

Safety Data Sheet

according to Regulation (EC) No 1907/2006

14548-99 Citric Acid

Revision date: 26.06.2018

Product code: 1454899

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

14548-99 Citric Acid

CAS No: 77-92-9

EC No: 201-069-1

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

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH

Street: Willstätterstr. 11

Place: D-40549 Düsseldorf

Telephone: +49 (0)211 5288-383

e-mail: SDS@hach.com

Internet: www.de.hach.com

Responsible Department: HACH LANGE Ltd.

5, Pacific Way

Salford Manchester M50 1DL - United Kingdom

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HACH LANGE Ltd.

Unit 1, Chestnut Road Western Industrial Estate

IRL-Dublin 12

Tel. +353 (0)1 4602522

e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

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

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

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Hazard Statements:

Causes skin irritation.

Causes serious eye irritation.

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

Citric acid

Signal word: Warning

Pictograms:



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Hazard statements

- H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements

- P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing.
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 as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients**3.1. Substances****Hazardous components**

| CAS No | Chemical name | Quantity | | |
|---------|---|----------|----------|-------|
| | EC No | Index No | REACH No | |
| | Classification according to Regulation (EC) No. 1272/2008 [CLP] | | | |
| 77-92-9 | Citric acid | | | 100 % |
| | 201-069-1 | | | |
| | Skin Irrit. 2, Eye Irrit. 2; H315 H319 | | | |

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

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

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

After inhalation

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

After contact with skin

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

After contact with eyes

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

After ingestion

Do NOT induce vomiting. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Consult a physician.

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

irritant effects

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray jet
Carbon dioxide (CO₂)
Dry powder
Alcohol-resistant foam

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

Unsuitable extinguishing media

High volume water jet

5.2. Special hazards arising from the substance or mixture

The following may develop in event of fire: sulfur oxides., Carbon monoxide, Carbon dioxide (CO₂).

5.3. Advice for firefighters

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

Additional information

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

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

Advice on protection against fire and explosion

Combustible material
Keep away from open flames, hot surfaces and sources of ignition.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep containers dry and tightly closed to avoid moisture absorption and contamination.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Additional advice on limit values

None known.

8.2. Exposure controls**Appropriate engineering controls**

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

Protective and hygiene measures

Wash hands before breaks and at the end of workday.

Eye/face protection

Safety glasses with side-shields

Hand protection

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

Skin protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Provide adequate ventilation.
Ensure adequate ventilation, especially in confined areas.
Breathing apparatus only if aerosol or dust is formed.
Recommended Filter type: P1 filter, Colour white.

Environmental exposure controls

Should not be released into the environment.

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

| | |
|----------------------|---------------|
| Physical state: | solid |
| Colour: | white |
| Odour: | odourless |
| pH-Value (at 20 °C): | 1,7 (100 g/l) |

Changes in the physical state

| | |
|--|-------------------|
| Melting point: | 153 °C |
| Initial boiling point and boiling range: | not applicable |
| Sublimation point: | no data available |
| Softening point: | no data available |
| Pour point: | no data available |
| Flash point: | not applicable |

Flammability

| | |
|--------|----------------|
| Solid: | not applicable |
| Gas: | not applicable |

Explosive properties

not applicable

| | |
|-------------------------|----------------|
| Lower explosion limits: | not applicable |
| Upper explosion limits: | not applicable |
| Ignition temperature: | 540 °C |

Auto-ignition temperature

| | |
|--------|----------------|
| Solid: | not applicable |
| Gas: | not applicable |

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Decomposition temperature: 175 °C

Oxidizing properties

not applicable

Vapour pressure: < 0,1 hPa

Density (at 20 °C): 1,665 g/cm³Bulk density: approx. 560 kg/m³

Water solubility: 750 g/L

(at 20 °C)

Solubility in other solvents

Alcohol, Diethylether

Partition coefficient: not applicable

Viscosity / dynamic: not applicable

Viscosity / kinematic: not applicable

Flow time: not applicable

Vapour density: not applicable

Evaporation rate: not applicable

Solvent separation test: not applicable

Solvent content: not applicable

9.2. Other information

Solid content: no data available

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

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Reacts with the following substances: Oxidizing agents, Metals, Bases, Reducing agents

10.4. Conditions to avoid

Exposure to moisture.

10.5. Incompatible materials

sodium nitrite, potassium nitrite

10.6. Hazardous decomposition products

no data available

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

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

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| CAS No | Chemical name | | | | |
|---------|----------------|---------------------|---------|--------|--------|
| | Exposure route | Dose | Species | Source | Method |
| 77-92-9 | Citric acid | | | | |
| | oral | LD50 mg/kg 3000 | rat | IUCLID | |
| | dermal | LD50 mg/kg >2000 | rat | IUCLID | |

Irritation and corrosivity

Irritating to eyes and skin.

Sensitising effects

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

rabbit skin 500 mg/24 h - Moderate skin irritation

rabbit eye 750 µg/24 h - Severe eye irritation

Further information

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

SECTION 12: Ecological information
12.1. Toxicity

No data is available on the product itself.

| CAS No | Chemical name | | | | | |
|---------|--------------------------|----------------------|-----------|---------------------------------|--------|--------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 77-92-9 | Citric acid | | | | | |
| | Acute fish toxicity | LC50 mg/l 440-760 | 96 h | Leuciscus idus (Golden orfe) | | |
| | Acute crustacea toxicity | EC50 160 mg/l | 48 h | Crustacea | | |

12.2. Persistence and degradability

Readily eliminated from water

| CAS No | Chemical name | | | |
|---------|---------------------------------|----------|---|--------|
| | Method | Value | d | Source |
| | Evaluation | | | |
| 77-92-9 | Citric acid | | | |
| | OECD Test Guideline 302 | 98 % | 2 | IUCLID |
| | Biochemical Oxygen Demand (BOD) | 526 mg/g | 5 | IUCLID |

12.3. Bioaccumulative potential

Bioaccumulation is unlikely.

12.4. Mobility in soil

no data available

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12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products

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

Waste disposal number of used product

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

Waste disposal number of contaminated packaging

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

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

Land transport (ADR/RID)

Other applicable information (land transport)

Not subject to transport regulations.

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

Other applicable information (marine transport)

Not subject to transport regulations.

Air transport (ICAO-TI/IATA-DGR)

Other applicable information (air transport)

Not subject to transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no data available

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

Not relevant

SECTION 15: Regulatory information

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

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National regulatory information

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

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

Revision: 26.06.2018
Safety datasheet sections which have been updated: 2, 7, 8, 11, 15
Revision: 14.02.2018
Safety datasheet sections which have been updated: 2, 4, 7, 8, 13

Relevant H and EUH statements (number and full text)

H315 Causes skin irritation.
H319 Causes serious eye irritation.

Further Information

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

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1995-32 Molybdate 3 Reagent for Silica

Revision date: 02.02.2017

Product code: 199532

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

1995-32 Molybdate 3 Reagent for Silica

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

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
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Salford Manchester M50 1DL - United Kingdom
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HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

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

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

Hazard categories:

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

Skin corrosion/irritation: Skin Corr. 1

Specific target organ toxicity - repeated exposure: STOT RE 1

Hazard Statements:

May be corrosive to metals.

Causes severe skin burns and eye damage.

Causes damage to organs through prolonged or repeated exposure.

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

sulphuric acid ... %

sodium hydrogensulphate

Molybdic acid

Signal word:

Danger

Pictograms:

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Hazard statements

| | |
|------|---|
| H290 | May be corrosive to metals. |
| H314 | Causes severe skin burns and eye damage. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |

Precautionary statements

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

Additional advice on labelling

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

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

| CAS No | Chemical name | | | Quantity |
|------------|---|--------------|----------|----------|
| | EC No | Index No | REACH No | |
| | Classification according to Regulation (EC) No. 1272/2008 [CLP] | | | |
| 7732-18-5 | Water | | | > 60 % |
| | 231-791-2 | | | |
| 7664-93-9 | sulphuric acid ... % | | | < 15 % |
| | 231-639-5 | 016-020-00-8 | | |
| | Skin Corr. 1A; H314 | | | |
| 10034-88-5 | sodium hydrogensulphate | | | < 20 % |
| | 231-665-7 | 016-046-00-X | | |
| | Eye Dam. 1; H318 | | | |
| 7782-91-4 | Molybdic acid | | | < 15 % |
| | 231-970-5 | | | |
| | Eye Irrit. 2, STOT SE 3, STOT RE 1; H319 H335 H372 | | | |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

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

After inhalation

Move to fresh air. Consult a physician.

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After contact with skin

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

After contact with eyes

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

After ingestion

Drink 1 or 2 glasses of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

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

Irritation and corrosion

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media**Suitable extinguishing media**

Water, Carbon dioxide (CO₂), Dry chemical

Unsuitable extinguishing media

No Limit

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products formed under fire conditions.

5.3. Advice for firefighters

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

Additional information

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste.

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling**Advice on safe handling**

Avoid contact with skin and eyes. Avoid contact with clothing. Do not breathe vapours/dust. Provide sufficient air exchange and/or exhaust in work rooms.

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

Keep at temperatures between 10 and 25 °C.

Hints on joint storage

Do not store together with Oxidizing agents, Solvent

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7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|-----------|-----------------------|-----|-------------------|-----------|-----------|--------|
| 7664-93-9 | Sulphuric acid (mist) | - | 0.05 | | TWA (8 h) | WEL |

Additional advice on limit values

None known.

8.2. Exposure controls

Appropriate engineering controls

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

Protective and hygiene measures

Wash hands before breaks and at the end of workday.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

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

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

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

Skin protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Ensure adequate ventilation, especially in confined areas.

Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|----------------------|--------------------------|
| Physical state: | liquid |
| Colour: | colourless, light yellow |
| Odour: | none |
| pH-Value (at 20 °C): | < 0,5 |

Changes in the physical state

| | |
|--|----------------|
| Melting point: | not applicable |
| Initial boiling point and boiling range: | 100 °C |
| Sublimation point: | not applicable |
| Softening point: | not applicable |
| Pour point: | not applicable |
| Flash point: | > 100 °C |

Flammability

| | |
|--------|----------------|
| Solid: | not applicable |
|--------|----------------|

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Gas: not applicable

Explosive properties

not applicable

Lower explosion limits: not applicable

Upper explosion limits: not applicable

Ignition temperature: not applicable

Auto-ignition temperature

Solid: not applicable

Gas: not applicable

Decomposition temperature: not applicable

Oxidizing properties

not applicable

Vapour pressure: no data available

Vapour pressure: no data available

Density (at 20 °C): 1,2 - 1,3 g/cm³

Bulk density: no data available

Water solubility: soluble

(at 20 °C)

Solubility in other solvents

Acids

Partition coefficient: no data available

Viscosity / dynamic: no data available

Viscosity / kinematic: no data available

Flow time: no data available

Vapour density: no data available

Evaporation rate: no data available

Solvent separation test: no data available

Solvent content: no data available

9.2. Other information

Solid content: not applicable

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

Corrosive to metals

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.

10.5. Incompatible materials

Incompatible with strong bases and oxidizing agents.

10.6. Hazardous decomposition products

Sulphur oxides

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SECTION 11: Toxicological information
11.1. Information on toxicological effects
Toxicokinetics, metabolism and distribution

Angaben zur Toxikologie liegen nicht vor.

Acute toxicity

No data is available on the product itself.

| CAS No | Chemical name | | | | | |
|------------|-------------------------|---------------|---------|--------|--------|--|
| | Exposure route | Dose | Species | Source | Method | |
| 10034-88-5 | sodium hydrogensulphate | | | | | |
| | oral | LD50 mg/kg | 2490 | rat | IUCLID | |

Irritation and corrosivity

Causes skin and eye burns.

Sensitising effects

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

STOT-single exposure

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

STOT-repeated exposure

H372 - Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

sulphuric acid ... %: LD50/oral/rat = 2140mg/kg; LC50/inhalation/1h/mouse = 347ppm

sodium hydrogensulphate: LD50/oral/rat = 2828mg/kg

Further information

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information
12.1. Toxicity

No data is available on the product itself.

| CAS No | Chemical name | | | | | |
|------------|--------------------------|------|-----------|---------|-------------------------------|--------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 10034-88-5 | sodium hydrogensulphate | | | | | |
| | Acute crustacea toxicity | EC50 | 190 mg/l | 48 h | Daphnia magna (Water flea) | IUCLID |

12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

no data available

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

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12.6. Other adverse effects

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products

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

Waste disposal number of used product

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

Waste disposal number of contaminated packaging

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

SECTION 14: Transport information

Land transport (ADR/RID)

| | |
|--|---|
| <u>14.1. UN number:</u> | UN 3264 |
| <u>14.2. UN proper shipping name:</u> | Corrosive liquid, acidic, inorganic, n.o.s. (Sulphuric Acid/Sodium Bisulphate solution) |
| <u>14.3. Transport hazard class(es):</u> | 8 |
| <u>14.4. Packing group:</u> | III |

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

| | |
|--|---|
| <u>14.1. UN number:</u> | UN 3264 |
| <u>14.2. UN proper shipping name:</u> | Corrosive liquid, acidic, inorganic, n.o.s. (Sulphuric Acid/Sodium Bisulphate solution) |
| <u>14.3. Transport hazard class(es):</u> | 8 |
| <u>14.4. Packing group:</u> | III |
| Marine pollutant: | -- |
| EmS: | F-A,S-B |

Air transport (ICAO-TI/IATA-DGR)

| | |
|--|---|
| <u>14.1. UN number:</u> | UN 3264 |
| <u>14.2. UN proper shipping name:</u> | Corrosive liquid, acidic, inorganic, n.o.s. (Sulphuric Acid/Sodium Bisulphate solution) |
| <u>14.3. Transport hazard class(es):</u> | 8 |
| <u>14.4. Packing group:</u> | III |

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1995-32 Molybdate 3 Reagent for Silica

Revision date: 02.02.2017

Product code: 199532

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14.6. Special precautions for user

Use personal protective equipment.

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

Not relevant

Other applicable information

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

SECTION 15: Regulatory information

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

National regulatory information

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

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

Revision: 2.02.2017
Safety datasheet sections which have been updated: 2, 11
Revision: 28.05.2015
Safety datasheet sections which have been updated: 2, 11

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.
H335 May cause respiratory irritation.
H372 Causes damage to organs through prolonged or repeated exposure.

Further Information

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

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

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22538-69 Amino Acid F Reagent Powder Pillow

Revision date: 22.10.2018

Product code: 2253869

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

1.1. Product identifier

22538-69 Amino Acid F Reagent Powder Pillow

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

Use of the substance/mixture

Water analysis

1.3. Details of the supplier of the safety data sheet

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

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

1.4. Emergency telephone number:

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Acute toxicity: Acute Tox. 4

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Resp. Sens. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Harmful if swallowed.

Harmful if inhaled.

Causes skin irritation.

Causes serious eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause respiratory irritation.

Harmful to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

sodium metabisulphite

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Signal word: Danger

Pictograms:



Hazard statements

| | |
|------|--|
| H302 | Harmful if swallowed. |
| H332 | Harmful if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 | May cause respiratory irritation. |
| H318 | Causes serious eye damage. |
| H315 | Causes skin irritation. |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary statements

| | |
|----------------|--|
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P270 | Do not eat, drink or smoke when using this product. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. |
| P310 | Immediately call a POISON CENTER/doctor. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P342+P311 | If experiencing respiratory symptoms: Call a POISON CENTER/doctor. |

Additional advice on labelling

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

2.3. Other hazards

no data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

| CAS No | Chemical name | | | Quantity |
|--------------|---|--------------|----------|----------|
| | EC No | Index No | REACH No | |
| | Classification according to Regulation (EC) No. 1272/2008 [CLP] | | | |
| 7681-57-4 | sodium metabisulphite | | | 95-100 % |
| | 231-673-0 | 016-063-00-2 | | |
| | Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Resp. Sens. 1, STOT SE 3; H332 H302 H315 H318 H334 H335 EUH031 | | | |
| confidential | Fast Amino Acid | | | 1-5 % |
| | | | | |
| | | | | |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take off all contaminated clothing immediately.

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according to Regulation (EC) No 1907/2006

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After inhalation

Move to fresh air.

After contact with skin

Wash off immediately with plenty of water. Call a physician immediately. Show this safety data sheet to the doctor in attendance.

After contact with eyes

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

After ingestionDo NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water.
Call a physician immediately. Show this safety data sheet to the doctor in attendance.**4.2. Most important symptoms and effects, both acute and delayed**

Irritation and corrosion

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

Treat symptomatically.

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

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

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

The following may develop in event of fire: sulfur oxides., Carbon monoxide, Carbon dioxide (CO₂), nitrogen oxides (NO_x), Sodium oxides.**5.3. Advice for firefighters**

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

Additional information

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

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

Use personal protective equipment.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

13. Disposal considerations

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

Avoid contact with skin, eyes and clothing. Do not breathe vapours/dust.

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

Keep in a dry place.

Hints on joint storage

Incompatible with strong acids and oxidizing agents.

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7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|-----------|---------------------|-----|-------------------|-----------|-----------|--------|
| 7681-57-4 | Disodium disulphite | - | 5 | | TWA (8 h) | WEL |

8.2. Exposure controls**Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice.

Protective and hygiene measures

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

Wash hands before breaks and after work.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

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

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

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

Skin protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Breathing apparatus only if aerosol or dust is formed.

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

| | |
|----------------------|--------------------|
| Physical state: | solid |
| Colour: | green, brown |
| Odour: | odourless |
| pH-Value (at 20 °C): | 4,3 (5 % solution) |

Changes in the physical state

| | |
|--|-------------------|
| Melting point: | no data available |
| Initial boiling point and boiling range: | not applicable |
| Sublimation point: | not applicable |
| Softening point: | not applicable |
| : | no data available |
| Flash point: | not applicable |

Flammability

| | |
|--------|-------------------|
| Solid: | no data available |
| Gas: | no data available |

Explosive properties

no data available

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

Auto-ignition temperature

Solid: no data available
Gas: no data available

Decomposition temperature: no data available

Oxidizing properties

no data available

Vapour pressure: not applicable

Vapour pressure: not applicable

Density (at 20 °C): 1,48 g/cm³

Bulk density: not applicable

Water solubility:
(at 20 °C) moderately soluble

Solubility in other solventsHCl, H₂SO₄

Partition coefficient: not applicable

Viscosity / dynamic: not applicable

Viscosity / kinematic: not applicable

Flow time: not applicable

Vapour density: not applicable

Evaporation rate: not applicable

Solvent separation test: not applicable

Solvent content: not applicable

9.2. Other information

Solid content: not applicable

no data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat. Exposure to moisture.

10.5. Incompatible materials

Acids, Oxidizing agents

10.6. Hazardous decomposition productsSulphur oxides, Carbon monoxide, Carbon dioxide (CO₂)**Further information**

No dangerous reaction known under conditions of normal use.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Harmful if swallowed.
Harmful by inhalation.

| CAS No | Chemical name | | | | |
|--------------|--------------------------|-------------------|---------|--------|--------|
| | Exposure route | Dose | Species | Source | Method |
| 7681-57-4 | sodium metabisulphite | | | | |
| | oral | LD50 1131 mg/kg | Rat | | |
| | dermal | LD50 >2000 mg/kg | Rat | | |
| | inhalation vapour | ATE 11 mg/l | | | |
| | inhalation (4 h) aerosol | LC50 2,01 mg/l | Rat | | |
| confidential | Fast Amino Acid | | | | |
| | oral | LD50 >=2000 mg/kg | Rat | | |

Irritation and corrosivity

Risk of serious damage to eyes.
May cause skin irritation.

Sensitising effects

May cause sensitisation by inhalation.

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

STOT-single exposure

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

No toxicology information is available.

Further information

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

SECTION 12: Ecological information

12.1. Toxicity

No data is available on the product itself.

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| CAS No | Chemical name | | | | | |
|--------------|--------------------------|------------------------|-----------|---|--------|--------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 7681-57-4 | sodium metabisulphite | | | | | |
| | Acute fish toxicity | LC50 150 - 220 mg/l | 96 h | Onchorhynchus mykiss | | |
| | Acute crustacea toxicity | EC50 89 mg/l | 48 h | Daphnia magna (Water flea) | | |
| confidential | Fast Amino Acid | | | | | |
| | Acute fish toxicity | LC50 218 mg/l | 96 h | Daphnia | | |
| | Acute algae toxicity | ErC50 157 mg/l | 96 h | Scenedesmus quadricauda (Green algae) | | |

12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

no data available

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

Ecological injuries are not known or expected under normal use.

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations
13.1. Waste treatment methods
Advice on disposal

In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products

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

Waste disposal number of used product

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

Waste disposal number of contaminated packaging

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

SECTION 14: Transport information
Land transport (ADR/RID)
Other applicable information (land transport)

Not subject to transport regulations.

Inland waterways transport (ADN)

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Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

Other applicable information (marine transport)

Not subject to transport regulations.

Air transport (ICAO-TI/IATA-DGR)

Other applicable information (air transport)

Not subject to transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

Use personal protective equipment.

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

not applicable

SECTION 15: Regulatory information

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

National regulatory information

Employment restrictions:

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

Water contaminating class (D):

2 - clearly water contaminating

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

Revision: 22.10.2018

Safety datasheet sections which have been updated: 2, 7, 11, 15, 16

Revision: 17.02.2016

Safety datasheet sections which have been updated: 2

Revision: 3.09.2015

Safety datasheet sections which have been updated: 3

Revision: 26.06.2015

Safety datasheet sections which have been updated: 11

Revision: 20.04.2015

Safety datasheet sections which have been updated: 2, 4, 11

Revision: 08.05.2013

Safety Data Sheet

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

| Classification | Classification procedure |
|-------------------------|--------------------------|
| Acute Tox. 4; H302 | Calculation method |
| Acute Tox. 4; H332 | Calculation method |
| Skin Irrit. 2; H315 | Calculation method |
| Eye Dam. 1; H318 | Calculation method |
| Resp. Sens. 1; H334 | Calculation method |
| STOT SE 3; H335 | Calculation method |
| Aquatic Chronic 3; H412 | Calculation method |

Relevant H and EUH statements (number and full text)

| | |
|--------|--|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H332 | Harmful if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 | May cause respiratory irritation. |
| H412 | Harmful to aquatic life with long lasting effects. |
| EUH031 | Contact with acids liberates toxic gas. |

Further Information

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

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