

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1934-32 Amino Acid Reagent

Revision date: 03.01.2019

Product code: 193432

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

1934-32 Amino Acid Reagent

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:

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Resp. Sens. 1

Reproductive toxicity: Repr. 1B

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Causes serious eye damage.

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

May damage the unborn child.

May cause respiratory irritation.

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

sodium metabisulphite

N,N-dimethylformamide; dimethyl formamide

Signal word: Danger

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Pictograms:



Hazard statements

- H318 Causes serious eye damage.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H360D May damage the unborn child.
 H335 May cause respiratory irritation.

Precautionary statements

- P201 Obtain special instructions before use.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 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.
 P310 Immediately call a POISON CENTER/doctor.
 P308+P313 IF exposed or concerned: Get medical advice/attention.
 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

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 | | | 65-75 % |
| | 231-791-2 | | | |
| 68-12-2 | N,N-dimethylformamide; dimethyl formamide | | | 20-30 % |
| | 200-679-5 | 616-001-00-X | | |
| | Repr. 1B, Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2; H360D *** H332 H312 H319 | | | |
| 7681-57-4 | sodium metabisulphite | | | 1-10 % |
| | 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 | | | |
| 7757-83-7 | Sodium sulfite | | | 1-5 % |
| | 231-821-4 | | | |
| | EUH031 | | | |

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

Further Information

This product contains substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
 N,N-dimethylformamide; dimethyl formamide

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SECTION 4: First aid measures

4.1. Description of first aid measures

General information

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

After inhalation

Move to fresh air. Call a physician immediately.

After contact with skin

Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Call a physician immediately.

After contact with eyes

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

After ingestion

Ingest immediately about 350 ml (5 ml/kg body weight) of activated charcoal slurry. Note: To prepare activated charcoal slurry, mix thoroughly 50 g of activated charcoal in 400 ml (about 2 cups) water.
Never give anything by mouth to an unconscious person.
Induce vomiting immediately and call a physician.

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.

Unsuitable extinguishing media

None known.

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., nitrogen oxides (NOx), 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

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

6.4. Reference to other sections

13. Disposal considerations

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes.
Do not breathe vapours or spray mist.
Wash thoroughly after handling.

Advice on protection against fire and explosion

None known.
See also section 5

Further information on handling

Observe label precautions.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep away from heat and sources of ignition.
Keep at temperatures between 10 and 25 °C.

Hints on joint storage

Protect against Acids, Oxidizing agents, Alkali metals

Further information on storage conditions

Keep locked up or in an area accessible only to qualified or authorised persons.

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 |
| 68-12-2 | N,N-Dimethylformamide | 5 | 15 | | TWA (8 h) | WEL |
| | | 10 | 30 | | STEL (15 min) | 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

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Skin protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Provide adequate ventilation.

Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

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

| | |
|----------------------|------------|
| Physical state: | liquid |
| Colour: | yellow |
| Odour: | amine-like |
| pH-Value (at 20 °C): | 5,8 |

Changes in the physical state

| | |
|--|-------------------|
| Melting point: | no data available |
| Initial boiling point and boiling range: | 102 °C |
| Sublimation point: | not applicable |
| Softening point: | not applicable |
| Pour point: | no data available |
| 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: | no data available |
|----------------------------|-------------------|

Oxidizing properties

not applicable

| | |
|---------------------|-------------------------|
| Vapour pressure: | no data available |
| Density (at 20 °C): | 1,065 g/cm ³ |
| 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 |

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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

Reactivity Hazard: Oxidizing agents

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

To avoid thermal decomposition, do not overheat.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Nitric acid, Alkali metals, Oxidizing agents

10.6. Hazardous decomposition products

nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO₂)

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

LD₅₀/oral/rat = >5000 mg/kg

| CAS No | Chemical name | Exposure route | Dose | Species | Source | Method |
|-----------|---|--------------------------|------------------------------|---------|--------|--------|
| 68-12-2 | N,N-dimethylformamide; dimethyl formamide | dermal | ATE 1100 mg/kg | | | |
| | | inhalation vapour | ATE 11 mg/l | | | |
| | | inhalation aerosol | ATE 1,5 mg/l | | | |
| 7681-57-4 | sodium metabisulphite | oral | LD ₅₀ 1131 mg/kg | Rat | | |
| | | dermal | LD ₅₀ >2000 mg/kg | Rat | | |
| | | inhalation vapour | ATE 11 mg/l | | | |
| | | inhalation (4 h) aerosol | LC ₅₀ 2,01 mg/l | Rat | | |
| 7757-83-7 | Sodium sulfite | oral | LD ₅₀ 2610 mg/kg | rat | | |
| | | inhalation (4 h) aerosol | LC ₅₀ >5,5 mg/l | rat | | |

Irritation and corrosivity

H318 - Causes serious eye damage.

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Sensitising effects

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. (sodium metabisulphite)

Carcinogenic/mutagenic/toxic effects for reproduction

May cause harm to the unborn child. (N,N-dimethylformamide; dimethyl formamide)

STOT-single exposure

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

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

In some animal tests formamide has shown teratogenic effects.

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 |
| 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) | | |
| 7757-83-7 | Sodium sulfite | | | | | |
| | Acute fish toxicity | LC50 315 mg/l | 96 h | | | |

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 |
|---------|---|---------|
| 68-12-2 | N,N-dimethylformamide; dimethyl formamide | 0,85 |

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.

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

Dispose of as special waste in compliance with local and national regulations.

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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)**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**EU regulatory information**

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):
N,N-dimethylformamide; dimethyl formamide

Restrictions on use (REACH, annex XVII):

Entry 30: N,N-dimethylformamide; dimethyl formamide

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):

1 - slightly water contaminating

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15.2. Chemical safety assessment

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

SECTION 16: Other information**Changes**

Revision: 03.01.2019

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

Revision: 28.04.2016

Safety datasheet sections which have been updated: 2, 3, 11

Revision: 12.04.2016

Safety datasheet sections which have been updated: 3

Revision: 28.05.2015

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

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

| Classification | Classification procedure |
|---------------------|--------------------------|
| Eye Dam. 1; H318 | Calculation method |
| Resp. Sens. 1; H334 | Calculation method |
| Repr. 1B; H360D | Calculation method |
| STOT SE 3; H335 | 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. |
| H360D | May damage the unborn child. |
| 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.)

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2236-32 Molybdate Reagent

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

2236-32 Molybdate Reagent

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:

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

Skin corrosion/irritation: Skin Corr. 1A

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**

sulphuric acid ... %

Signal word: Danger**Pictograms:****Hazard statements**

H290

May be corrosive to metals.

H314

Causes severe skin burns and eye damage.

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Precautionary statements

| | |
|----------------|--|
| P234 | Keep only in original packaging. |
| P264 | Wash thoroughly after handling. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

Additional advice on labelling

Classification according to European directive on classification of hazardous preparations 1999/45/EC.

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] | | | |
| 7732-18-5 | Water | | | 35-45 % |
| | 231-791-2 | | | |
| 7664-93-9 | sulphuric acid ... % | | | 40 - 50 % |
| | 231-639-5 | | | |
| | Met. Corr. 1, Skin Corr. 1A; H290 H314 | | | |
| 12054-85-2 | Ammonium heptamolybdate tetrahydrate | | | 1-10 % |
| | 234-722-4 | | | |
| | Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H302 H315 H319 H335 | | | |

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.
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. Call a physician immediately. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

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. Call a physician immediately.

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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

Carbon dioxide (CO₂), Dry chemical

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

Unsuitable extinguishing media

Water

5.2. Special hazards arising from the substance or mixture

The following may develop in event of fire: sulfur oxides., nitrogen oxides (NO_x), Ammonia

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. Avoid contact with clothing.

Do not breathe vapours or spray mist.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep containers tightly closed in a cool, well-ventilated place.

Hints on joint storage

Do not store together with Oxidizing agents, Solvent, Bases, Metals

Further information on storage conditions

Keep locked up or in an area accessible only to qualified or authorised persons.

7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection

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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 |

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.

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): | <0,5 |

Changes in the physical state

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

Auto-ignition temperature

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| | |
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| 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): | 1,30 g/cm ³ |
| Bulk density: | no data available |
| Water solubility: (at 20 °C) | miscible |
| 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: | no data available |
| Corrosive in contact with metals | |

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 avoidExtremes of temperature and direct sunlight.
To avoid thermal decomposition, do not overheat.**10.5. Incompatible materials**Strong bases, Solvent, Acetic acid
Incompatible with oxidizing agents.
Gives off hydrogen by reaction with metals.**10.6. Hazardous decomposition products**Sulphur oxides, nitrogen oxides (NO_x), Ammonia**Further information**

Stable under recommended storage conditions.

SECTION 11: Toxicological information

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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 |
| 7664-93-9 | sulphuric acid ... % | | | | |
| | oral | LD50 mg/kg | 2140 | rat | |
| 12054-85-2 | Ammonium heptamolybdate tetrahydrate | | | | |
| | oral | ATE mg/kg | 500 | | |

Irritation and corrosivity

The product causes burns of eyes, skin and mucous membranes.

Sensitising effects

No known effect.

STOT-repeated exposure

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

Specific effects in experiment on an animal

No toxicology information is available.

Additional information on tests

None known.

Practical experience
Other observations

None known.

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 |
| 12054-85-2 | Ammonium heptamolybdate tetrahydrate | | | | | |
| | Acute fish toxicity | LC50 | 420 mg/l | 96 h | | |
| | Acute crustacea toxicity | EC50 | 140 mg/l | 48 h | | |

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.

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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 < 45 % - solution) |
| 14.3. Transport hazard class(es): | 8 |
| 14.4. Packing group: | III |
| Hazard label: | 8 |



| | |
|--------------------------|-----|
| Classification code: | C1 |
| Special Provisions: | 274 |
| Limited quantity: | 5 L |
| Excepted quantity: | E1 |
| Transport category: | 3 |
| Hazard No: | 80 |
| Tunnel restriction code: | E |

Inland waterways transport (ADN)**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. (<45% Sulphuric acid solution) |
| 14.3. Transport hazard class(es): | 8 |
| 14.4. Packing group: | III |
| Hazard label: | 8 |



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Marine pollutant: -
Special Provisions: 223, 274
Limited quantity: 5 L
Excepted quantity: E1
EmS: F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 3264
14.2. UN proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (<45% Sulphuric acid solution)
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8



Special Provisions: A3 A803
Limited quantity Passenger: 1 L
Passenger LQ: Y841
Excepted quantity: E1
IATA-packing instructions - Passenger: 852
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 856
IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

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

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): 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: 16.05.2013

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Relevant H and EUH statements (number and full text)

| | |
|------|--|
| H290 | May be corrosive to metals. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory 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.)