

Certificate for *sera* aqua-test box marin

Manufacturer

sera Werke Heimtierbedarf
J. Ravnak GmbH & Co. KG
Borsigstr. 49
D-52525 Heinsberg

Responsible Department/Contact Person

Labor / Dr. Matthias Dahm
telephone: +49 (0) 2452-9126-0; -555
e-mail: sds.info@sera.biz
Internet: www.sera.de

Declaration

The product *sera* aqua-test box marin (EAN 4001942040044) contains the following test-kits:

sera pH Test: single reagent (EAN 4001942043106)

sera kH Test: single reagent (EAN 4001942042109)

sera NO₂ Test: reagents 1-2 (EAN 4001942044103)

sera NO₃ Test: reagents 1-4 (EAN 4001942045100)

sera NH₄/NH₃ Test: reagents 1-3 (EAN 4001942049108)

sera PO₄ Test: reagents 1-3 (EAN 4001942049306)

sera Cu Test: reagents 1-2 (EAN 4001942047104)

sera Ca Test: reagents 1-3 (EAN 4001942049207)

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.

Firma: sera Werke Heimtierbedarf
J. Ravnak GmbH & Co. KG
Hausanschrift: Borsigstraße 49 52525 Heinsberg
Kontakt: Telefon: (0) 24 52 91 26-0
Fax: (0) 24 52 59 22
E-Mail: info@sera.de
Homepage: www.sera.de

Handelsregister: Aachen, HRA-Nr. 5223

Bankverbindung: Persönlich 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

Page 1 of 9

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**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera pH Test

Revision date: 06.09.2023

Product code: pH

Page 2 of 9

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_x), Hydrogen halide, Carbon monoxide, Carbon dioxide (CO₂).**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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera pH Test

Revision date: 06.09.2023

Product code: pH

Page 3 of 9

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**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera pH Test

Revision date: 06.09.2023

Product code: pH

Page 4 of 9

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	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 ³
Worker DNEL, long-term		inhalation	local	10 mg/m ³
Consumer DNEL, long-term		inhalation	systemic	50 mg/m ³
Consumer DNEL, long-term		inhalation	local	10 mg/m ³
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

sera pH Test

Revision date: 06.09.2023

Product code: pH

Page 5 of 9

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Revision date: 06.09.2023

sera pH Test

Product code: pH

Page 6 of 9

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_x), Hydrogen halide, 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.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera pH Test

Revision date: 06.09.2023

Product code: pH

Page 7 of 9

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera pH Test

Revision date: 06.09.2023

Product code: pH

Page 8 of 9

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

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera pH Test

Revision date: 06.09.2023

Product code: pH

Page 9 of 9

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.)

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera kH Test

Revision date: 06.09.2023

Product code: kH

Page 1 of 9

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**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera kH Test

Revision date: 06.09.2023

Product code: kH

Page 2 of 9

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 mixtureNon-flammable. In case of fire may be liberated: Sulphur oxides, 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

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera kH Test

Revision date: 06.09.2023

Product code: kH

Page 3 of 9

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**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera kH Test

Revision date: 06.09.2023

Product code: kH

Page 4 of 9

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 (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:	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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera kH Test

Revision date: 06.09.2023

Product code: kH

Page 5 of 9

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 ³
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 productsSulphur oxides, Hydrogen chloride (HCl), 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**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera kH Test

Revision date: 06.09.2023

Product code: kH

Page 6 of 9

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera kH Test

Revision date: 06.09.2023

Product code: kH

Page 7 of 9

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)

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera kH Test

Revision date: 06.09.2023

Product code: kH

Page 8 of 9

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 acronymsADR: 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.



Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera kH Test

Revision date: 06.09.2023

Product code: kH

Page 9 of 9

(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 NO2 Test, Reagenz 1

Revision date: 04.09.2023

Product code: NO2-R1-Test

Page 1 of 11

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

sera NO2 Test, Reagenz 1

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 1

Revision date: 04.09.2023

Product code: NO2-R1-Test

Page 2 of 11

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 1

Revision date: 04.09.2023

Product code: NO2-R1-Test

Page 3 of 11

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_x), Hydrogen chloride (HCl), 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. 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 1

Revision date: 04.09.2023

Product code: NO2-R1-Test

Page 4 of 11

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 ³	fib/cm ³	Category	Origin
7647-01-0	Hydrogen chloride	5	8		TWA (8 h)	
		10	15		STEL (15 min)	

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 1

Revision date: 04.09.2023

Product code: NO2-R1-Test

Page 5 of 11

DNEL/DMEL values

CAS No	Substance			
DNEL type	Exposure route		Effect	Value
-	hydrochloric acid 32%			
Worker DNEL, long-term	inhalation		local	8 mg/m ³
Worker DNEL, acute	inhalation		local	15 mg/m ³

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 (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:	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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 1

Revision date: 04.09.2023

Product code: NO2-R1-Test

Page 6 of 11

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/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:

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 1

Revision date: 04.09.2023

Product code: NO2-R1-Test

Page 7 of 11

of explosion.

10.6. Hazardous decomposition productsSulphur oxides, Nitrogen oxides (NO_x), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO₂).

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 1

Revision date: 04.09.2023

Product code: NO2-R1-Test

Page 8 of 11

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%)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 1

Revision date: 04.09.2023

Product code: NO2-R1-Test

Page 9 of 11

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. (hydrochloric acid 32%)
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. (hydrochloric acid 32%)
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. (hydrochloric acid 32%)
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: The product causes irritation of eyes, skin and mucous membranes.
Safe handling: see section 7

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 1

Revision date: 04.09.2023

Product code: NO2-R1-Test

Page 10 of 11

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.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 1

Revision date: 04.09.2023

Product code: NO2-R1-Test

Page 11 of 11

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 NO2 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NO2-R2-Test

Page 1 of 9

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**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NO2-R2-Test

Page 2 of 9

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 mixtureNon-flammable. The product itself does not burn. In case of fire may be liberated: Nitrogen oxides (NO_x), 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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NO2-R2-Test

Page 3 of 9

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**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NO2-R2-Test

Page 4 of 9

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	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 ³	
Worker DNEL, long-term	dermal	systemic	7,5 mg/kg bw/day	
Worker DNEL, long-term	dermal	local	0,14 mg/cm ²	
Consumer DNEL, long-term	inhalation	local	0,4 mg/m ³	
Consumer DNEL, long-term	dermal	systemic	2,66 mg/kg bw/day	
Consumer DNEL, long-term	dermal	local	0,07 mg/cm ²	
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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO₂ Test, Reagenz 2

Revision date: 06.09.2023

Product code: NO2-R2-Test

Page 5 of 9

gases and vapours. In case of fire may be liberated: Nitrogen oxides (NO_x), 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/cm ³
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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO₂ Test, Reagenz 2

Revision date: 06.09.2023

Product code: NO₂-R2-Test

Page 6 of 9

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 productsNitrogen oxides (NO_x), Hydrogen chloride (HCl), 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.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NO2-R2-Test

Page 7 of 9

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NO2-R2-Test

Page 8 of 9

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera NO2 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NO2-R2-Test

Page 9 of 9

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

Page 1 of 10

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

Product code: NO3-R1-Test

Page 2 of 10

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.

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

Page 3 of 10

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 NaHCO₃.

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.

sera NO3 Test, Reagenz 1

Revision date: 06.09.2023

Product code: NO3-R1-Test

Page 4 of 10

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 ³	fib/cm ³	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 ³	
Worker DNEL, long-term	inhalation	local	1 mg/m ³	
Worker DNEL, acute	inhalation	local	2 mg/m ³	
Consumer DNEL, long-term	inhalation	systemic	4,57 mg/m ³	
Consumer DNEL, long-term	inhalation	local	0,36 mg/m ³	
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,

sera NO3 Test, Reagenz 1

Revision date: 06.09.2023

Product code: NO3-R1-Test

Page 5 of 10

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.

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/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:

not determined

Solid content:

not determined

Sublimation point:

not applicable

Softening point:

not applicable

Pour point:

not determined

sera NO3 Test, Reagenz 1

Revision date: 06.09.2023

Product code: NO3-R1-Test

Page 6 of 10

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.

sera NO3 Test, Reagenz 1

Revision date: 06.09.2023

Product code: NO3-R1-Test

Page 7 of 10

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.

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

Page 8 of 10

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)

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
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. (phosphoric acid; orthophosphoric acid 85%)
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

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

Page 9 of 10

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

Revision date: 06.09.2023

Product code: NO3-R1-Test

Page 10 of 10

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

Page 1 of 10

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

Page 2 of 10

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. .

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

Page 3 of 10

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 NaHCO₃

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.

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

Page 4 of 10

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 ³	fib/cm ³	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 ³	
Worker DNEL, long-term	inhalation	local	1 mg/m ³	
Worker DNEL, acute	inhalation	local	2 mg/m ³	
Consumer DNEL, long-term	inhalation	systemic	4,57 mg/m ³	
Consumer DNEL, long-term	inhalation	local	0,36 mg/m ³	
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 respirative 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,

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

Page 5 of 10

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_x), Sulphur oxides, Hydrogen chloride (HCl), Phosphorus compounds, 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:	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 ³
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

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

Page 6 of 10

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.

sera NO3 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NO3-R2-Test

Page 7 of 10

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.

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

Page 8 of 10

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)

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
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. (phosphoric acid; orthophosphoric acid 85%)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8

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

Page 9 of 10

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.

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

Page 10 of 10

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.)

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 3

Revision date: 01.09.2023

Product code: NO3-R3-Test

Page 1 of 10

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

sera NO3 Test, Reagenz 3

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 3

Revision date: 01.09.2023

Product code: NO3-R3-Test

Page 2 of 10

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 3

Revision date: 01.09.2023

Product code: NO3-R3-Test

Page 3 of 10

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 (CO₂), 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 3

Revision date: 01.09.2023

Product code: NO3-R3-Test

Page 4 of 10

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 3

Revision date: 01.09.2023

Product code: NO3-R3-Test

Page 5 of 10

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 3

Revision date: 01.09.2023

Product code: NO3-R3-Test

Page 6 of 10

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 ³
Bulk density:	2-4 kg/m ³
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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 3

Revision date: 01.09.2023

Product code: NO3-R3-Test

Page 7 of 10

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 3

Revision date: 01.09.2023

Product code: NO3-R3-Test

Page 8 of 10

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)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 3

Revision date: 01.09.2023

Product code: NO3-R3-Test

Page 9 of 10

14.1. UN number or ID number:	UN 3077
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilised))
14.3. Transport hazard class(es):	9
14.4. Packing group:	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)

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

Marine transport (IMDG)

14.1. UN number or ID number:	UN 3077
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilised))
14.3. Transport hazard class(es):	9
14.4. Packing group:	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)

14.1. UN number or ID number:	UN 3077
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilised))
14.3. Transport hazard class(es):	9
14.4. Packing group:	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)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 3

Revision date: 01.09.2023

Product code: NO3-R3-Test

Page 10 of 10

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 acronymsADR: 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.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 4

Revision date: 06.09.2023

Product code: NO3-R4-Test

Page 1 of 9

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

sera NO3 Test, Reagenz 4

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 4

Revision date: 06.09.2023

Product code: NO3-R4-Test

Page 2 of 9

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 mixtureNon-flammable. The product itself does not burn. In case of fire may be liberated: Sulphur oxides, Nitrogen oxides (NO_x), 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.

For emergency responders

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 4

Revision date: 06.09.2023

Product code: NO3-R4-Test

Page 3 of 9

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 ³	fib/cm ³	Category	Origin
102-71-6	Triethanolamine	-	5		TWA (8 h)	

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 4

Revision date: 06.09.2023

Product code: NO3-R4-Test

Page 4 of 9

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_x), Hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO₂).

Environmental exposure controls

Avoid release to the environment.

sera NO3 Test, Reagenz 4

Revision date: 06.09.2023

Product code: NO3-R4-Test

Page 5 of 9

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/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:

1,13 %

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 4

Revision date: 06.09.2023

Product code: NO3-R4-Test

Page 6 of 9

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_x), Hydrogen chloride (HCl), 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.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 4

Revision date: 06.09.2023

Product code: NO3-R4-Test

Page 7 of 9

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

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 4

Revision date: 06.09.2023

Product code: NO3-R4-Test

Page 8 of 9

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%

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera NO3 Test, Reagenz 4

Revision date: 06.09.2023

Product code: NO3-R4-Test

Page 9 of 9

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 NH4 Test, Reagenz 1

Revision date: 06.09.2023

Product code: NH4-R1

Page 1 of 8

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 1

Revision date: 06.09.2023

Product code: NH4-R1

Page 2 of 8

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 mixtureNon-flammable. The product itself does not burn. In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO₂).**5.3. Advice for firefighters**

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

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).

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 1

Revision date: 06.09.2023

Product code: NH4-R1

Page 3 of 8

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 1

Revision date: 06.09.2023

Product code: NH4-R1

Page 4 of 8

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 hazardsNon-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 (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:	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 ³
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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 1

Revision date: 06.09.2023

Product code: NH4-R1

Page 5 of 8

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 (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.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 1

Revision date: 06.09.2023

Product code: NH4-R1

Page 6 of 8

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 1

Revision date: 06.09.2023

Product code: NH4-R1

Page 7 of 8

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):	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

Revision date: 06.09.2023

Product code: NH4-R1

Page 8 of 8

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.)

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NH4-R2

Page 1 of 10

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NH4-R2

Page 2 of 10

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NH4-R2

Page 3 of 10

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NH4-R2

Page 4 of 10

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 ³	fib/cm ³	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 ³	
Worker DNEL, long-term	inhalation	local	10 mg/m ³	
Consumer DNEL, long-term	inhalation	systemic	50 mg/m ³	
Consumer DNEL, long-term	inhalation	local	10 mg/m ³	
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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NH4-R2

Page 5 of 10

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_x), Hydrogen cyanide (hydrocyanic acid), 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:	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 ³
Bulk density:	not applicable
Relative vapour density:	not determined

9.2. Other information

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NH4-R2

Page 6 of 10

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 productsNitrogen oxides (NO_x), Hydrogen cyanide (hydrocyanic acid), 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.

ATE_{mix} 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NH4-R2

Page 7 of 10

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NH4-R2

Page 8 of 10

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NH4-R2

Page 9 of 10

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 acronymsADR: 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



Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 2

Revision date: 06.09.2023

Product code: NH4-R2

Page 10 of 10

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 NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 1 of 12

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

sera NH4 Test, Reagenz 3

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 +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. 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 2 of 12

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 3 of 12

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 (Cl₂), Hydrogen chloride (HCl), Carbon dioxide (CO₂), Carbon monoxide. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 4 of 12

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.

sera NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 5 of 12

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 ³	fib/cm ³	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 ³
Worker DNEL, long-term		inhalation	systemic	1,55 mg/m ³
Worker DNEL, acute		inhalation	local	3,1 mg/m ³
Worker DNEL, acute		inhalation	systemic	3,1 mg/m ³
497-19-8	sodium carbonate			
Worker DNEL, long-term		inhalation	local	10 mg/m ³

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 6 of 12

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 (Cl₂), Hydrogen chloride (HCl), Carbon dioxide (CO₂), 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 ³
Bulk density:	not applicable

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 7 of 12

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 productsChlorine, Hydrogen chloride (HCl), 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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 8 of 12

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).

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 9 of 12

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 10 of 12

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)

14.1. UN number or ID number:	UN 1719
14.2. UN proper shipping name:	CAUSTIC ALKALI LIQUID, N.O.S. (sodium hypochlorite, solution 14% Cl active; sodium hydroxide; caustic soda)
14.3. Transport hazard class(es):	8
14.4. Packing group:	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)

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

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1719
14.2. UN proper shipping name:	CAUSTIC ALKALI LIQUID, N.O.S. (sodium hypochlorite, solution 14% Cl active; sodium hydroxide; caustic soda)
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:	18 - alkalis

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1719
14.2. UN proper shipping name:	CAUSTIC ALKALI LIQUID, N.O.S. (sodium hypochlorite, solution 14% Cl active; sodium hydroxide; caustic soda)
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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 11 of 12

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera NH4 Test, Reagenz 3

Revision date: 05.09.2023

Product code: NH4-R3

Page 12 of 12

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.)

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 1 of 12

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

sera PO4 Test, Reagenz 1

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 +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 %

sulphamidic acid; sulphamic acid; sulfamic acid

Signal word: Danger

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 2 of 12

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 3 of 12

General information

Remove contaminated, saturated clothing immediately.

After inhalation

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

After contact with skin

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

After contact with eyes

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

After ingestion

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

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

Serious eye damage/eye irritation

Skin corrosion/irritation

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

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

Treat symptomatically.

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

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

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-flammable. The product itself does not burn. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

In case of fire may be liberated: Sulphur oxides, Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO₂).

5.3. Advice for firefighters

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

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water.

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

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

For non-emergency personnel

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

For emergency responders

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

Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. The product is an acid. Before discharge into sewage plants

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 4 of 12

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**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 5 of 12

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	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 ³
Worker DNEL, acute		inhalation	local	0,1 mg/m ³
5329-14-6	sulphamidic acid; sulphamic acid; sulfamic acid			
Worker DNEL, long-term		inhalation	systemic	70,5 mg/m ³
Worker DNEL, long-term		dermal	systemic	10 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	17,4 mg/m ³
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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 6 of 12

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_x), 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:	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 ³
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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 7 of 12

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_x), Carbon monoxide, Carbon dioxide (CO₂).
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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 8 of 12

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 9 of 12

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 10 of 12

plants the product normally needs to be neutralised. Suitable material for diluting or neutralizing: Neutralize with chalk, alkali solution or ammonia.

List of Wastes Code - residues/unused products

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

List of Wastes Code - used product

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

List of Wastes Code - contaminated packaging

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

Contaminated packaging

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

SECTION 14: Transport information

Land transport (ADR/RID)

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

Inland waterways transport (ADN)

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

Marine transport (IMDG)

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 11 of 12

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 1

Revision date: 04.09.2023

Product code: PO4-R1

Page 12 of 12

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.)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 2

Revision date: 04.09.2023

Product code: PO4-R2

Page 1 of 11

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

sera PO4 Test, Reagenz 2

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 & 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 %

Signal word: Danger**Pictograms:**

sera PO4 Test, Reagenz 2

Revision date: 04.09.2023

Product code: PO4-R2

Page 2 of 11

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 2

Revision date: 04.09.2023

Product code: PO4-R2

Page 3 of 11

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 2

Revision date: 04.09.2023

Product code: PO4-R2

Page 4 of 11

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 ³	fib/cm ³	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 ³
Worker DNEL, acute		inhalation	local	0,1 mg/m ³

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 2

Revision date: 04.09.2023

Product code: PO4-R2

Page 5 of 11

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 2

Revision date: 04.09.2023

Product code: PO4-R2

Page 6 of 11

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 2

Revision date: 04.09.2023

Product code: PO4-R2

Page 7 of 11

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 mg/kg	2140	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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 2

Revision date: 04.09.2023

Product code: PO4-R2

Page 8 of 11

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 2

Revision date: 04.09.2023

Product code: PO4-R2

Page 9 of 11

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 2

Revision date: 04.09.2023

Product code: PO4-R2

Page 10 of 11

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:	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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 2

Revision date: 04.09.2023

Product code: PO4-R2

Page 11 of 11

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.)

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 3

Revision date: 06.09.2023

Product code: PO4-R3-2008

Page 1 of 8

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 & 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)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 3

Revision date: 06.09.2023

Product code: PO4-R3-2008

Page 2 of 8

Sum formula: C₆H₈O₆

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 mixtureNon-flammable. In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO₂).**5.3. Advice for firefighters**

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

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 3

Revision date: 06.09.2023

Product code: PO4-R3-2008

Page 3 of 8

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 3

Revision date: 06.09.2023

Product code: PO4-R3-2008

Page 4 of 8

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 (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:	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 ³
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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 3

Revision date: 06.09.2023

Product code: PO4-R3-2008

Page 5 of 8

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 (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****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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 3

Revision date: 06.09.2023

Product code: PO4-R3-2008

Page 6 of 8

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 3

Revision date: 06.09.2023

Product code: PO4-R3-2008

Page 7 of 8

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera PO4 Test, Reagenz 3

Revision date: 06.09.2023

Product code: PO4-R3-2008

Page 8 of 8

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

Page 1 of 10

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 sheetCompany 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

sera Cu Test, Reagenz 1

Revision date: 05.09.2023

Product code: Cu-R1

Page 2 of 10

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 (CO₂), 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_x), Carbon monoxide, Carbon

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 1

Revision date: 05.09.2023

Product code: Cu-R1

Page 3 of 10

dioxide (CO₂).**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 upTake 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 explosionKeep 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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 1

Revision date: 05.09.2023

Product code: Cu-R1

Page 4 of 10

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 ³	fib/cm ³	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,

sera Cu Test, Reagenz 1

Revision date: 05.09.2023

Product code: Cu-R1

Page 5 of 10

Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO2).

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	colourless
Odour:	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 ³
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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 1

Revision date: 05.09.2023

Product code: Cu-R1

Page 6 of 10

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 productsSulphur oxides, Nitrogen oxides (NO_x), 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.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 1

Revision date: 05.09.2023

Product code: Cu-R1

Page 7 of 10

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

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 1

Revision date: 05.09.2023

Product code: Cu-R1

Page 8 of 10

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1170
14.2. UN proper shipping name:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es):	3
14.4. Packing group:	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)

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

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1170
14.2. UN proper shipping name:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es):	3
14.4. Packing group:	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)

14.1. UN number or ID number:	UN 1170
14.2. UN proper shipping name:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es):	3
14.4. Packing group:	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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 1

Revision date: 05.09.2023

Product code: Cu-R1

Page 9 of 10

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

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 1

Revision date: 05.09.2023

Product code: Cu-R1

Page 10 of 10

(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 Cu Test, Reagenz 2

Revision date: 05.09.2023

Product code: Cu-R2

Page 1 of 10

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 sheetCompany 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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 2

Revision date: 05.09.2023

Product code: Cu-R2

Page 2 of 10

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 2

Revision date: 05.09.2023

Product code: Cu-R2

Page 3 of 10

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_x), 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**

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

sera Cu Test, Reagenz 2

Revision date: 05.09.2023

Product code: Cu-R2

Page 4 of 10

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 ³	fib/cm ³	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): > 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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 2

Revision date: 05.09.2023

Product code: Cu-R2

Page 5 of 10

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 (NO_x), 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/cm ³
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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 2

Revision date: 05.09.2023

Product code: Cu-R2

Page 6 of 10

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_x), Hydrogen chloride (HCl), 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) 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.

sera Cu Test, Reagenz 2

Revision date: 05.09.2023

Product code: Cu-R2

Page 7 of 10

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 2

Revision date: 05.09.2023

Product code: Cu-R2

Page 8 of 10

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 2

Revision date: 05.09.2023

Product code: Cu-R2

Page 9 of 10

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



Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Cu Test, Reagenz 2

Revision date: 05.09.2023

Product code: Cu-R2

Page 10 of 10

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 Ca Test, Reagenz 1

Revision date: 05.09.2023

Product code: Ca-R1

Page 1 of 10

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

sera Ca Test, Reagenz 1

EAN

4001942040044

4001942049207

UFI:

7S5M-WA2P-CG3E-6WKX

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 sheetCompany 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**

Skin Corr. 1A; 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**

sodium hydroxide; caustic soda

Signal word: Danger**Pictograms:**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 1

Revision date: 05.09.2023

Product code: Ca-R1

Page 2 of 10

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.

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

Product/Substance is inorganic. Solution of sodium hydroxide in water.

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
1310-73-2	sodium hydroxide; caustic soda			20 - < 25 %
	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.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
1310-73-2	215-185-5	sodium hydroxide; caustic soda	20 - < 25 %
		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

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 1

Revision date: 05.09.2023

Product code: Ca-R1

Page 3 of 10

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).

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. 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. 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. The product is an alkali. Before discharge into sewage plants the product normally needs to be neutralised. Suitable material for diluting or neutralizing: Water, Hydrochloric acid, Sulphuric acid and sulphurous acid.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 1

Revision date: 05.09.2023

Product code: Ca-R1

Page 4 of 10

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.

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 ³	fib/cm ³	Category	Origin
1310-73-2	Sodium hydroxide	-	2		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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 1

Revision date: 05.09.2023

Product code: Ca-R1

Page 5 of 10

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): > 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.

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):	13-14
Viscosity / kinematic:	not determined
Water solubility: (at 20 °C)	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 20 °C)	< 24 hPa

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 1

Revision date: 05.09.2023

Product code: Ca-R1

Page 6 of 10

Density (at 20 °C):	1,12 g/cm ³
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: Acid, Peroxides, Oxidising agent. The product develops hydrogen in an aqueous solution in contact with metals. 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

10.6. Hazardous decomposition products

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 1

Revision date: 05.09.2023

Product code: Ca-R1

Page 7 of 10

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, 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 alkali. Before discharge into sewage plants the product normally needs to be neutralised.

Suitable material for diluting or neutralizing: Water, Hydrochloric acid, Sulphuric acid and sulphurous acid. After neutralisation, toxicity is no longer observed.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 1

Revision date: 05.09.2023

Product code: Ca-R1

Page 8 of 10

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 alkali. Before discharge into sewage plants the product normally needs to be neutralised. Suitable material for diluting or neutralizing: Water, Hydrochloric acid, Sulphuric acid and sulphurous acid.

List of Wastes Code - residues/unused products

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

List of Wastes Code - used product

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

List of Wastes Code - contaminated packaging

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

Contaminated packaging

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

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1824
14.2. UN proper shipping name:	SODIUM HYDROXIDE SOLUTION
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8
Classification code:	C5
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1824
14.2. UN proper shipping name:	SODIUM HYDROXIDE SOLUTION
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8
Classification code:	C5
Limited quantity:	1 L
Excepted quantity:	E2

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1824
14.2. UN proper shipping name:	SODIUM HYDROXIDE, SOLUTION
14.3. Transport hazard class(es):	8

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 1

Revision date: 05.09.2023

Product code: Ca-R1

Page 9 of 10

14.4. Packing group:	II
Hazard label:	8
Special Provisions:	-
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1824
14.2. UN proper shipping name:	SODIUM HYDROXIDE, SOLUTION
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8
Special Provisions:	A3 A803
Limited quantity Passenger:	0.5 L
Passenger LQ:	Y840
Excepted quantity:	E2
IATA-packing instructions - Passenger:	851
IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	855
IATA-max. quantity - Cargo:	30 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

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). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

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)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 1

Revision date: 05.09.2023

Product code: Ca-R1

Page 10 of 10

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. 1A; H314	Calculation method
Eye Dam. 1; H318	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.

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 Ca Test, Reagenz 2

Revision date: 06.09.2023

Product code: Ca-R2

Page 1 of 8

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

sera Ca Test, Reagenz 2

EAN

4001942040044

4001942049207

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**

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**

Mixture of inorganic salts with organic substances.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 2

Revision date: 06.09.2023

Product code: Ca-R2

Page 2 of 8

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**

Brush off contaminated clothing.

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.

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. 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 mixtureNon-flammable. In case of fire may be liberated: Sulphur oxides, Nitrogen oxides (NO_x), Carbon monoxide, Carbon dioxide (CO₂).**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.

6.2. Environmental precautions

No special environmental measures are necessary.

6.3. Methods and material for containment and cleaning up

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 2

Revision date: 06.09.2023

Product code: Ca-R2

Page 3 of 8

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**Appropriate engineering controls**

No special technical protective measures are necessary.

Individual protection measures, such as personal protective equipment

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 2

Revision date: 06.09.2023

Product code: Ca-R2

Page 4 of 8

Eye/face protection

Avoid contact with skin, eyes and clothes.

Eye protection: not required.

Hand protection

Hand protection is not required.

Skin protection

Body protection: not required.

Respiratory protection

Usually no personal respiratory protection necessary. In case of inadequate ventilation wear respiratory protection.

Thermal hazards

Non-flammable. Thermal decomposition can lead to the escape of irritating gases and vapours. In case of fire may be liberated: Sulphur oxides, Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO₂).

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	violet
Odour:	odourless
Odour threshold:	not applicable
Melting point/freezing point:	800 °C
Boiling point or initial boiling point and boiling range:	890 °C
Flammability:	Non-flammable. not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	does not flash
Auto-ignition temperature:	No data available
Decomposition temperature:	not determined
pH-Value:	not applicable
Viscosity / kinematic:	not applicable
Water solubility:	easily soluble
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not applicable
Vapour pressure:	not determined
Density:	2,70 g/cm ³
Bulk density:	not determined
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.

Sustaining combustion:

Not sustaining combustion

Self-ignition temperature

Solid:

not determined

Gas:

not applicable

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 2

Revision date: 06.09.2023

Product code: Ca-R2

Page 5 of 8

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

Air, humid

10.6. Hazardous decomposition productsSulphur oxides, Nitrogen oxides (NO_x), 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.

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 2

Revision date: 06.09.2023

Product code: Ca-R2

Page 6 of 8

Specific effects in experiment on an animal

Mild eye irritation (Rabbit)

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. No special environmental measures are necessary.

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

160304 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; inorganic wastes other than those mentioned in 16 03 03

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 2

Revision date: 06.09.2023

Product code: Ca-R2

Page 7 of 8

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

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): 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 2

Revision date: 06.09.2023

Product code: Ca-R2

Page 8 of 8

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.

(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 Ca Test, Reagenz 3

Revision date: 06.09.2023

Product code: Ca-R3

Page 1 of 10

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

sera Ca Test, Reagenz 3

EAN

4001942040044

4001942049207

4001942049221

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**

Aqueous solution of organic and inorganic salts.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 3

Revision date: 06.09.2023

Product code: Ca-R3

Page 2 of 10

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
6381-92-6	ethylenediaminetetraacetic acid disodium salt dihydrate (EDTA disodium)			< 5 %
	205-358-3		01-2119486775-20	
	Acute Tox. 4, STOT RE 2; H332 H373			

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		
6381-92-6	205-358-3	ethylenediaminetetraacetic acid disodium salt dihydrate (EDTA disodium)	< 5 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: LC50 = 1,6 mg/l (dusts or mists); oral: LD50 = 2800 mg/kg		

Further Information

Contains no further substance with acute toxicity.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated, saturated clothing immediately.

After inhalation

Provide fresh air. 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 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

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), Carbon monoxide, Carbon dioxide (CO2).

5.3. Advice for firefighters

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 3

Revision date: 06.09.2023

Product code: Ca-R3

Page 3 of 10

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**

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

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 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 3

Revision date: 06.09.2023

Product code: Ca-R3

Page 4 of 10

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	Exposure route	Effect	Value
6381-92-6	ethylenediaminetetraacetic acid disodium salt dihydrate (EDTA disodium)			
Worker DNEL, long-term		inhalation	local	1,5 mg/m ³
Worker DNEL, acute		inhalation	local	3 mg/m ³

PNEC values

CAS No	Substance	Value
6381-92-6	ethylenediaminetetraacetic acid disodium salt dihydrate (EDTA disodium)	
Freshwater		2,2 mg/l
Marine water		0,22 mg/l
Micro-organisms in sewage treatment plants (STP)		43 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. 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: Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO₂).

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 3

Revision date: 06.09.2023

Product code: Ca-R3

Page 5 of 10

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:	Non-flammable. 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):	4-5
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:	1,01 g/cm ³
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 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

sera Ca Test, Reagenz 3

Revision date: 06.09.2023

Product code: Ca-R3

Page 6 of 10

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

Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO₂).

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

SECTION 11: Toxicological information

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

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 (inhalation vapour) 492,57 mg/l; ATE (inhalation dust/mist) 71,646 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
6381-92-6	ethylenediaminetetraacetic acid disodium salt dihydrate (EDTA disodium)				
	oral	LD50 2800 mg/kg	Rat	ECHA	OECD 401
	inhalation vapour	ATE 11 mg/l			
	inhalation (4 h) dust/mist	LC50 1,6 mg/l	Rat	SDS	OECD 412

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].

sera Ca Test, Reagenz 3

Revision date: 06.09.2023

Product code: Ca-R3

Page 7 of 10

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.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
6381-92-6	ethylenediaminetetraacetic acid disodium salt dihydrate (EDTA disodium)					
	Acute fish toxicity	LC50 41 mg/l	96 h	Lepomis macrochirus (Bluegill)	SDS	
	Acute algae toxicity	ErC50 > 60 mg/l	72 h	Pseudokirchneriella subcapitata	ECHA	OECD 201
	Acute crustacea toxicity	EC50 140 mg/l	48 h	Daphnia magna (Big water flea)	SDS	DIN 38412 / part 11
	Fish toxicity	NOEC > 25,7 mg/l	35 d	Danio rerio (zebrafish)	SDS	OECD 210
	Crustacea toxicity	NOEC > 25 mg/l	21 d	Daphnia magna (Big water flea)	SDS	
	Acute bacteria toxicity	(EC50 > 640 mg/l)	3 h	Activated sludge	SDS	OECD 209

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
6381-92-6	ethylenediaminetetraacetic acid disodium salt dihydrate (EDTA disodium)	-4,3

BCF

CAS No	Chemical name	BCF	Species	Source
6381-92-6	ethylenediaminetetraacetic acid disodium salt dihydrate (EDTA disodium)	1,8	Lepomis macrochirus (Bluegill)	SDS

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 3

Revision date: 06.09.2023

Product code: Ca-R3

Page 8 of 10

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

161001 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; aqueous liquid wastes destined for off-site treatment; aqueous liquid 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:

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 3

Revision date: 06.09.2023

Product code: Ca-R3

Page 9 of 10

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 assessmentFor the following substances of this mixture a chemical safety assessment has been carried out:
ethylenediaminetetraacetic acid disodium salt dihydrate (EDTA disodium)**SECTION 16: Other information****Changes**

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

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
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)

H332 Harmful if inhaled.
H373 May cause damage to organs (Respiratory tract) through prolonged or repeated exposure if inhaled.

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

according to Regulation (EC) No 1907/2006

sera Ca Test, Reagenz 3

Revision date: 06.09.2023

Product code: Ca-R3

Page 10 of 10

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