

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.

### 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%

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**sera gH Test**

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Product code: gH

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**Key literature references and sources for data**

Safety Data Sheet, ECHA

**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.)*

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according to Regulation (EC) No 1907/2006

**sera Fe Test, Reagenz 1**

Revision date: 06.09.2023

Product code: Fe-R1

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

sera Fe Test, Reagenz 1

**EAN**

4001942040020

4001942040037

4001942046107

4001942077156

CAS No: 50-81-7

EC No: 200-066-2

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

Solid 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 &amp; 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** +49 (0)2452 91260 (Only available during office hours.)**number:** +49 (0)2452 9126555**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

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

Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH).

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients****3.1. Substances****Chemical characterization**

Substance, organic (Acid)

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Sum formula: C<sub>6</sub>H<sub>8</sub>O<sub>6</sub>

Molecular weight: 176,12

**Hazardous components**

none (according to Regulation (EC) No 1907/2006 (REACH))

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

Take off contaminated clothing. Brush off contaminated clothing.

**After inhalation**

Provide fresh air. If symptoms persist, call a physician.

**After contact with skin**

Wash with plenty of water. Take off contaminated clothing and wash it before reuse.

**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**

Rinse mouth immediately and drink plenty of water.

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

The product causes irritation of eyes, skin and mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

**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**

Full water jet

**5.2. Special hazards arising from the substance or mixture**Non-flammable. In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).**5.3. Advice for firefighters**

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

**Additional information**

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**

Do not breathe dust. Avoid contact with skin, eyes and clothes.

**For non-emergency personnel**

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

**For emergency responders**

Use personal protection equipment.

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**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**

Take up mechanically, placing in appropriate containers for disposal.

**For cleaning up**

Large amounts of spillages: Use approved industrial vacuum cleaner for removal.

Small amounts of spillages: Take up mechanically.

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**

Keep out of reach of children. Avoid dust formation. Do not breathe dust.

**Advice on protection against fire and explosion**

No special fire protection measures are necessary.

**Advice on general occupational hygiene**

Take off contaminated clothing. Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**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 container dry. Keep/Store only in original container. Moisture-sensitive.

Keep the packing dry and well sealed to prevent contamination and absorption of humidity. Protect from direct sunlight.

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)**

Solid for monitoring water parameters in aquarium and tap water.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****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**

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**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. Suitable eye protection: Dust protection eye glasses

Not required because of small size of the container

**Hand protection**

Hand protection is not required.

**Skin protection**

Body protection: not required.

**Respiratory protection**

Usually no personal respirative protection necessary. In case of inadequate ventilation wear respiratory protection. In the case of dust or aerosol formation use respirator with filter model P2 (according to DIN 3181, 1980).

**Thermal hazards**

Non-flammable. Thermal decomposition can lead to the escape of irritating gases and vapours. In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO<sub>2</sub>)

**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:	solid
Colour:	white, crystalline
Odour:	odourless
Odour threshold:	not determined
Melting point/freezing point:	191 °C
Boiling point or initial boiling point and boiling range:	> 191 °C
Flammability:	This material is combustible, but will not ignite readily.
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	not applicable
Auto-ignition temperature:	380 °C
Decomposition temperature:	not determined
pH-Value (at 20 °C):	2,1-2,6 (50 g/l)
Viscosity / kinematic:	not applicable
Water solubility:	330 g/L
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	-1,85
Vapour pressure:	not determined
Density (at 20 °C):	1,65 g/cm <sup>3</sup>
Bulk density:	not determined
Relative vapour density:	not determined

**9.2. Other information****Information with regard to physical hazard classes****Explosive properties**

The product is not: Explosive. Dust can form an explosive mixture with air.



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Sustaining combustion:	Not sustaining combustion
Self-ignition temperature	
Solid:	not determined
Gas:	not applicable
Oxidizing properties	
Not oxidising.	

**Other safety characteristics**

Evaporation rate:	not determined
Solvent separation test:	No data available
Solvent content:	0 %
Solid content:	100,00 %
Sublimation point:	No data available
Softening point:	not applicable
Pour point:	not applicable
Viscosity / dynamic:	not applicable
Flow time:	not applicable

**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**

No known hazardous reactions.

**10.4. Conditions to avoid**

Protect from direct sunlight. Moisture-sensitive.

**10.5. Incompatible materials**

Oxidising agent, Air, humid, Light metals

**10.6. Hazardous decomposition products**

Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

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****Acute toxicity**

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

**Irritation and corrosivity**

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

Causes skin and eye irritation. Inhalation of dust may cause irritation of the respiratory system.

**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.

Did not show carcinogenic effects in animal experiments.

**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.

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**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**

No data available.

**Additional information on tests**

The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

**Practical experience**

No data available.

**11.2. Information on other hazards****Endocrine disrupting properties**

No data available.

**Other information**

No data available.

**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**

On the basis of existing data about the elimination/degradation and bioaccumulation potential longer term damage to the environment is unlikely. Harmless to aquatic organisms up to the tested concentration.

According to the results of tests of biodegradability this product is considered as being readily biodegradable.

**12.2. Persistence and degradability**

Readily biodegradable (according to OECD criteria).

**12.3. Bioaccumulative potential**

No indication of bioaccumulation potential.

**12.4. Mobility in soil**

The product has not been tested.

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

No information available.

**Further information**

Avoid release to the environment. Ecological injuries are not known or expected under normal use.

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

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

**List of Wastes Code - residues/unused products**

160306 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes other than those mentioned in 16 03 05

**List of Wastes Code - used product**

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160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

### List of Wastes Code - contaminated packaging

150102 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); plastic packaging

### Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

## SECTION 14: Transport information

### Land transport (ADR/RID)

14.1. UN number or ID number: No dangerous good in sense of this transport regulation.  
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.  
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.  
14.4. Packing group: No dangerous good in sense of this transport regulation.

### Inland waterways transport (ADN)

14.1. UN number or ID number: No dangerous good in sense of this transport regulation.  
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.  
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.  
14.4. Packing group: No dangerous good in sense of this transport regulation.

### Marine transport (IMDG)

14.1. UN number or ID number: No dangerous good in sense of this transport regulation.  
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.  
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.  
14.4. Packing group: No dangerous good in sense of this transport regulation.

### Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: No dangerous good in sense of this transport regulation.  
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.  
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.  
14.4. Packing group: No dangerous good in sense of this transport regulation.

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### 14.6. Special precautions for user

No information available.

### 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

2004/42/EC (VOC): 100 % (1650 g/l)  
Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

#### Additional information

The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

#### National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

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**15.2. Chemical safety assessment**

For this substance a chemical safety assessment has not been carried out.

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 2.

**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

**Further Information**

Classification 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.

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

sera Fe Test, Reagenz 2

**EAN**

4001942040020

4001942040037

4001942046107

4001942077156

UFI:

M69F-DVDE-YKQP-X2CH

**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**

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

**number:**

+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

Full text of hazard statements: see SECTION 16.

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

sodium thioglycolate

**Signal word:**

Warning

**Pictograms:**

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### Hazard statements

- H302 Harmful if swallowed.  
H317 May cause an allergic skin reaction.

### Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P261 Avoid breathing Vapour.  
P280 Wear protective gloves.  
P302+P352 IF ON SKIN: Wash with plenty of Water.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

### 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 with organic substances.

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
367-51-1	sodium thioglycolate			< 25 %
	206-696-4		01-2119968564-24	
	Met. Corr. 1, Acute Tox. 3, Acute Tox. 4, Skin Sens. 1; H290 H301 H312 H317			

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	
367-51-1	206-696-4	sodium thioglycolate	< 25 %
		inhalation: LC50 = > 2729 mg/l (dusts or mists); dermal: LD50 = > 1000-2000 mg/kg; oral: LD50 = > 50-200 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

After contact with skin, wash immediately with plenty of water and soap. 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. Rinse mouth immediately and drink plenty of water. Induce

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vomiting when the affected person is not unconscious. 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. 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, Hydrogen sulphide (H<sub>2</sub>S).

**5.3. Advice for firefighters**

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

**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

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**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 locked up. Keep container tightly closed. 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**

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****DNEL/DMEL values**

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
367-51-1	sodium thioglycolate			
Consumer DNEL, long-term		inhalation	systemic	0,348 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	1,03 mg/kg bw/day
Consumer DNEL, long-term		dermal	local	0,004 mg/cm <sup>2</sup>
Consumer DNEL, long-term		oral	systemic	0,002 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	1,41 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	2,06 mg/kg bw/day
Worker DNEL, long-term		dermal	local	0,004 mg/cm <sup>2</sup>



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according to Regulation (EC) No 1907/2006

## sera Fe Test, Reagenz 2

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Product code: Fe-R2

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### PNEC values

CAS No	Substance	
Environmental compartment		Value
367-51-1	sodium thioglycolate	
Freshwater		0,038 mg/l
Marine water		0,0038 mg/l
Micro-organisms in sewage treatment plants (STP)		3,2 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. Suitable eye protection: goggles. not required under normal use.

##### Hand protection

Avoid contact with skin. Wear suitable gloves.

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,4 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, Hydrogen sulphide (H<sub>2</sub>S).

##### 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 pink
Odour:	rotten-egg like
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

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Flash point:	> 100 °C
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value (at 20 °C):	6,4-7,0
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
(at 20 °C)	
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Vapour pressure:	not determined
Density:	not determined
Bulk density:	not applicable
Relative vapour density:	not determined

### 9.2. Other information

#### Information with regard to physical hazard classes

##### Explosive properties

No ignition, explosion, self-heating or visible decomposition.

The product is not: Explosive

##### 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

Exothermic reaction with: Acid, Oxidising agent: Release of an acute toxic gas (Hydrogen sulphide (H<sub>2</sub>S))

### 10.4. Conditions to avoid

Protect from direct sunlight.

### 10.5. Incompatible materials

Keep away from: Acid, Oxidising agent

### 10.6. Hazardous decomposition products

Sulphur oxides, Hydrogen sulphide (H<sub>2</sub>S).

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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

##### Toxicokinetics, metabolism and distribution

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

##### Acute toxicity

Harmful if swallowed.

##### ATEmix calculated

ATE (oral) 510,2 mg/kg; ATE (dermal) 10204,1 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
367-51-1	sodium thioglycolate				
	oral	LD50 > 50-200 mg/kg	Rat	SDS	OECD 423
	dermal	LD50 > 1000-2000 mg/kg	Rat		OECD 402
	inhalation (4 h) dust/mist	LC50 > 2729 mg/l	Rat	SDS	OECD 403

##### Irritation and corrosivity

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

Prolonged or repeated contact with skin or mucous membrane result in irritation symptoms such as redness, blistering, dermatitis, etc.

##### Sensitising effects

May cause an allergic skin reaction. (sodium thioglycolate)

##### 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, Ingestion, Eye contact, 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

Description of possible hazardous to health effects is based on experience and/or toxicological characteristics

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of several components.

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

There are no data available on the preparation/mixture itself. Ecological injuries are not known or expected under normal use.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
367-51-1	sodium thioglycolate					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)		OECD 203
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Desmodesmus subspicatus		OECD 201
	Acute crustacea toxicity	EC50 38 mg/l	48 h	Daphnia magna (Big water flea)		84/449/EEC C.2
	Acute bacteria toxicity	(EC50 820 mg/l)	0,5 h	Activated sludge		OECD 209

### 12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
367-51-1	sodium thioglycolate			
	OECD 301B/ ISO 9439/ EEC 92/69/V, C.4-C	60 %		ECHA

### 12.3. Bioaccumulative potential

The product has not been tested.

### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
367-51-1	sodium thioglycolate	-2,99

### 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

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

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### 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.

## SECTION 14: Transport information

### Land transport (ADR/RID)

**14.1. UN number or ID number:** UN 2810  
**14.2. UN proper shipping name:** TOXIC LIQUID, ORGANIC, N.O.S. (sodium thioglycolate)  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III  
Hazard label: 6.1  
Classification code: T1  
Special Provisions: 274 614  
Limited quantity: 5 L  
Excepted quantity: E1  
Transport category: 2  
Hazard No: 60  
Tunnel restriction code: E

### Inland waterways transport (ADN)

**14.1. UN number or ID number:** UN 2810  
**14.2. UN proper shipping name:** TOXIC LIQUID, ORGANIC, N.O.S. (sodium thioglycolate)  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III  
Hazard label: 6.1  
Classification code: T1  
Special Provisions: 274 614 802  
Limited quantity: 5 L  
Excepted quantity: E1

### Marine transport (IMDG)

**14.1. UN number or ID number:** UN 2810  
**14.2. UN proper shipping name:** TOXIC LIQUID, ORGANIC, N.O.S. (sodium thioglycolate)  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III  
Hazard label: 6.1  
Special Provisions: 223 274  
Limited quantity: 5 L  
Excepted quantity: E1  
EmS: F-A, S-A

### Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number or ID number:** UN 2810  
**14.2. UN proper shipping name:** TOXIC LIQUID, ORGANIC, N.O.S. (sodium thioglycolate)

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<b>14.3. Transport hazard class(es):</b>	6.1	
<b>14.4. Packing group:</b>	III	
Hazard label:	6.1	
Special Provisions:	A3 A4 A137	
Limited quantity Passenger:	2 L	
Passenger LQ:	Y642	
Excepted quantity:	E1	
IATA-packing instructions - Passenger:		655
IATA-max. quantity - Passenger:		60 L
IATA-packing instructions - Cargo:		663
IATA-max. quantity - Cargo:		220 L

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### 14.6. Special precautions for user

Warning: May cause an allergic skin reaction.

### 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

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): 2 - obviously 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): 14.

### 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%

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**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

**Relevant H and EUH statements (number and full text)**

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H317	May cause an allergic skin reaction.

**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.)*

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

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**EAN**

4001942040006  
4001942040020  
4001942040037  
4001942040044  
4001942044103  
4001942044127  
4001942077156

UFI: N8NJ-VV0A-4HED-Q2XM

**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

STOT SE 3; H335

Full text of hazard statements: see SECTION 16.

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

hydrochloric acid 32%

**Signal word:** Warning



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### Pictograms:



### Hazard statements

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

### Precautionary statements

- 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.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P312 Call a doctor if you feel unwell.

### 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 organic and inorganic salts.

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
-	hydrochloric acid 32%			< 15 %
	231-595-7	017-002-01-X		
	Met. Corr. 1, Skin Corr. 1B, Eye Dam. 1, STOT SE 3; H290 H314 H318 H335			

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	
-	231-595-7	hydrochloric acid 32%	< 15 %
	Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100		

## 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.

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**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).

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

Subsequent observance for pneumonia and lung oedema.

**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 (NO<sub>x</sub>), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>). Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**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. 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**

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### 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

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Do not breathe vapour. 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/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
7647-01-0	Hydrogen chloride	5	8		TWA (8 h)	
		10	15		STEL (15 min)	

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### DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
-	hydrochloric acid 32%			
Worker DNEL, long-term		inhalation	local	8 mg/m³
Worker DNEL, acute		inhalation	local	15 mg/m³

### 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: 0,2-0,3 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), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

##### 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:	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

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Upper explosion limits:	not determined
Flash point:	> 100 °C
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value (at 20 °C):	0,0-1,0
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	23 hPa
(at 20 °C)	
Density (at 20 °C):	1,02 g/cm <sup>3</sup>
Bulk density:	not applicable
Relative vapour density:	not determined

**9.2. Other information****Information with regard to physical hazard classes****Explosive properties**

No ignition, explosion, self-heating or visible decomposition.

The product is not: Explosive

**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. alumina, lead, zinc) - danger

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of explosion.

**10.6. Hazardous decomposition products**Sulphur oxides, Nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

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****Toxicokinetics, 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.

**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**

May cause respiratory irritation. (hydrochloric acid 32%)

**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**

Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.

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.

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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
-	hydrochloric acid 32%					
	Acute fish toxicity	LC50	862 mg/l	96 h	Leuciscus idus	

### 12.2. Persistence and degradability

The product has not been tested.

### 12.3. Bioaccumulative potential

The product has not been tested.

### 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

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.

## 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. (hydrochloric acid 32%)

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<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	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)

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (hydrochloric acid 32%)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Classification code:	C1
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1

### Marine transport (IMDG)

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (hydrochloric acid 32%)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	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)

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (hydrochloric acid 32%)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	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: The product causes irritation of eyes, skin and mucous membranes.  
Safe handling: see section 7



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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, Entry 75

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): 5,8,10,14.

### 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
STOT SE 3; H335	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.
H335	May cause respiratory irritation.

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**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.

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*(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**

sera NO2 Test, Reagenz 2

**EAN**

4001942040006  
4001942040020  
4001942040037  
4001942040044  
4001942044103  
4001942044127  
4001942077156

**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**

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

Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH).

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

**2.3. Other hazards**

No information available.

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

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**Chemical characterization**

Aqueous solution with organic substances.

**Hazardous components**

none (according to Regulation (EC) No 1907/2006 (REACH))

**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. Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Call a doctor if you feel unwell.

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

Methaemoglobinaemia

**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: Nitrogen oxides (NOx), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO2).

**5.3. Advice for firefighters**

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

**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**

Do not breathe vapour. Avoid contact with skin, eyes and clothes.

**For non-emergency personnel**

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

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**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.

**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

**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**

Take off contaminated clothing. Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**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. Keep/Store only in original container. Protect from direct sunlight.  
Do not store at temperatures below 10°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**

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### Occupational exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
102-71-6	Triethanolamine	-	5		TWA (8 h)	

### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
102-71-6	triethanolamine			
Worker DNEL, long-term	inhalation	local	1 mg/m <sup>3</sup>	
Worker DNEL, long-term	dermal	systemic	7,5 mg/kg bw/day	
Worker DNEL, long-term	dermal	local	0,14 mg/cm <sup>2</sup>	
Consumer DNEL, long-term	inhalation	local	0,4 mg/m <sup>3</sup>	
Consumer DNEL, long-term	dermal	systemic	2,66 mg/kg bw/day	
Consumer DNEL, long-term	dermal	local	0,07 mg/cm <sup>2</sup>	
Consumer DNEL, long-term	oral	systemic	3,3 mg/kg bw/day	

### PNEC values

CAS No	Substance	Value
102-71-6	triethanolamine	
Freshwater		0,32 mg/l
Freshwater (intermittent releases)		5,12 mg/l
Marine water		0,032 mg/l
Freshwater sediment		1,7 mg/kg
Marine sediment		0,17 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,151 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. Suitable eye protection: goggles. not required under normal use.

##### Hand protection

Avoid contact with skin. Hand protection is not required.

##### Skin protection

Body protection: not required.

##### 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

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gases and vapours. In case of fire may be liberated: Nitrogen oxides (NOx), Hydrogen chloride (HCl), 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 - light green
Odour:	mild aromatic
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):	8,0-9,0
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	23 hPa
(at 20 °C)	
Density (at 20 °C):	1,00 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 ignition, explosion, self-heating or visible decomposition.

The product is not: Explosive

##### 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:

1,12 %

##### Solid content:

not determined

##### Sublimation point:

not applicable

##### Softening point:

not applicable

##### Pour point:

not determined

##### Viscosity / dynamic:

not determined

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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**

No known hazardous reactions.

**10.4. Conditions to avoid**

Protect from direct sunlight.

**10.5. Incompatible materials**

Keep away from: Acid

**10.6. Hazardous decomposition products**Nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

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****Toxicokinetics, 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.

**Irritation and corrosivity**

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

**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 not 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.



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**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**

There are no data available on the preparation/mixture itself. According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for the environment". Ecological injuries are not known or expected under normal use.

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**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**

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

**List of Wastes Code - residues/unused products**

161002 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; aqueous liquid wastes destined for off-site treatment; aqueous liquid wastes other than those mentioned in 16 10 01

**List of Wastes Code - used product**

160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

**List of Wastes Code - contaminated packaging**

150102 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); plastic packaging

**Contaminated packaging**

Wash with plenty of water. Completely emptied packages can be recycled.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

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### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### Inland waterways transport (ADN)

#### 14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

#### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### Marine transport (IMDG)

#### 14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

#### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### Air transport (ICAO-TI/IATA-DGR)

#### 14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

#### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### 14.6. Special precautions for user

No information available.

### 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

2004/42/EC (VOC): 0,4 % (4 g/l)

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

#### Additional information

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

#### National regulatory information

Water hazard class (D): - - non-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.

### 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

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CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

**Key literature references and sources for data**

Safety Data Sheet, ECHA

**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 NO3 Test, Reagenz 1**

Revision date: 06.09.2023

Product code: NO3-R1-Test

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

sera NO3 Test, Reagenz 1

**EAN**

4001942040020  
4001942040037  
4001942040044  
4001942045100  
4001942045124  
4001942077156

**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**

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

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

**2.3. Other hazards**

No information available.

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

Product/Substance is inorganic. Highly thinned solution of an inorganic acid. Aqueous solution of alkali salts.

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## sera NO3 Test, Reagenz 1

Revision date: 06.09.2023

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### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7664-38-2	phosphoric acid; orthophosphoric acid 85%			1 - < 5 %
	231-633-2	015-011-00-6		
	Met. Corr. 1, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1; H290 H302 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	
7664-38-2	231-633-2	phosphoric acid; orthophosphoric acid 85%	1 - < 5 %
		inhalation: LC50 = 3846 mg/l (vapours); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 300-2000 mg/kg Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25	

## 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

No information available.

### 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: Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride (HCl), Phosphorus compounds. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

### 5.3. Advice for firefighters

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

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**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.

**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.

**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 Neutralise with NaHCO<sub>3</sub>.

**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**

Take off contaminated clothing. Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**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/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.

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### 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/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
7664-38-2	Orthophosphoric acid	-	1		TWA (8 h)	
		-	2		STEL (15 min)	

#### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7664-38-2	phosphoric acid; orthophosphoric acid 85%			
Worker DNEL, long-term	inhalation	systemic	10,7 mg/m <sup>3</sup>	
Worker DNEL, long-term	inhalation	local	1 mg/m <sup>3</sup>	
Worker DNEL, acute	inhalation	local	2 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	systemic	4,57 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	local	0,36 mg/m <sup>3</sup>	
Consumer DNEL, long-term	oral	systemic	0,1 mg/kg bw/day	

#### 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. Suitable eye protection: goggles. not required under normal use.

##### Hand protection

Avoid contact with skin. Wear suitable gloves.

Suitable gloves type: acid-resistant

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,2-0,3 mm

Permeation time (maximum wear duration): > 48 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

Body protection: Not required because of small size of the container

##### Respiratory protection

Usually no personal respiratory protection necessary. In case of inadequate ventilation wear respiratory protection. In the case of vapour formation use a respirator with filter model B2-P2 (according to DIN 3181,

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1980).

### Thermal hazards

Non-flammable. Thermal decomposition can lead to the escape of irritating gases and vapours. In case of fire may be liberated: Nitrogen oxides (NO<sub>x</sub>), Sulphur oxides, Hydrogen chloride (HCl), Phosphorus compounds.

### 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:	Non-flammable.
Decomposition temperature:	not determined
pH-Value (at 20 °C):	2,3-2,7
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	23 hPa
(at 20 °C)	
Density (at 20 °C):	1,23 g/cm <sup>3</sup>
Bulk density:	not applicable
Relative vapour density:	not determined

### 9.2. Other information

#### Information with regard to physical hazard classes

##### Explosive properties

No ignition, explosion, self-heating or visible decomposition.

The product is not: Explosive

##### 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



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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

Exothermic reaction with: Base.

#### 10.4. Conditions to avoid

Protect from direct sunlight.

#### 10.5. Incompatible materials

Keep away from: Base, Oxidising agent, Alkali metals, Light metals, Peroxides.

#### 10.6. Hazardous decomposition products

Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride (HCl), Phosphorus compounds.

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

##### Toxicokinetics, 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.

##### ATEmix calculated

ATE (oral) 29603,3 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7664-38-2	phosphoric acid; orthophosphoric acid 85%				
	oral	LD50 > 300-2000 mg/kg	Rat	ECHA	OECD 423
	dermal	LD50 > 2000 mg/kg	Rabbit	ECHA	
	inhalation (1 h) vapour	LC50 3846 mg/l	Rat	ECHA	OECD 403

##### Irritation and corrosivity

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

Due to its pH value (see section 9), irritation of the skin and eyes cannot be ruled out. Ingestion may cause irritation to mucous membranes.

##### 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.

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#### 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 not 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
7664-38-2	phosphoric acid; orthophosphoric acid 85%					
	Acute fish toxicity	LC50 138 mg/l	96 h	Gambusia affinis		
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Desmodesmus subspicatus	ECHA	OECD 201
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna (Big water flea)	ECHA	OECD 202
	Algae toxicity	NOEC 100 mg/l	3 d	Desmodesmus subspicatus	ECHA	
	Crustacea toxicity	NOEC 56 mg/l	2 d	Daphnia magna (Big water flea)	ECHA	
	Acute bacteria toxicity	(EC50 > 1000 mg/l)	3 h	Activated sludge	ECHA	OECD 209

### 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.

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### 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

Do not allow to enter into surface water or drains. 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.

## SECTION 14: Transport information

### Land transport (ADR/RID)

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (phosphoric acid; orthophosphoric acid 85%)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	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)

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (phosphoric acid; orthophosphoric acid 85%)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Classification code:	C1
Special Provisions:	274
Limited quantity:	5 L

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## sera NO3 Test, Reagenz 1

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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. (phosphoric acid; orthophosphoric acid 85%)  
**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. (phosphoric acid; orthophosphoric acid 85%)  
**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

No information available.

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

#### Additional information

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

#### National regulatory information

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**sera NO3 Test, Reagenz 1**

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Product code: NO3-R1-Test

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**Changes**

This data sheet contains changes from the previous version in section(s): 2.

**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

**Relevant H and EUH statements (number and full text)**

H290	May be corrosive to metals.
H302	Harmful if swallowed.
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 NO3 Test, Reagenz 2**

Revision date: 06.09.2023

Product code: NO3-R2-Test

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

sera NO3 Test, Reagenz 2

**EAN**

4001942040020  
4001942040037  
4001942040044  
4001942045100  
4001942045124  
4001942077156

**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**

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

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

**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 organic and inorganic salts.

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## sera NO3 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NO3-R2-Test

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### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7664-38-2	phosphoric acid; orthophosphoric acid 85%			1 - < 5 %
	231-633-2	015-011-00-6		
	Met. Corr. 1, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1; H290 H302 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	
7664-38-2	231-633-2	phosphoric acid; orthophosphoric acid 85%	1 - < 5 %
		inhalation: LC50 = 3846 mg/l (vapours); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 300-2000 mg/kg Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25	

## 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

No information available.

### 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: Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride (HCl), Phosphorus compounds, Carbon monoxide, Carbon dioxide (CO2). Wear breathing apparatus if exposed to vapours/dusts/aerosols.

### 5.3. Advice for firefighters

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

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**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.

**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.

**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 Neutralise with NaHCO<sub>3</sub>

**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**

Take off contaminated clothing. Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**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/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.



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### 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/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
7664-38-2	Orthophosphoric acid	-	1		TWA (8 h)	
		-	2		STEL (15 min)	

#### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7664-38-2	phosphoric acid; orthophosphoric acid 85%			
Worker DNEL, long-term	inhalation	systemic	10,7 mg/m <sup>3</sup>	
Worker DNEL, long-term	inhalation	local	1 mg/m <sup>3</sup>	
Worker DNEL, acute	inhalation	local	2 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	systemic	4,57 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	local	0,36 mg/m <sup>3</sup>	
Consumer DNEL, long-term	oral	systemic	0,1 mg/kg bw/day	

#### 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. Suitable eye protection: goggles. not required under normal use.

##### Hand protection

Avoid contact with skin. Wear suitable gloves.

Suitable gloves type: acid-resistant

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,2-0,3 mm

Permeation time (maximum wear duration): > 48 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

Body protection: Not required because of small size of the container

##### Respiratory protection

Usually no personal respiratory protection necessary. In case of inadequate ventilation wear respiratory protection. In the case of vapour formation use a respirator with filter model B2-P2 (according to DIN 3181,

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1980).

### Thermal hazards

Non-flammable. Thermal decomposition can lead to the escape of irritating gases and vapours. In case of fire may be liberated: Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride (HCl), Phosphorus compounds, Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

### 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):	2,3-2,7
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	23 hPa
(at 20 °C)	
Density (at 20 °C):	1,08 g/cm <sup>3</sup>
Bulk density:	not applicable
Relative vapour density:	not determined

### 9.2. Other information

#### Information with regard to physical hazard classes

##### Explosive properties

No ignition, explosion, self-heating or visible decomposition.

The product is not: Explosive

##### 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

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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

Exothermic reaction with: Base.

### 10.4. Conditions to avoid

Protect from direct sunlight.

### 10.5. Incompatible materials

Keep away from: Base, Oxidising agent, Alkali metals, Light metals, Peroxides.

### 10.6. Hazardous decomposition products

Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride (HCl), Phosphorus compounds, 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

#### Toxicokinetics, 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.

#### ATEmix calculated

ATE (oral) 11841,3 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7664-38-2	phosphoric acid; orthophosphoric acid 85%				
	oral	LD50 > 300-2000 mg/kg	Rat	ECHA	OECD 423
	dermal	LD50 > 2000 mg/kg	Rabbit	ECHA	
	inhalation (1 h) vapour	LC50 3846 mg/l	Rat	ECHA	OECD 403

#### Irritation and corrosivity

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

Due to its pH value (see section 9), irritation of the skin and eyes cannot be ruled out. Ingestion may cause irritation to mucous membranes.

#### 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.

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**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 not 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
7664-38-2	phosphoric acid; orthophosphoric acid 85%					
	Acute fish toxicity	LC50 138 mg/l	96 h	Gambusia affinis		
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Desmodesmus subspicatus	ECHA	OECD 201
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna (Big water flea)	ECHA	OECD 202
	Algae toxicity	NOEC 100 mg/l	3 d	Desmodesmus subspicatus	ECHA	
	Crustacea toxicity	NOEC 56 mg/l	2 d	Daphnia magna (Big water flea)	ECHA	
	Acute bacteria toxicity	(EC50 > 1000 mg/l)	3 h	Activated sludge	ECHA	OECD 209

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**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.

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#### 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

Do not allow to enter into surface water or drains. 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.

### SECTION 14: Transport information

#### Land transport (ADR/RID)

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (phosphoric acid; orthophosphoric acid 85%)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	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)

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (phosphoric acid; orthophosphoric acid 85%)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8

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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. (phosphoric acid; orthophosphoric acid 85%)  
**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. (phosphoric acid; orthophosphoric acid 85%)  
**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

No information available.

### 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

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

#### National regulatory information

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.

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**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 2.

**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

**Relevant H and EUH statements (number and full text)**

H290	May be corrosive to metals.
H302	Harmful if swallowed.
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.)*

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

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**EAN**

4001942040020  
4001942040037  
4001942040044  
4001942045100  
4001942045124  
4001942077156

Substance name: zinc powder - zinc dust (stabilised)  
Product group: Zulieferprodukt  
CAS No: 7440-66-6  
Index No: 030-001-01-9  
EC No: 231-175-3

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

Solid 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**

Aquatic Acute 1; H400  
Aquatic Chronic 1; H410

Full text of hazard statements: see SECTION 16.

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

Signal word: Warning



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### Pictograms:



### Hazard statements

H410 Very toxic to aquatic life with long lasting effects.

### Precautionary statements

P273 Avoid release to the environment.  
P391 Collect spillage.  
P501 Dispose of contents/container to household waste.

### Additional advice on labelling

The product is classified and labelled according to EC directives or corresponding national laws. Labelling according to Regulation (EC) No. 1272/2008 [CLP] (An. I, 1.5.2)

### 2.3. Other hazards

No information available.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### Chemical characterization

Powdered metals

Sum formula: Zn  
Molecular weight: 65,39

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7440-66-6	zinc powder - zinc dust (stabilised)			100 %
	231-175-3	030-001-01-9	01-2119467174-37-XXXX	
	Aquatic Acute 1, Aquatic Chronic 1; 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		
7440-66-6	231-175-3	zinc powder - zinc dust (stabilised)	100 %
	inhalation: LC50 = > 5,41 mg/l (dusts or mists); oral: LD50 = > 2000 mg/kg		

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

Take off contaminated clothing. Brush off contaminated clothing.

#### After inhalation

Provide fresh air. If symptoms persist, call a physician.

#### 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.

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**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**

Rinse mouth immediately and drink plenty of water. Call a physician immediately.

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

Nausea, Vomiting, Fever, Circulatory collapse, Irritation to respiratory tract.

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

**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**

Dry extinguishing powder, Dry sand, special powder against metal fire. Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>), Water

**5.2. Special hazards arising from the substance or mixture**

Non-flammable. In case of fire may be liberated: Metal oxide smoke, toxic

**5.3. Advice for firefighters**

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

**Additional information**

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 dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes.

**For non-emergency personnel**

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

**For emergency responders**

Cover drains. 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**

Take up mechanically, placing in appropriate containers for disposal.

**For cleaning up**

Large amounts of spillages: Use approved industrial vacuum cleaner for removal.

Small amounts of spillages: Take up mechanically.

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

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

Keep out of reach of children. Avoid dust formation. Do not breathe dust.

##### Advice on protection against fire and explosion

Only use the material in places where open light, fire and other flammable sources can be kept away.

##### Advice on general occupational hygiene

Take off contaminated clothing. Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

##### Further information on handling

Handle and open container with care. Avoid dust formation. 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 container dry. Keep/Store only in original container. Moisture-sensitive.

Keep the packing dry and well sealed to prevent contamination and absorption of humidity. Protect from direct sunlight.

Recommended storage temperature: at room temperature.

##### Hints on joint storage

Do not store near acids. 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)

Solid 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
7440-66-6	zinc powder - zinc dust (stabilised)			
Worker DNEL, long-term		inhalation	systemic	5 mg/m³
Worker DNEL, long-term		dermal	systemic	83 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	2,5 mg/m³
Consumer DNEL, long-term		dermal	systemic	83 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,83 mg/kg bw/day

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### PNEC values

CAS No	Substance	
Environmental compartment		Value
7440-66-6	zinc powder - zinc dust (stabilised)	
Freshwater		0,021 mg/l
Marine water		0,0061 mg/l
Freshwater sediment		118 mg/kg
Marine sediment		56,5 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,052 mg/l

### Additional advice on limit values

When using do not eat, drink, smoke, sniff.

### 8.2. Exposure controls

#### Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation should be used if possible. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Avoid contact with eyes. Suitable eye protection: goggles. not required under normal use.

##### Hand protection

Avoid contact with skin. Recommendation: Wear suitable gloves.

Suitable material: rubber gloves.

Thickness of the glove material: > 0,5 mm

Permeation time (maximum wear duration): > 480 min

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

Body protection: not required.

##### Respiratory protection

Usually no personal respirative protection necessary. In case of inadequate ventilation wear respiratory protection. In the case of dust or aerosol formation use respirator with filter model P2 (according to DIN 3181, 1980).

##### Thermal hazards

Non-flammable. In case of fire may be liberated: Metal oxide smoke, 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:	solid	
Colour:	grey	
Odour:	odourless	
Odour threshold:	not determined	
Melting point/freezing point:		419,5 °C
Boiling point or initial boiling point and boiling range:		907 °C
Flammability:		does not flash

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Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	not applicable
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value:	not applicable
Viscosity / kinematic:	not determined
Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water.
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	0 hPa
(at 20 °C)	
Density (at 20 °C):	7,133 g/cm <sup>3</sup>
Bulk density:	2-4 kg/m <sup>3</sup>
Relative vapour density:	not determined

### 9.2. Other information

#### Information with regard to physical hazard classes

##### Explosive properties

Dust can form an explosive mixture with air.

##### Sustaining combustion:

No data available

##### Self-ignition temperature

###### Solid:

not determined

###### Gas:

not applicable

##### Oxidizing properties

No data available

#### Other safety characteristics

##### Evaporation rate:

not determined

##### Solvent separation test:

No data available

##### Solvent content:

0 %

##### Solid content:

100,00 %

##### Sublimation point:

No data available

##### Softening point:

not applicable

##### Pour point:

not applicable

##### 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

Product may release hydrogen gas. Increased storage temperatures will accelerate this process.

### 10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Moisture-sensitive. Protect from direct sunlight.

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#### 10.5. Incompatible materials

Oxidising agent, Air, humid, Acid, alkali

#### 10.6. Hazardous decomposition products

Formation of explosive mixtures with: Acid, alkali.

Thermal decomposition can lead to the escape of irritating gases and vapours. (Metal oxide smoke, toxic)

### SECTION 11: Toxicological information

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

##### Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7440-66-6	zinc powder - zinc dust (stabilised)				
	oral	LD50 > 2000 mg/kg	Rat	ECHA	OECD 401
	inhalation (4 h) dust/mist	LC50 > 5,41 mg/l	Rat	ECHA	OECD 403

##### Irritation and corrosivity

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

##### 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

No data available.

##### Additional information on tests

Labelling according to Regulation (EC) No. 1272/2008 [CLP].

##### Practical experience

No data available.

#### 11.2. Information on other hazards

##### Endocrine disrupting properties

No data available.

##### Other information

No data available.

##### 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

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#### 12.1. Toxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Labelling according to Regulation (EC) No. 1272/2008 [CLP] (An. I, 1.5.2)

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7440-66-6	zinc powder - zinc dust (stabilised)					
	Acute fish toxicity	LC50 0,238-0,56 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	SDB	
	Acute crustacea toxicity	EC50 0,28 mg/l	48 h	Daphnia magna (Big water flea)	SDB	

#### 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

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

#### 12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

#### 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

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

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

### SECTION 14: Transport information

#### Land transport (ADR/RID)

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<b>14.1. UN number or ID number:</b>	UN 3077
<b>14.2. UN proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilised))
<b>14.3. Transport hazard class(es):</b>	9
<b>14.4. Packing group:</b>	III
Hazard label:	9
Classification code:	M7
Special Provisions:	274 335 375 601
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	E

### Inland waterways transport (ADN)

<b>14.1. UN number or ID number:</b>	UN 3077
<b>14.2. UN proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilised))
<b>14.3. Transport hazard class(es):</b>	9
<b>14.4. Packing group:</b>	III
Hazard label:	9
Classification code:	M7
Special Provisions:	274 335 375 601
Limited quantity:	5 kg
Excepted quantity:	E1

### Marine transport (IMDG)

<b>14.1. UN number or ID number:</b>	UN 3077
<b>14.2. UN proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilised))
<b>14.3. Transport hazard class(es):</b>	9
<b>14.4. Packing group:</b>	III
Hazard label:	9
Special Provisions:	274, 335, 966, 967, 969
Limited quantity:	5 kg
Excepted quantity:	E1
EmS:	F-A, S-F

### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number or ID number:</b>	UN 3077
<b>14.2. UN proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilised))
<b>14.3. Transport hazard class(es):</b>	9
<b>14.4. Packing group:</b>	III
Hazard label:	9
Special Provisions:	A97 A158 A179 A197
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y956
Excepted quantity:	E1
IATA-packing instructions - Passenger:	956
IATA-max. quantity - Passenger:	400 kg
IATA-packing instructions - Cargo:	956
IATA-max. quantity - Cargo:	400 kg

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:	Yes
Danger releasing substance:	zinc powder - zinc dust (stabilised)



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**14.6. Special precautions for user**

No information available.

**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):

E1 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):

2 - obviously hazardous to water

**15.2. Chemical safety assessment**

For this substance a chemical safety assessment has not been carried out.

**SECTION 16: Other information****Changes**

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

**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

**Relevant H and EUH statements (number and full text)**

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

**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.

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

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**EAN**

4001942040020  
4001942040037  
4001942040044  
4001942045100  
4001942045124  
4001942077156

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

**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.

Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH).

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

**2.3. Other hazards**

No information available.

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

Aqueous solution with organic substances.

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**Hazardous components**

none (according to Regulation (EC) No 1907/2006 (REACH))

**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. Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Call a doctor if you feel unwell.

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

Methaemoglobinaemia

**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 (NO<sub>x</sub>), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).**5.3. Advice for firefighters**

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

**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**

Do not breathe vapour. Avoid contact with skin, eyes and clothes.

**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.

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#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

#### 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

### 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**

Take off contaminated clothing. Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

##### **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. Keep/Store only in original container. Protect from direct sunlight.

Do not store at temperatures below 10°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/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
102-71-6	Triethanolamine	-	5		TWA (8 h)	

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### DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
102-71-6	triethanolamine			
Worker DNEL, long-term		inhalation	local	1 mg/m³
Worker DNEL, long-term		dermal	systemic	7,5 mg/kg bw/day
Worker DNEL, long-term		dermal	local	0,14 mg/cm²
Consumer DNEL, long-term		inhalation	local	0,4 mg/m³
Consumer DNEL, long-term		dermal	systemic	2,66 mg/kg bw/day
Consumer DNEL, long-term		dermal	local	0,07 mg/cm²
Consumer DNEL, long-term		oral	systemic	3,3 mg/kg bw/day

### PNEC values

CAS No	Substance	
Environmental compartment	Value	
102-71-6	triethanolamine	
Freshwater	0,32 mg/l	
Freshwater (intermittent releases)	5,12 mg/l	
Marine water	0,032 mg/l	
Freshwater sediment	1,7 mg/kg	
Marine sediment	0,17 mg/kg	
Micro-organisms in sewage treatment plants (STP)	10 mg/l	
Soil	0,151 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. Suitable eye protection: goggles. not required under normal use.

##### Hand protection

Avoid contact with skin. Hand protection is not required.

##### Skin protection

Body protection: not required.

##### 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 (NO<sub>x</sub>), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

##### Environmental exposure controls

Avoid release to the environment.

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

Physical state:	Liquid
Colour:	orange - red
Odour:	mild aromatic
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 25 °C):	8,0-9,0
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	23 hPa
(at 20 °C)	
Density (at 20 °C):	1,00 g/cm <sup>3</sup>
Bulk density:	not applicable
Relative vapour density:	not determined

**9.2. Other information****Information with regard to physical hazard classes**

## Explosive properties

No ignition, explosion, self-heating or visible decomposition.

The product is not: Explosive

## 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:

1,13 %

## 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**

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**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**

No known hazardous reactions.

**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 (NO<sub>x</sub>), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).  
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****Toxicokinetics, 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.

**Irritation and corrosivity**

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

**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 not 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.

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Health injuries are not known or expected under normal use.

**SECTION 12: Ecological information****12.1. Toxicity**

There are no data available on the preparation/mixture itself. According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for the environment". Ecological injuries are not known or expected under normal use.

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**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**

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

**List of Wastes Code - residues/unused products**

161002 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; aqueous liquid wastes destined for off-site treatment; aqueous liquid wastes other than those mentioned in 16 10 01

**List of Wastes Code - used product**

160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

**List of Wastes Code - contaminated packaging**

150102 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); plastic packaging

**Contaminated packaging**

Wash with plenty of water. Completely emptied packages can be recycled.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.



## Safety Data Sheet

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### sera NO3 Test, Reagenz 4

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**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**14.4. Packing group:** No dangerous good in sense of this transport regulation.

#### Marine transport (IMDG)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**14.4. Packing group:** No dangerous good in sense of this transport regulation.

#### Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**14.4. Packing group:** No dangerous good in sense of this transport regulation.

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

#### 14.6. Special precautions for user

No information available.

#### 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

2004/42/EC (VOC): 0,35 % (3,5 g/l)

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

##### Additional information

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

##### National regulatory information

Water hazard class (D): - - non-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.

#### 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%

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**Key literature references and sources for data**

Safety Data Sheet, ECHA

**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.)*

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

sera NH4 Test, Reagenz 1

**EAN**

4001942040020  
4001942040037  
4001942040044  
4001942049108  
4001942077156

**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**

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

Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH).

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

**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.

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**Hazardous components**

none (according to Regulation (EC) No 1907/2006 (REACH))

**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. Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Call a doctor if you feel unwell.

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

No information available.

**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: Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).**5.3. Advice for firefighters**

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

**Additional information**

Suppress gases/vapours/mists with water spray jet.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Avoid contact with skin, eyes and clothes.

**For non-emergency personnel**

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

**For emergency responders**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

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**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. 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

**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**

Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product.

Wash hands before breaks and after work.

**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/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**

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****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**

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### Eye/face protection

Avoid contact with eyes. Suitable eye protection: goggles. not required under normal use.

### Hand protection

Avoid contact with skin. Hand protection is not required..

### Skin protection

Body protection: not required.

### Respiratory protection

Usually no personal respirative protection necessary.

### 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<sub>2</sub>).

### 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:	Non-flammable.
Decomposition temperature:	not determined
pH-Value (at 20 °C):	8,0-9,0
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	23 hPa
(at 20 °C)	
Density (at 20 °C):	1,36 g/cm <sup>3</sup>
Bulk density:	not applicable
Relative vapour density:	not determined

### 9.2. Other information

#### Information with regard to physical hazard classes

##### Explosive properties

No ignition, explosion, self-heating or visible decomposition.

The product is not: Explosive

##### Sustaining combustion:

Not sustaining combustion

##### Self-ignition temperature

Solid:

not applicable

Gas:

not applicable

##### Oxidizing properties

Not oxidising.

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**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**

No known hazardous reactions.

**10.4. Conditions to avoid**

Protect from direct sunlight.

**10.5. Incompatible materials**

strong acids

**10.6. Hazardous decomposition products**

Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

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****Toxicokinetics, 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.

**Irritation and corrosivity**

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

**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.

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**Additional information on tests**

The mixture is classified as not 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**

There are no data available on the preparation/mixture itself. According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for the environment". Ecological injuries are not known or expected under normal use.

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**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**

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

**List of Wastes Code - residues/unused products**

161002 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; aqueous liquid wastes destined for off-site treatment; aqueous liquid wastes other than those mentioned in 16 10 01

**List of Wastes Code - used product**

160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

**List of Wastes Code - contaminated packaging**

150102 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); plastic packaging



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### Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

## SECTION 14: Transport information

### Land transport (ADR/RID)

<u>14.1. UN number or ID number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.

### Inland waterways transport (ADN)

<u>14.1. UN number or ID number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.

### Marine transport (IMDG)

<u>14.1. UN number or ID number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.

### Air transport (ICAO-TI/IATA-DGR)

<u>14.1. UN number or ID number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### 14.6. Special precautions for user

No information available.

### 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

2004/42/EC (VOC):	60,6 % (824,16 g/l)
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

#### Additional information

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

#### National regulatory information

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.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**sera NH4 Test, Reagenz 1**

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**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

**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.)*

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

sera NH4 Test, Reagenz 2

**EAN**

4001942040020  
4001942040037  
4001942040044  
4001942049108  
4001942077156

**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**

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

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

**2.3. Other hazards**

No information available.

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

Non-aqueous solution of inorganic and organic substances.

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### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
13755-38-9	Sodium nitroferricyanide(III) dihydrate			< 2 %
	238-373-9			
	Acute Tox. 3; H301			

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		
13755-38-9	238-373-9	Sodium nitroferricyanide(III) dihydrate	< 2 %
	oral: LD50 = 99 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. After inhaling vapours, first symptoms of poisoning may develop hours later, so always consult a doctor.

#### After contact with skin

Wash with 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. Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious. Call a physician immediately.

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

No information available.

### 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. Vapours can form explosive mixtures with air. In case of fire and/or explosion do not breathe fumes. In case of fire may be liberated: Nitrogen oxides (NOx), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide, Carbon dioxide (CO2).

### 5.3. Advice for firefighters

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

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**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. 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.

**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. 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

**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. Keep/Store only in original container. Protect from direct sunlight.  
Do not store at temperatures below 0°C. Recommended storage temperature: at room temperature.

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### 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/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
64-17-5	Ethanol	1000	-		STEL (15 min)	
57-55-6	Propane-1,2-diol, total (vapour and particulates)	150	470		TWA (8 h)	

#### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
57-55-6	propyleneglycol			
Worker DNEL, long-term	inhalation	systemic	168 mg/m <sup>3</sup>	
Worker DNEL, long-term	inhalation	local	10 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	systemic	50 mg/m <sup>3</sup>	
Consumer DNEL, long-term	inhalation	local	10 mg/m <sup>3</sup>	
Consumer DNEL, long-term	dermal	systemic	213 mg/kg bw/day	
Consumer DNEL, long-term	oral	systemic	85 mg/kg bw/day	
.				

#### PNEC values

CAS No	Substance	Value
57-55-6	propyleneglycol	
Freshwater		260 mg/l
Marine water		26 mg/l
Freshwater sediment		572 mg/kg
Marine sediment		57,2 mg/kg
Micro-organisms in sewage treatment plants (STP)		20000 mg/l
Soil		50 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

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**Eye/face protection**

Avoid contact with eyes. Suitable eye protection: goggles. not required under normal use.

**Hand protection**

Avoid contact with skin. Wear suitable gloves.

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,2-0,3 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 A2B2E2K2-P3 (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: Nitrogen oxides (NO<sub>x</sub>), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

**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:	red brown
Odour:	phenolic
Odour threshold:	5 ppb
Melting point/freezing point:	< -50 °C
Boiling point or initial boiling point and boiling range:	> 78 °C
Flammability:	not applicable
Lower explosion limits:	2,6 vol. %
Upper explosion limits:	17,4 vol. %
Flash point:	No data available
Auto-ignition temperature:	371 °C
Decomposition temperature:	not determined
pH-Value:	not applicable
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density:	0,98 g/cm <sup>3</sup>
Bulk density:	not applicable
Relative vapour density:	not determined

**9.2. Other information**

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**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:

97,76 %

Solid content:

2,24 %

Sublimation point:

not applicable

Softening point:

No data available

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**

Vapours can form explosive mixtures with air.

**10.4. Conditions to avoid**

Direct heating, dirt, chemical contamination, sunlight, UV or ionizing radiation

**10.5. Incompatible materials**

Acid

**10.6. Hazardous decomposition products**Nitrogen oxides (NO<sub>x</sub>), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

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****Toxicokinetics, 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.

**ATE<sub>mix</sub> calculated**

ATE (oral) 4437,9 mg/kg; ATE (dermal) 32608,7 mg/kg; ATE (inhalation vapour) 326,09 mg/l; ATE (inhalation dust/mist) 54,348 mg/l



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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
13755-38-9	Sodium nitroferricyanide(III) dihydrate				
	oral	LD50 99 mg/kg	Rat	RTECS	

### Irritation and corrosivity

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

### 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 not 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

There are no data available on the preparation/mixture itself. According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for the environment". Ecological injuries are not known or expected under normal use.

### 12.2. Persistence and degradability

The product has not been tested.

### 12.3. Bioaccumulative potential

The product has not been tested.

### 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.

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### 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

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

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.

## SECTION 14: Transport information

### Land transport (ADR/RID)

#### 14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

#### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### Inland waterways transport (ADN)

#### 14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

#### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### Marine transport (IMDG)

#### 14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

#### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### Air transport (ICAO-TI/IATA-DGR)

#### 14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

#### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

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**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

Handle in accordance with good industrial hygiene and safety practice.

**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 40, Entry 75

2010/75/EU (VOC): 98,68 % (967,064 g/l)

2004/42/EC (VOC): 98,68 % (967,064 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**

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.

**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

**Relevant H and EUH statements (number and full text)**

H301 Toxic if swallowed.

**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



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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.)*

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

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**EAN**

4001942040020  
4001942040037  
4001942040044  
4001942049108  
4001942077156

UFI: 2A6C-G8QP-MKSX-TYQD

**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. 1A; H314  
Eye Dam. 1; H318  
Aquatic Acute 1; H400  
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 hypochlorite, solution 14% Cl active  
sodium hydroxide; caustic soda

**Signal word:** Danger

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### Pictograms:



### Hazard statements

- H314 Causes severe skin burns and eye damage.  
H400 Very toxic to aquatic life.  
H411 Toxic to aquatic life with long lasting effects.

### Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P273 Avoid release to the environment.  
P280 Wear protective gloves and eye/face protection.  
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.

### Special labelling of certain mixtures

- EUH031 Contact with acids liberates toxic gas.  
EUH206 Warning! Do not use together with other products. May release dangerous gases (chlorine).

### 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

Product/Substance is inorganic. Aqueous solution of alkali salts.

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7681-52-9	sodium hypochlorite, solution 14% Cl active			10 - < 15 %
	231-668-3	017-011-00-1		
	Met. Corr. 1, Skin Corr. 1B, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H290 H314 H318 H400 H410 EUH031			
497-19-8	sodium carbonate			10 - < 15 %
	207-838-8	011-005-00-2	01-2119485498-19	
	Eye Irrit. 2; H319			
1310-73-2	sodium hydroxide; caustic soda			5 - < 10 %
	215-185-5	011-002-00-6	01-2119457892-27	
	Met. Corr. 1, Skin Corr. 1A; H290 H314			

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

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### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
7681-52-9	231-668-3	sodium hypochlorite, solution 14% Cl active	10 - < 15 %
		dermal: LD50 = > 20000 mg/kg; oral: LD50 = > 8200 mg/kg Aquatic Acute 1; H400: M=10 Aquatic Chronic 1; H410: M=1 EUH; EUH031: >= 5 - 100	
497-19-8	207-838-8	sodium carbonate	10 - < 15 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = 2800 mg/kg	
1310-73-2	215-185-5	sodium hydroxide; caustic soda	5 - < 10 %
		Skin Corr. 1A; H314: >= 5 - 100 Skin Corr. 1B; H314: >= 2 - < 5 Skin Irrit. 2; H315: >= 0,5 - < 2 Eye Irrit. 2; H319: >= 0,5 - < 2	

### Further Information

Strong alkali

## 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

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. Do not allow a neutralisation agent to be drunk. Rinse mouth immediately and drink plenty of water. 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).

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

Subsequent observance for pneumonia and lung oedema.

### 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: Chlorine (Cl<sub>2</sub>), Hydrogen chloride (HCl), Carbon dioxide (CO<sub>2</sub>), Carbon monoxide. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

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**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. Fire fighting water forms corrosive alkaline solutions - slip hazard!

**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.

The product is an alkali. Before discharge into sewage plants the product normally needs to be neutralised.

Suitable material for diluting or neutralizing: Water

**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

**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. Do not breathe vapour.

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.



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**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. Ensure adequate ventilation of the storage area.  
Do not store at temperatures below 0°C. Recommended storage temperature: at room temperature

**Hints on joint storage**

Do not store near acids.

**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/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
1310-73-2	Sodium hydroxide	-	2		STEL (15 min)	

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
7681-52-9	sodium hypochlorite, solution 14% Cl active			
Worker DNEL, long-term		dermal	local	0,50 %
Worker DNEL, long-term		inhalation	local	1,55 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	systemic	1,55 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	3,1 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	systemic	3,1 mg/m <sup>3</sup>
497-19-8	sodium carbonate			
Worker DNEL, long-term		inhalation	local	10 mg/m <sup>3</sup>

**PNEC values**

CAS No	Substance	Value
7681-52-9	sodium hypochlorite, solution 14% Cl active	
Freshwater		0,00021 mg/l
Marine water		0,000042 mg/l
Secondary poisoning		11,1 mg/kg
Micro-organisms in sewage treatment plants (STP)		4,69 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.

**Individual protection measures, such as personal protective equipment**

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**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: alkali-resistant

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,2-0,3 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: Chlorine (Cl<sub>2</sub>), Hydrogen chloride (HCl), Carbon dioxide (CO<sub>2</sub>), Carbon monoxide.

**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:	like: Chlorine
Odour threshold:	0,3 ppm
Melting point/freezing point:	< 0 °C
Boiling point or initial boiling point and boiling range:	> 60 °C
Flammability:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	> 100 °C
Auto-ignition temperature:	Non-flammable.
Decomposition temperature:	not determined
pH-Value (at 20 °C):	13,5-14,5
Viscosity / kinematic:	not determined
Water solubility: (at 20 °C)	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	Not applicable for inorganic substances.
Vapour pressure: (at 20 °C)	23 hPa
Density (at 20 °C):	1,13 g/cm <sup>3</sup>
Bulk density:	not applicable

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Relative vapour density: not determined

**9.2. Other information****Information with regard to physical hazard classes****Explosive properties**

No ignition, explosion, self-heating or visible decomposition.

The product is not: Explosive

**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**

Exothermic reaction with: Acid, Peroxides, Oxidising agent. The product develops hydrogen in an aqueous solution in contact with metals. Contact with acids liberates toxic gas.

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: Acid, Oxidising agent, Peroxides. Alkali metals, Light metals, Ammonium salts

May develop chlorine if mixed with acidic solutions.

**10.6. Hazardous decomposition products**Chlorine, Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

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****Toxicokinetics, 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.

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7681-52-9	sodium hypochlorite, solution 14% Cl active				
	oral	LD50 > 8200 mg/kg	Rat	IUCLID	
	dermal	LD50 > 20000 mg/kg	Rabbit	SDB	OECD 402
497-19-8	sodium carbonate				
	oral	LD50 2800 mg/kg	Rat	ECHA	OECD-SIDS
	dermal	LD50 > 2000 mg/kg	Rabbit	ECHA	EPA 16 CFR 1500.40

### Irritation and corrosivity

Causes severe skin burns and eye damage.

Causes serious eye damage.

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, Inhalation, Ingestion

### 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

Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.

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

There are no data available on the preparation/mixture itself. The ecotoxicological properties of this mixture are determined by the ecotoxicological properties of the single components (see section 3).

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7681-52-9	sodium hypochlorite, solution 14% Cl active					
	Acute fish toxicity	LC50 mg/l	0,08	96 h	Pimephales promelas (fathead minnow)	ECOTOX
	Acute algae toxicity	ErC50 mg/l	0,036	72 h	Pseudokirchneriella subcapitata	OECD 201
	Acute crustacea toxicity	EC50 mg/l	0,04	48 h	Daphnia magna (Big water flea)	ECOTOX
	Acute bacteria toxicity	(EC50 mg/l)	77,1	3 h	Activated sludge	OECD 209
497-19-8	sodium carbonate					
	Acute fish toxicity	LC50	300 mg/l	96 h	Lepomis macrochirus (Bluegill)	ECHA
	Acute crustacea toxicity	EC50 mg/l	200-227	48 h	Ceriodaphnia spec	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

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

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

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### Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself. Dispose of waste according to applicable legislation.

## SECTION 14: Transport information

### Land transport (ADR/RID)

<b>14.1. UN number or ID number:</b>	UN 1719
<b>14.2. UN proper shipping name:</b>	CAUSTIC ALKALI LIQUID, N.O.S. (sodium hypochlorite, solution 14% Cl active; sodium hydroxide; caustic soda)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Classification code:	C5
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

### Inland waterways transport (ADN)

<b>14.1. UN number or ID number:</b>	UN 1719
<b>14.2. UN proper shipping name:</b>	CAUSTIC ALKALI LIQUID, N.O.S. (sodium hypochlorite, solution 14% Cl active; sodium hydroxide; caustic soda)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Classification code:	C5
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1

### Marine transport (IMDG)

<b>14.1. UN number or ID number:</b>	UN 1719
<b>14.2. UN proper shipping name:</b>	CAUSTIC ALKALI LIQUID, N.O.S. (sodium hypochlorite, solution 14% Cl active; sodium hydroxide; caustic soda)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Special Provisions:	223 274
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-B
Segregation group:	18 - alkalis

### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number or ID number:</b>	UN 1719
<b>14.2. UN proper shipping name:</b>	CAUSTIC ALKALI LIQUID, N.O.S. (sodium hypochlorite, solution 14% Cl active; sodium hydroxide; caustic soda)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Special Provisions:	A3 A803
Limited quantity Passenger:	1 L
Passenger LQ:	Y841
Excepted quantity:	E1

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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:	Yes
Danger releasing substance:	sodium hypochlorite, solution 14% Cl active sodium hydroxide; caustic soda

**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, Entry 75

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):	2 - obviously 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): 2,4,6,7,8,9,10,12,14,15.

**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

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

Classification	Classification procedure
Skin Corr. 1A; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 2; H411	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.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
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.
EUH206	Warning! Do not use together with other products. May release dangerous gases (chlorine).

**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.)*



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

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**EAN**

4001942040020  
4001942040037  
4001942040044  
4001942049306  
4001942077156

UFI: 704N-U62J-E8Q8-0GSX

**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**

sulphuric acid 96 %

sulphamidic acid; sulphamic acid; sulfamic acid

**Signal word:** Danger

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### 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

Highly thinned solution of an inorganic acid. 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)			
7664-93-9	sulphuric acid 96 %			10 - < 15 %
	231-639-5	016-020-00-8	01-2119458838-20	
	Met. Corr. 1, Skin Corr. 1A, Eye Dam. 1; H290 H314 H318			
5329-14-6	sulphamidic acid; sulphamic acid; sulfamic acid			1 - < 5 %
	226-218-8	016-026-00-0	01-2119488633-28	
	Skin Irrit. 2, Eye Irrit. 2, Aquatic Chronic 3; H315 H319 H412			

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 %	10 - < 15 %
		oral: LD50 = 2140 mg/kg Skin Corr. 1A; H314: >= 15 - 100 Skin Irrit. 2; H315: >= 5 - < 15 Eye Irrit. 2; H319: >= 5 - < 15	
5329-14-6	226-218-8	sulphamidic acid; sulphamic acid; sulfamic acid	1 - < 5 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = 2140 mg/kg	

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

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**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 (NO<sub>x</sub>), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

**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

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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**

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### Occupational exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
7664-93-9	Sulphuric acid	-	0.05		TWA (8 h)	

### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7664-93-9	sulphuric acid 96 %			
Worker DNEL, long-term		inhalation	local	0,05 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	0,1 mg/m <sup>3</sup>
5329-14-6	sulphamidic acid; sulphamic acid; sulfamic acid			
Worker DNEL, long-term		inhalation	systemic	70,5 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	10 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	17,4 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	5 mg/kg bw/day

### PNEC values

CAS No	Substance	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
5329-14-6	sulphamidic acid; sulphamic acid; sulfamic acid	
Freshwater		1,8 mg/l
Marine water		0,18 mg/l
Freshwater sediment		8,36 mg/kg
Marine sediment		0,84 mg/kg
Micro-organisms in sewage treatment plants (STP)		20 mg/l
Soil		5 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

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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 (NO<sub>x</sub>), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

**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 determined
Vapour pressure:	23 hPa
(at 20 °C)	
Density (at 20 °C):	1,09 g/cm <sup>3</sup>
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. alumina, lead, zinc) - danger of explosion.

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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. alumina, lead, zinc) - danger of explosion.

**10.6. Hazardous decomposition products**

Sulphur oxides, Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).  
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****Toxicokinetics, 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.

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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
5329-14-6	sulphamidic acid; sulphamic acid; sulfamic acid				
	oral	LD50 2140 mg/kg	Rat	ECHA	OECD 401
	dermal	LD50 > 2000 mg/kg	Rat	ECHA	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)

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.



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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
5329-14-6	sulphamidic acid; sulphamic acid; sulfamic acid					
	Acute fish toxicity	LC50 mg/l	70,3	96 h	Pimephales promelas (fathead minnow)	ECHA OECD 203
	Acute algae toxicity	ErC50	48 mg/l	72 h	Desmodesmus subspicatus	ECHA OECD 201
	Acute crustacea toxicity	EC50 mg/l	71,6	48 h	Daphnia magna (Big water flea)	ECHA OECD 202
	Fish toxicity	NOEC mg/l	> 60	34 d	Danio rerio (zebrafish)	ECHA OECD 210
	Algae toxicity	NOEC	18 mg/l	3 d	Desmodesmus subspicatus	ECHA OECD 201
	Crustacea toxicity	NOEC	19 mg/l	21 d	Daphnia magna (Big water flea)	ECHA OECD 211
	Acute bacteria toxicity	(EC50 mg/l)	> 200	3 h	Activated sludge	ECHA OECD 209

### 12.2. Persistence and degradability

The product has not been tested. The organic part of the product is biodegradable.

### 12.3. Bioaccumulative potential

The product has not been tested.

### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
5329-14-6	sulphamidic acid; sulphamic acid; sulfamic acid	0,0

### 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

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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)

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid 96 %)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	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)

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

### Marine transport (IMDG)

<b>14.1. UN number or ID number:</b>	UN 3264
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid 96 %)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Special Provisions:	223, 274

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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

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

2004/42/EC (VOC): 0,06 % (0,654 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  
 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): 16.

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**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)**

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.  
H412 Harmful to aquatic life with long lasting effects.

**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.)*

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

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**EAN**

4001942040020

4001942040037

4001942040044

4001942049306

4001942077156

UFI:

AVVH-0J3J-UW1R-XHYA

**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 &amp; 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**

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

**number:**

+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**

sulphuric acid 96 %

**Signal word:**

Danger

**Pictograms:**

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### 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

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 %			10 - < 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 %	10 - < 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.

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**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, Hydrogen chloride (HCl), 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.

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### 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/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
7664-93-9	Sulphuric acid	-	0.05		TWA (8 h)	

#### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7664-93-9	sulphuric acid 96 %			
Worker DNEL, long-term		inhalation	local	0,05 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	0,1 mg/m <sup>3</sup>



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**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, Hydrogen chloride (HCl), 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

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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 determined
Vapour pressure:	23 hPa
(at 20 °C)	
Density (at 20 °C):	1,07 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. alumina, 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.

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### 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. alumina, lead, zinc) - danger of explosion.

### 10.6. Hazardous decomposition products

Sulphur oxides, Hydrogen chloride (HCl), 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

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

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### 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

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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 95-97 %)  
**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 95-97 %)  
**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 95-97 %)  
**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

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<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid 95-97 %)	
<b>14.3. Transport hazard class(es):</b>	8	
<b>14.4. Packing group:</b>	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

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

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): 2,3,4,5,6,7,8,9,12,15,16.

### 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

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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)**

H290	May be corrosive to metals.
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.)*

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

sera PO4 Test, Reagenz 3

**EAN**

4001942040020

4001942040037

4001942040044

4001942049306

4001942077156

CAS No: 50-81-7

EC No: 200-066-2

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

Solid for monitoring water parameters in aquarium and tap water.

The product is intended for consumer use.

**1.3. Details of the supplier of the safety data sheet**

Company name: sera Werke Heimtierbedarf

J. Ravnak GmbH &amp; 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** +49 (0)2452 91260 (Only available during office hours.)**number:** +49 (0)2452 9126555**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

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

Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH).

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients****3.1. Substances****Chemical characterization**

Substance, organic (Acid)



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Sum formula: C<sub>6</sub>H<sub>8</sub>O<sub>6</sub>

Molecular weight: 176,12

**Hazardous components**

none (according to Regulation (EC) No 1907/2006 (REACH))

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

Take off contaminated clothing. Brush off contaminated clothing.

**After inhalation**

Provide fresh air. If symptoms persist, call a physician.

**After contact with skin**

Wash with plenty of water. Take off contaminated clothing and wash it before reuse.

**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**

Rinse mouth immediately and drink plenty of water.

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

The product causes irritation of eyes, skin and mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

**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**

Full water jet

**5.2. Special hazards arising from the substance or mixture**Non-flammable. In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).**5.3. Advice for firefighters**

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

**Additional information**

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**

Do not breathe dust. Avoid contact with skin, eyes and clothes.

**For non-emergency personnel**

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

**For emergency responders**

Use personal protection equipment.

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**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**

Take up mechanically, placing in appropriate containers for disposal.

**For cleaning up**

Large amounts of spillages: Use approved industrial vacuum cleaner for removal.

Small amounts of spillages: Take up mechanically.

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**

Keep out of reach of children. Avoid dust formation. Do not breathe dust.

**Advice on protection against fire and explosion**

No special fire protection measures are necessary.

**Advice on general occupational hygiene**

Take off contaminated clothing. Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**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 container dry. Keep/Store only in original container. Moisture-sensitive.

Keep the packing dry and well sealed to prevent contamination and absorption of humidity. Protect from direct sunlight.

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)**

Solid for monitoring water parameters in aquarium and tap water.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****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**

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**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. Suitable eye protection: Dust protection eye glasses

Not required because of small size of the container

**Hand protection**

Hand protection is not required.

**Skin protection**

Body protection: not required.

**Respiratory protection**

Usually no personal respirative protection necessary. In case of inadequate ventilation wear respiratory protection. In the case of dust or aerosol formation use respirator with filter model P2 (according to DIN 3181, 1980).

**Thermal hazards**

Non-flammable. Thermal decomposition can lead to the escape of irritating gases and vapours. In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO<sub>2</sub>)

**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:	solid
Colour:	white, crystalline
Odour:	odourless
Odour threshold:	not determined
Melting point/freezing point:	191 °C
Boiling point or initial boiling point and boiling range:	> 191 °C
Flammability:	This material is combustible, but will not ignite readily.
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	not determined
Auto-ignition temperature:	380 °C
Decomposition temperature:	not determined
pH-Value (at 20 °C):	2,1-2,6 (50 g/l)
Viscosity / kinematic:	not applicable
Water solubility:	330 g/L
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	-1,85
Vapour pressure:	not determined
Density (at 20 °C):	1,65 g/cm <sup>3</sup>
Bulk density:	not determined
Relative vapour density:	not determined

**9.2. Other information****Information with regard to physical hazard classes****Explosive properties**

The product is not: Explosive. Dust can form an explosive mixture with air.

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Sustaining combustion: Not sustaining combustion  
Self-ignition temperature  
Solid: not determined  
Gas: not applicable  
Oxidizing properties  
Not oxidising.

**Other safety characteristics**

Evaporation rate: not determined  
Solvent separation test: No data available  
Solvent content: 0 %  
Solid content: 100,00 %  
Sublimation point: No data available  
Softening point: not applicable  
Pour point: not applicable  
Viscosity / dynamic: not applicable  
Flow time: not applicable

**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**

No known hazardous reactions.

**10.4. Conditions to avoid**

Protect from direct sunlight., Moisture-sensitive.

**10.5. Incompatible materials**

Oxidising agent, Air, humid, Light metals

**10.6. Hazardous decomposition products**

Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

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****Acute toxicity**

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

**Irritation and corrosivity**

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

Causes skin and eye irritation. Inhalation of dust may cause irritation of the respiratory system.

**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.

Did not show carcinogenic effects in animal experiments.

**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.

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**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**

No data available.

**Additional information on tests**

The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

**Practical experience**

No data available.

**11.2. Information on other hazards****Endocrine disrupting properties**

No data available.

**Other information**

No data available.

**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**

On the basis of existing data about the elimination/degradation and bioaccumulation potential longer term damage to the environment is unlikely. Harmless to aquatic organisms up to the tested concentration..

According to the results of tests of biodegradability this product is considered as being readily biodegradable.

**12.2. Persistence and degradability**

Readily biodegradable (according to OECD criteria).

**12.3. Bioaccumulative potential**

No indication of bioaccumulation potential.

**12.4. Mobility in soil**

The product has not been tested.

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

No information available.

**Further information**

Avoid release to the environment. Ecological injuries are not known or expected under normal use.

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

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

**List of Wastes Code - residues/unused products**

160306 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes other than those mentioned in 16 03 05

**List of Wastes Code - used product**

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160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

### List of Wastes Code - contaminated packaging

150102 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); plastic packaging

### Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

## SECTION 14: Transport information

### Land transport (ADR/RID)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

### Inland waterways transport (ADN)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

### Marine transport (IMDG)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

### Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### 14.6. Special precautions for user

No information available.

### 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

2004/42/EC (VOC): 100 % (1650 g/l)  
Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

#### Additional information

The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

#### National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

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**15.2. Chemical safety assessment**

For this substance a chemical safety assessment has not been carried out.

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 2.

**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

**Further Information**

Classification 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.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**sera Cu Test, Reagenz 1**

Revision date: 05.09.2023

Product code: Cu-R1

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

sera Cu Test, Reagenz 1

**EAN**

4001942040020

4001942040044

4001942047104

4001942077156

UFI:

0DS7-YDC8-PRQ8-UFW6

**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**

Flam. Liq. 2; H225

Full text of hazard statements: see SECTION 16.

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

Signal word: Danger

Pictograms:

**Hazard statements**

H225

Highly flammable liquid and vapour.



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

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**Precautionary statements**

- P102 Keep out of reach of children.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P501 Dispose of contents/container to household waste.

**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**

alcoholic solution

**Hazardous components**

none (according to Regulation (EC) No 1907/2006 (REACH))

**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. Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious. Call a physician immediately.

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

No known symptoms to date.

**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 spray jet, Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder.

**Unsuitable extinguishing media**

Full water jet

**5.2. Special hazards arising from the substance or mixture**

Flammable. Vapours can form explosive mixtures with air. In case of fire and/or explosion do not breathe fumes. In case of fire may be liberated: Sulphur oxides, Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide, Carbon

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dioxide (CO<sub>2</sub>).**5.3. Advice for firefighters**

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

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. 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**

Remove all sources of ignition. 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 uncontrolled discharge of product into the environment. Danger of explosion

**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**Take precautionary measures against static discharges.  
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

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Do not breathe vapour. Keep out of reach of children.

**Advice on protection against fire and explosion**Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.  
Vapours can form explosive mixtures with air.**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.

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**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from direct sunlight.

Recommended storage temperature: at room temperature

**Hints on joint storage**

Do not store together with: Oxidising agent. Pyrophoric or self-heating substances. Keep away from combustible material.

**Further information on storage conditions**

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/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
64-17-5	Ethanol	1000	-		STEL (15 min)	

**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: solvent-resistant

Suitable material: CR (polychloroprene, chloroprene rubber)

Thickness of the glove material: 0,65 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**

Flame-retardant protective clothing. Wear anti-static footwear and clothing Not required because of small size of the container

**Respiratory protection**

No personal respiratory protective equipment normally required. In case of inadequate ventilation wear respiratory protection. In the case of vapour formation use a respirator with filter model A (according to DIN 3181, 1980).

**Thermal hazards**

Thermal decomposition can lead to the escape of irritating gases and vapours.

Flammable. Vapours can form explosive mixtures with air. In case of fire may be liberated: Sulphur oxides,

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Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

### 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:	alcoholic
Odour threshold:	18 ppm
Melting point/freezing point:	< 0 °C
Boiling point or initial boiling point and boiling range:	78 °C
Flammability:	not applicable highly flammable
Lower explosion limits:	3,5 vol. %
Upper explosion limits:	15 vol. %
Flash point:	12 °C
Auto-ignition temperature:	400 °C
Decomposition temperature:	not determined
pH-Value:	not applicable
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	58 hPa
(at 20 °C)	
Vapour pressure:	293 hPa
(at 50 °C)	
Density:	0,81 g/cm <sup>3</sup>
Bulk density:	not applicable
Relative vapour density:	not determined

### 9.2. Other information

#### Information with regard to physical hazard classes

##### Explosive properties

Vapours can form explosive mixtures with air.

##### Sustaining combustion:

No data available

##### 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:

95,76 %

##### Solid content:

not determined

##### Sublimation point:

not applicable

##### Softening point:

not applicable

##### Pour point:

not determined

##### Viscosity / dynamic:

not determined

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Flow time:

not determined

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

Flammable, Ignition hazard.

**10.2. Chemical stability**

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

**10.3. Possibility of hazardous reactions**

Vapours can form explosive mixtures with air.

**10.4. Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

**10.5. Incompatible materials**

Oxidising agent, Alkali metals, Light metals

**10.6. Hazardous decomposition products**Sulphur oxides, Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

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****Toxicokinetics, 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.

**Irritation and corrosivity**

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

**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**

Inhalation, Skin contact, Eye contact, Ingestion

**Specific effects in experiment on an animal**

Substance caused a mild irritation of eyes and skin in animal experiments.

**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.

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**Other information**

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

**Further information**

Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.

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**

There are no data available on the preparation/mixture itself. Ecological injuries are not known or expected under normal use.

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**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**

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. Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

# Safety Data Sheet

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## sera Cu Test, Reagenz 1

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### SECTION 14: Transport information

#### Land transport (ADR/RID)

<b>14.1. UN number or ID number:</b>	UN 1170
<b>14.2. UN proper shipping name:</b>	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3
Classification code:	F1
Special Provisions:	144 601
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	30
Tunnel restriction code:	D/E

#### Inland waterways transport (ADN)

<b>14.1. UN number or ID number:</b>	UN 1170
<b>14.2. UN proper shipping name:</b>	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3
Classification code:	F1
Special Provisions:	144 601
Limited quantity:	5 L
Excepted quantity:	E1

#### Marine transport (IMDG)

<b>14.1. UN number or ID number:</b>	UN 1170
<b>14.2. UN proper shipping name:</b>	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3
Special Provisions:	144, 223
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-E, S-D

#### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number or ID number:</b>	UN 1170
<b>14.2. UN proper shipping name:</b>	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3
Special Provisions:	A3 A58 A180
Limited quantity Passenger:	10 L
Passenger LQ:	Y344
Excepted quantity:	E1
IATA-packing instructions - Passenger:	355
IATA-max. quantity - Passenger:	60 L
IATA-packing instructions - Cargo:	366
IATA-max. quantity - Cargo:	220 L

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

#### 14.6. Special precautions for user

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Warning: Combustible liquid.

### 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, Entry 40, Entry 75

2010/75/EU (VOC): 95,76 % (775,656 g/l)

2004/42/EC (VOC): 96 % (777,6 g/l)

Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

#### 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

#### 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
Flam. Liq. 2; H225	On basis of test data

#### Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.

#### 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.





## Safety Data Sheet

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*(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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**sera Cu Test, Reagenz 2**

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Product code: Cu-R2

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

sera Cu Test, Reagenz 2

**EAN**

4001942040020

4001942040044

4001942047104

4001942077156

UFI:

YPT9-76C2-FYF4-KJ0N

**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

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

H319

Causes serious eye irritation.

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**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.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.

**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)			
12125-02-9	ammonium chloride			20 - < 25 %
	235-186-4	017-014-00-8	01-2119487950-27	
	Acute Tox. 4, Eye Irrit. 2; H302 H319			

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	
12125-02-9	235-186-4	ammonium chloride	20 - < 25 %
	oral: LD50 = 1440 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. After inhaling vapours, first symptoms of poisoning may develop hours later, so always consult a doctor.

**After contact with skin**

Wash with 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. Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Call a physician immediately.

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

Subsequent observance for pneumonia and lung oedema.

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**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: Nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).**5.3. Advice for firefighters**

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

**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. 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

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Do not breathe vapour. Keep out of reach of children.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

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**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 store near acids.

**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/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
12125-02-9	Ammonium chloride, fume	-	10		TWA (8 h)	
		-	20		STEL (15 min)	

**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: alkali-resistant

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,2-0,3 mm

Permeation time (maximum wear duration): &gt; 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.

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### Skin protection

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

### Respiratory protection

No personal respiratory protective equipment normally required. 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: Nitrogen oxides (NOx), Hydrogen chloride (HCl), 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:	amine-like
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):	8,2-8,5
Viscosity / kinematic:	not determined
Water solubility:	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not applicable
Vapour pressure:	23 hPa
(at 20 °C)	
Vapour pressure:	not determined
Density:	1,13 g/cm³
Bulk density:	not applicable
Relative vapour density:	not determined
Particle characteristics:	not applicable

### 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.

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### 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

Exothermic reaction with: Acid

### 10.4. Conditions to avoid

Protect from direct sunlight.

### 10.5. Incompatible materials

Keep away from: Acid

### 10.6. Hazardous decomposition products

Nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).  
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

#### Toxicokinetics, 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.

#### ATEmix calculated

ATE (oral) 7050,0 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
12125-02-9	ammonium chloride				
	oral	LD50 mg/kg	1440	Rat	

#### Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

#### 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.

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### 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

There are no data available on the preparation/mixture itself. Ecological injuries are not known or expected under normal use.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
12125-02-9	ammonium chloride					
	Acute fish toxicity	LC50	209 mg/l	96 h	Cyprinus carpio	IUCLID
	Acute crustacea toxicity	EC50	> 100 mg/l	48 h	Daphnia magna	

### 12.2. Persistence and degradability

The product has not been tested.

### 12.3. Bioaccumulative potential

The product has not been tested.

### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
12125-02-9	ammonium chloride	-4,37

### 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.



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**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**

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

**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.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS:

No

**14.6. Special precautions for user**

No information available.

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### 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, Entry 65, Entry 75

2004/42/EC (VOC): 10 % (113 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): 2,4,7,8,11.

#### 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
Eye Irrit. 2; H319	Calculation method

#### Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.

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



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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.)*