## 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.<br>5, Pacific Way<br>Salford Manchester M50 1DL - United Kingdom<br>Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324<br>e-Mail: info-uk@hach.com<br><br>HACH LANGE Ltd.<br>Unit 1, Chestnut Road Western Industrial Estate<br>IRL-Dublin 12<br>Tel. +353 (0)1 4602522<br>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:**

**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.

**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

### 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/m³ | 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 |

| | |
|---|---|
| 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: (at 20 °C) | soluble |

**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

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Toxicocinetics, 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 2490 mg/kg | 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

**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)**

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

**Inland waterways transport (ADN)**

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

Not tested

**Marine transport (IMDG)**

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

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

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

**14.5. Environmental hazards**

| | |
|---|---|
| ENVIRONMENTALLY HAZARDOUS: | no |

**14.6. Special precautions for user**

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 Number3316, 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.)*

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

### 1.1. Product identifier

22542-32 Citric Acid F Reagent Solution

### 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.<br>5, Pacific Way<br>Salford Manchester M50 1DL - United Kingdom<br>Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324<br>e-Mail: info-uk@hach.com<br><br>HACH LANGE Ltd.<br>Unit 1, Chestnut Road Western Industrial Estate<br>IRL-Dublin 12<br>Tel. +353 (0)1 4602522<br>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
Hazard Statements:
May be corrosive to metals.
Causes severe skin burns and eye damage.

### 2.2. Label elements

**Regulation (EC) No. 1272/2008**

**Hazard components for labelling**

Propionic acid
Citric acid

**Signal word:** Danger

**Pictograms:**

**Hazard statements**

H290 May be corrosive to metals.

| | |
|---|---|
| H314 | Causes severe skin burns and eye damage. |

**Precautionary statements**

| | |
|---|---|
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/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 POISON CENTER/doctor. |
| P390 | Absorb spillage to prevent material damage. |

**Additional advice on labelling**

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

### 2.3. Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

**Hazardous components**

| CAS No | Chemical name | | | Quantity |
|---|---|---|---|---|
| | EC No | Index No | REACH No | |
| | Classification according to Regulation (EC) No. 1272/2008 [CLP] | | | |
| 7732-18-5 | Water | | | >80 % |
| | 231-791-2 | | | |
| | | | | |
| 77-92-9 | Citric acid | | | 16 % |
| | 201-069-1 | | | |
| | Skin Irrit. 2, Eye Irrit. 2; H315 H319 | | | |
| 79-09-4 | Propionic acid | | | <1 % |
| | 201-176-3 | | | |
| | Flam. Liq. 3, Skin Corr. 1B; H226 H314 | | | |

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General information**

Take off all contaminated clothing immediately.

**After inhalation**

Move to fresh air.

**After contact with skin**

Wash off immediately with plenty of water.

**After contact with eyes**

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

**After ingestion**

Clean mouth with water and drink afterwards plenty of water.

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

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. The product itself does not burn.

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

Fire may liberate hazardous vapours.

### 5.3. Advice for firefighters

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

**Additional information**

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

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

### 6.3. Methods and material for containment and cleaning up

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

### 6.4. Reference to other sections

13. Disposal considerations

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Advice on safe handling**

Use only in well-ventilated areas.

**Advice on protection against fire and explosion**

See also section 5

### 7.2. Conditions for safe storage, including any incompatibilities

**Requirements for storage rooms and vessels**

Keep in a dry, cool place.

**Hints on joint storage**

None known.

### 7.3. Specific end use(s)

Reagent for analysis

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Exposure limits (EH40)**

| CAS No | Substance | ppm | mg/m³ | fibres/ml | Category | Origin |
|---|---|---|---|---|---|---|
| 79-09-4 | Propionic acid | 10 | 31 | | TWA (8 h) | WEL |
| | | 15 | 46 | | STEL (15 min) | WEL |

**Additional advice on limit values**

None known.

**8.2. Exposure controls**

**Appropriate engineering controls**

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

**Protective and hygiene measures**

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Wash hands before breaks and after work.

**Eye/face protection**

Safety glasses with side-shields

**Hand protection**

Use barrier skin cream.
Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact: Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

**Skin protection**

Remove and wash contaminated clothing before re-use.

**Respiratory protection**

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

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

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

**Changes in the physical state**

| | |
|---|---|
| Melting point: | <1 °C |
| Initial boiling point and boiling range: | >100 °C |
| Sublimation point: | not applicable |
| Softening point: | not applicable |
| Pour point: | not applicable |
| : | no data available |
| Flash point: | not applicable |
| Sustaining combustion: | No data available |

**Flammability**

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

**Explosive properties**

not applicable

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

**Auto-ignition temperature**

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

| | |
|---|---|
| Gas: | not applicable |
| Decomposition temperature: | no data available |

**Oxidizing properties**

not applicable

| | |
|---|---|
| Vapour pressure: | no data available |
| Vapour pressure: | no data available |
| Density (at 20 °C): | 1,07 g/cm³ |
| Bulk density: | not applicable |
| Water solubility: | soluble |

**Solubility in other solvents**

no data available

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

**9.2. Other information**

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

May be corrosive to metals.
Mild steel : 8,23 mm/a

## SECTION 10: Stability and reactivity

**10.1. Reactivity**

See also section 10.3

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

No decomposition if stored and applied as directed.

**Further information**

None known.

## SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

**Acute toxicity**

No data is available on the product itself.

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

**Irritation and corrosivity**

Causes severe burns.

**Sensitising effects**

Contains no substance or substances classified as sensitising.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Contains no ingredient listed as a carcinogen

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

No aspiration toxicity classification

**Specific effects in experiment on an animal**

No data is available on the product itself.

**Additional information on tests**

no data available

**Practical experience**

**Observations relevant to classification**

no data available

**Other observations**

no data 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.

Do not flush into surface water or sanitary sewer system.

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

### 12.2. Persistence and degradability

No data is available on the product itself.

| 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**

No data is available on the product itself.

**12.4. Mobility in soil**

no data available

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

no data available

**12.6. Other adverse effects**

No known effect.

**Further information**

no data available

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

**Advice on disposal**

In accordance with local and national regulations.

**Waste disposal number of waste from residues/unused products**

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

**Waste disposal number of used product**

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

**Waste disposal number of contaminated packaging**

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

**Contaminated packaging**

Dispose of as unused product.

## SECTION 14: Transport information

**Land transport (ADR/RID)**

**14.1. UN number:** UN 3265

**14.2. UN proper shipping name:** Corrosive liquid, acidic, organic, n.o.s.

**14.3. Transport hazard class(es):** 8

**14.4. Packing group:** III

**Inland waterways transport (ADN)**

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

Not tested

**Marine transport (IMDG)**

**14.1. UN number:** UN 3265

**14.2. UN proper shipping name:** Corrosive liquid, acidic, organic, n.o.s. (Citric acid solution)

**14.3. Transport hazard class(es):** 8

**14.4. Packing group:** III

Marine pollutant: --

EmS: F-A,S-B

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

**14.1. UN number:** UN 3265

**14.2. UN proper shipping name:** Corrosive liquid, acidic, organic, n.o.s. (Citric acid solution)

**14.3. Transport hazard class(es):** 8

**14.4. Packing group:** III

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

no data available

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

not applicable

**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 Number3316, Package group II, EMS Code: F-A, S-P

## SECTION 15: Regulatory information

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

**National regulatory information**

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: 27.11.2017
Safety datasheet sections which have been updated: 2
Revision: 27.04.2015
Safety datasheet sections which have been updated: 2, 9
Revision: 22.01.2015
Safety datasheet sections which have been updated: 2, 9

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

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H290 | May be corrosive to metals. |
| H314 | Causes severe skin burns and eye damage. |
| 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.

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

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

### 1.1. Product identifier

23864-20 Amino Acid F Reagent Solution

### 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.<br>5, Pacific Way<br>Salford Manchester M50 1DL - United Kingdom<br>Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324<br>e-Mail: info-uk@hach.com<br><br>HACH LANGE Ltd.<br>Unit 1, Chestnut Road Western Industrial Estate<br>IRL-Dublin 12<br>Tel. +353 (0)1 4602522<br>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 Dam. 1
Respiratory or skin sensitisation: Resp. Sens. 1
Hazard Statements:
Causes skin irritation.
Causes serious eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### 2.2. Label elements

**Regulation (EC) No. 1272/2008**

**Hazard components for labelling**

sodium metabisulphite

**Signal word:** Danger

**Pictograms:**

**Hazard statements**

| | |
|---|---|
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |

**Precautionary statements**

| | |
|---|---|
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P284 | Wear respiratory protection. |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| 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. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310 | Immediately call a POISON CENTER/doctor. |

**Additional advice on labelling**

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

### 2.3. Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

**Hazardous components**

| CAS No | Chemical name | | | Quantity |
|---|---|---|---|---|
| | EC No | Index No | REACH No | |
| | GHS Classification | | | |
| 7732-18-5 | Water | | | 80-90 % |
| | 231-791-2 | | | |
| | | | | |
| 7681-57-4 | sodium metabisulphite | | | 5-10 % |
| | 231-673-0 | | 01-2119531326-45 | |
| | Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Resp. Sens. 1, STOT SE 3, Aquatic Chronic 3; H332 H312 H302 H315 H318 H334 H335 H412 EUH031 | | | |
| 124-68-5 | 2-amino-2-methylpropanol | | | 5-10 % |
| | 204-709-8 | 603-070-00-6 | | |
| | Eye Irrit. 2, Skin Irrit. 2, Aquatic Chronic 3; H319 H315 H412 | | | |
| confidential | Fast Amino Acid | | | <1 % |
| | | | | |
| | | | | |

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General information**

Take off all contaminated clothing immediately.

**After inhalation**

Move to fresh air.

**After contact with skin**

Wash off immediately with plenty of water.

**After contact with eyes**

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

**After ingestion**

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

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

reizende Wirkungen, Allergische Reaktionen, Shortness of breath, Cough

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

Treat symptomatically.

## SECTION 5: Firefighting measures

**5.1. Extinguishing media**

**Suitable extinguishing media**

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

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

Fire may liberate hazardous vapours.

**5.3. Advice for firefighters**

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

**Additional information**

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

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment.

**6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

**6.3. Methods and material for containment and cleaning up**

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

**6.4. Reference to other sections**

13. Disposal considerations

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

**Advice on safe handling**

Use only in well-ventilated areas.
Avoid contact with skin and eyes.

**Advice on protection against fire and explosion**

See also section 5

**7.2. Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**

Keep in a dry, cool place.

**Hints on joint storage**

Keep away from oxidising agents and strongly acid or alkaline materials.

### 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/m³ | fibres/ml | Category | Origin |
|---|---|---|---|---|---|---|
| 7681-57-4 | Disodium disulphite | - | 5 | | TWA (8 h) | WEL |

**Additional advice on limit values**

None known.

### 8.2. Exposure controls



**Appropriate engineering controls**

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

**Protective and hygiene measures**

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Wash hands before breaks and after work.

**Eye/face protection**

Safety glasses with side-shields

**Hand protection**

Use barrier skin cream.
Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact: Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

**Skin protection**

Remove and wash contaminated clothing before re-use.

**Respiratory protection**

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

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Physical state: | liquid |
| Colour: | tan |
| Odour: | sweet |
| pH-Value (at 20 °C): | 7,4 |

**Changes in the physical state**

| | |
|---|---|
| Melting point: | -7 °C |
| Initial boiling point and boiling range: | 99 °C |
| Sublimation point: | not applicable |

| | |
|---|---|
| Softening point: | not applicable |
| Pour point: | not applicable |
| : | no data available |
| Flash point: | 93 °C |
| Sustaining combustion: | No data available |

**Flammability**

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

**Explosive properties**

not applicable

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

**Auto-ignition temperature**

| | |
|---|---|
| Solid: | not applicable |
| Gas: | not applicable |
| Decomposition temperature: | no data available |

**Oxidizing properties**

not applicable

| | |
|---|---|
| Vapour pressure: | no data available |
| Vapour pressure: | no data available |
| Density (at 20 °C): | 1,15 g/cm³ |
| Bulk density: | not applicable |
| Water solubility: | soluble |

**Solubility in other solvents**

no data available

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

### 9.2. Other information

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

no data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

See also section 10.3

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

Oxidizing agents

**10.6. Hazardous decomposition products**

Sulphur oxides
Carbon oxides

**Further information**

None known.

## SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

**Acute toxicity**

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

| CAS No | Chemical name | | | | | |
|---|---|---|---|---|---|---|
| | Exposure route | Dose | | Species | Source | Method |
| 7681-57-4 | sodium metabisulphite | | | | | |
| | oral | LD50 mg/kg | 1131 | Rat | | |
| | dermal | LD50 mg/kg | 2000 | Rat | RTECS | |
| | inhalation vapour | ATE | 11 mg/l | | | |
| | inhalation (4 h) aerosol | LC50 | 2,01 mg/l | Rat | | |
| 124-68-5 | 2-amino-2-methylpropanol | | | | | |
| | oral | LD50 mg/kg | 2900 | Rat | IUCLID | |
| | dermal | LD50 mg/kg | > 2000 | Rabbit | IUCLID | |
| confidential | Fast Amino Acid | | | | | |
| | oral | LD50 mg/kg | >=2000 | Rat | | |

**Irritation and corrosivity**

Causes skin irritation.
Causes serious eye damage.

**Sensitising effects**

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (sodium metabisulphite)

**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.

**Specific effects in experiment on an animal**

No data is available on the product itself.

**Additional information on tests**

no data available

**Practical experience**

**Observations relevant to classification**

no data available

**Other observations**

no data 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.

Do not flush into surface water or sanitary sewer system.

| CAS No | Chemical name | | | | | | |
|---|---|---|---|---|---|---|---|
| | Aquatic toxicity | Dose | | [h] \| [d] | Species | Source | Method |
| 7681-57-4 | sodium metabisulphite | | | | | | |
| | Acute fish toxicity | LC50 | 32 mg/l | 96 h | Lepomis macrochirus (Bluegill sunfish) | OECD | |
| | Acute crustacea toxicity | EC50 | 89 mg/l | 48 h | Daphnia magna (Water flea) | OECD | |
| 124-68-5 | 2-amino-2-methylpropanol | | | | | | |
| | Acute fish toxicity | LC50 | 190 mg/l | 96 h | Lepomis macrochirus | IUCLID | |
| | Acute algae toxicity | ErC50 | 520 mg/l | 72 h | Desmodesmus subspicatus | | |
| 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 is available on the product itself.

**Partition coefficient n-octanol/water**

| CAS No | Chemical name | Log Pow |
|---|---|---|
| 124-68-5 | 2-amino-2-methylpropanol | -0,74 |

### 12.4. Mobility in soil

no data available

### 12.5. Results of PBT and vPvB assessment

no data available

### 12.6. Other adverse effects

No known effect.

**Further information**

no data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Advice on disposal**

In accordance with local and national regulations.

**Waste disposal number of waste from residues/unused products**

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

**Waste disposal number of used product**

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

**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 applicable

**Other applicable information**

no data available

## SECTION 15: Regulatory information

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

**National regulatory information**

Water contaminating class (D): 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: 14.06.2019
Safety datasheet sections which have been updated: 2, 3, 4, 8, 11, 15,
Safety datasheet sections which have been updated: 2, 4, 11
Revision: 28.05.2015
Safety datasheet sections which have been updated: 2, 4, 11
This data sheet contains changes from the previous version in section(s): 2, 9, 10, 15

**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 Dam. 1; H318 | Calculation method |
| Resp. Sens. 1; H334 | Calculation method |

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

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H312 | Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| 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.)*