

Safety Data Sheet

according to Regulation (EC) No 1907/2006

27603-00 TOC, LR, Acid Digestion Vials

Revision date: 17.07.2015

Product code: 2760300

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

27603-00 TOC, LR, Acid Digestion Vials

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:

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**

Signal word: Warning

Pictograms:

**Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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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

3.2. 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 | | | >85 % |
| | 231-791-2 | | | |
| 7664-93-9 | sulphuric acid ... % | | | 5-15 % |
| | 231-639-5 | 016-020-00-8 | | |
| | Skin Corr. 1A; 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.
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. Consult a physician.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. Show this safety data sheet to the doctor in attendance.

After contact with eyes

Rinse immediately with plenty of water for at least 15 minutes. Call a physician immediately.

After ingestion

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

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

Irritation and corrosion, Cough, Shortness of breath

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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Suitable extinguishing media

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 product itself does not burn.

Gives off hydrogen by reaction with metals. Reacts violently with water.

Fire may liberate hazardous vapours.

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.

Do not breathe vapours or spray mist. Use only in well-ventilated areas.

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. Keep container tightly closed in a dry and well-ventilated place.

Hints on joint storage

Protect against Bases, Oxidizing agents, 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

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

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

Reacts with the following substances: Alkali metals, Alkaline earth metals, Metals, Bases

10.4. Conditions to avoid

Extremes of temperature and direct sunlight. Decomposes on heating.

10.5. Incompatible materials

Bases, Oxidizing agents

10.6. Hazardous decomposition products

Gives off hydrogen by reaction with metals.

Further information

Stable under recommended storage conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

No data is available on the product itself.

Irritation and corrosivity

May cause eye and skin irritation.

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Sensitising effects

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

STOT-single exposure

No known effect.

STOT-repeated exposure

No known effect.

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.

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.

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**

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

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Land transport (ADR/RID)


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

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 |

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| | | |
|--|------|------|
| Passenger LQ: | Y841 | |
| Excepted quantity: | E1 | |
| IATA-packing instructions - Passenger: | | 852 |
| IATA-max. quantity - Passenger: | | 5 L |
| IATA-packing instructions - Cargo: | | 856 |
| IATA-max. quantity - Cargo: | | 60 L |

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no 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 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****EU regulatory information****Additional information**

Classification according to EU Directives 67/548/EEC or 1999/45/EC
The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

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: 28.052015
Safety datasheet sections which have been updated: 2, 11

Relevant H and EUH statements (number and full text)

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.)

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

1.1. Product identifier

2789510 Low Range TOC Indicator Ampules

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

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

2.2. Label elements

Additional advice on labelling

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

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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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 | | | >99 % |
| | 231-791-2 | | | |
| 10102-17-7 | Sodium thiosulfate | | | < 1 % |
| | 231-867-5 | | | |
| 1330-43-4 | disodium tetraborate, anhydrous; boric acid, disodium salt | | | 0,01 % |
| | 215-540-4 | 005-011-00-4 | | |
| | Repr. 1B; H360FD | | | |
| 76-61-9 | Thymol blue | | | < 0,05 % |
| | 200-973-3 | | | |

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

Immediately flush eye(s) with plenty of water. If eye irritation persists, consult a specialist.

After ingestion

Drink plenty of water. If you feel unwell, seek medical advice (show the label where possible).

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

No known effect.

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

The product itself does not burn.

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

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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

Do not get in 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 away from heat. Keep container tightly closed in a dry and well-ventilated 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/m ³ | fibres/ml | Category | Origin |
|-----------|---------------------------------|-----|-------------------|-----------|-----------|--------|
| 1330-43-4 | Disodium tetraborate, anhydrous | - | 1 | | 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:

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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: | blue |
| Odour: | odourless |
| pH-Value (at 20 °C): | 10,15 |

Changes in the physical state

| | |
|--|-------------------|
| Melting point: | 0 °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: | no data available |
| 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 |

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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

No dangerous reaction known under conditions of normal use.

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

Heat.

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 |
| 10102-17-7 | Sodium thiosulfate | | | | |
| | oral | LD50 mg/kg | >5000 | rat | RTECS |

Irritation and corrosivity

No known effect.

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.

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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 |
| 10102-17-7 | Sodium thiosulfate | | | | | |
| | Acute fish toxicity | LC50 mg/l | >10000 | 96 h | | |
| | Acute crustacea toxicity | EC50 mg/l | 1223 | 48 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.

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

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Waste disposal number of used product

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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 classified as dangerous in the meaning of transport regulations.

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

Other applicable information (marine transport)

Not classified as dangerous in the meaning of transport regulations.

Air transport (ICAO-TI/IATA-DGR)

Other applicable information (air transport)

Not classified as dangerous in the meaning of 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

EU regulatory information

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):
disodium tetraborate, anhydrous; boric acid, disodium salt

Restrictions on use (REACH, annex XVII):

Entry 30: disodium tetraborate, anhydrous; boric acid, disodium salt

National regulatory information

Water contaminating class (D): -- not water contaminating

15.2. Chemical safety assessment

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



Safety Data Sheet

according to Regulation (EC) No 1907/2006

2789510 Low Range TOC Indicator Ampules

Revision date: 17.07.2015

Product code: 2789510

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SECTION 16: Other information

Relevant H and EUH statements (number and full text)

H360FD May damage fertility. May damage the unborn child.

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.)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

27901-66 TOC Persulfate

Revision date: 27.04.2018

Product code: 2790166

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

27901-66 TOC Persulfate

CAS No: 7727-21-1
Index No: 016-061-00-1
EC No: 231-781-8

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:

Oxidising solid: Ox. Sol. 3

Acute toxicity: Acute Tox. 4

Serious eye damage/eye irritation: Eye Irrit. 2

Specific target organ toxicity - single exposure: STOT SE 3

Skin corrosion/irritation: Skin Irrit. 2

Respiratory or skin sensitisation: Resp. Sens. 1

Respiratory or skin sensitisation: Skin Sens. 1

Hazard Statements:

May intensify fire; oxidiser.

Harmful if swallowed.

Causes serious eye irritation.

May cause respiratory irritation.

Causes skin irritation.

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

May cause an allergic skin reaction.

2.2. Label elements

Safety Data Sheet

according to Regulation (EC) No 1907/2006

27901-66 TOC Persulfate

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Regulation (EC) No. 1272/2008

Hazard components for labelling

dipotassium peroxodisulphate; potassium persulphate

Signal word: Danger

Pictograms:



Hazard statements

| | |
|------|--|
| H272 | May intensify fire; oxidiser. |
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H317 | May cause an allergic skin reaction. |
| H335 | May cause respiratory irritation. |

Precautionary statements

| | |
|----------------|--|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P342+P311 | If experiencing respiratory symptoms: Call a POISON CENTER/doctor. |
| 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. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |
| P302+P352 | IF ON SKIN: Wash with plenty of water. |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P301+P312 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. |

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] | |
| 7727-21-1 | dipotassium peroxodisulphate; potassium persulphate | 100 % |
| | 231-781-8 | 016-061-00-1 |
| | Ox. Sol. 3, Acute Tox. 4, Eye Irrit. 2, STOT SE 3, Skin Irrit. 2, Resp. Sens. 1, Skin Sens. 1; H272 H302 H319 H335 H315 H334 H317 | |

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.
If symptoms persist, call a physician.

After contact with skin

Wash off immediately with plenty of water. If symptoms persist, call a physician. 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 ingestion

Clean mouth with water and drink afterwards plenty of water. Call a physician immediately. Show this safety data sheet to the doctor in attendance. Do NOT induce vomiting.

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

Allergic reactions, sensitising effects, irritant effects

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Dry powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water, Foam

5.2. Special hazards arising from the substance or mixture

Oxidising

Keep away from combustible material. Fire may liberate hazardous vapours. The following may develop in event of fire: sulfur 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. Avoid contact with skin, eyes and clothing.

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.

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, eyes and clothing.

Advice on protection against fire and explosion

Strong oxidizing agents

Safety Data Sheet

according to Regulation (EC) No 1907/2006

27901-66 TOC Persulfate

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7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a dry and well-ventilated place.

Hints on joint storage

Keep away from combustible material.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|-----------|---|-----|-------------------|-----------|-----------|--------|
| 7727-21-1 | (OLD) Dipotassium peroxodisulphate (measured as [S208]) | - | 1 | | TWA (8 h) | OES |

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.

Smoking, eating and drinking should be prohibited in the application area.

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.

Recommended Filter type: ABEK-filter

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

Test method

pH-Value (at 20 °C): 4,1 (5 % solution)

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according to Regulation (EC) No 1907/2006

27901-66 TOC Persulfate

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Changes in the physical state

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

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

Decomposition temperature: approx. 100 °C

Oxidizing properties

Oxidising

Vapour pressure: not applicable

Density (at 20 °C): 2,48 g/cm³Bulk density: approx. 1150 kg/m³Water solubility:
(at 20 °C) 52 g/L**Solubility in other solvents**

no data available

Partition coefficient: no data available

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**

Reactivity Hazard: Oxidizing agents

10.2. Chemical stability

Stable under recommended storage conditions.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

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10.3. Possibility of hazardous reactions

Reacts with the following substances: Water, Metals, Heavy metals, Strong bases, Reducing agents, Acids

10.4. Conditions to avoid

No dangerous reaction known under conditions of normal use.
To avoid thermal decomposition, do not overheat.

10.5. Incompatible materials

Strong bases, Acids, Metals, Reducing agents, Combustible material

10.6. Hazardous decomposition products

Sulphur oxides, nitrogen oxides (NO_x)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No toxicology information is available.

Acute toxicity

No data is available on the product itself.

| CAS No | Chemical name | | | | |
|-----------|---|---------------|---------|--------|--------|
| | Exposure route | Dose | Species | Source | Method |
| 7727-21-1 | dipotassium peroxodisulphate; potassium persulphate | | | | |
| | oral | LD50 mg/kg | 802 | Rat | GESTIS |

Irritation and corrosivity

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

Sensitising effects

May cause sensitisation by skin contact. (dipotassium peroxodisulphate; potassium persulphate)
May cause sensitisation by inhalation. (dipotassium peroxodisulphate; potassium persulphate)

Carcinogenic/mutagenic/toxic effects for reproduction

No known effect.

STOT-single exposure

H335 - May cause respiratory 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

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

Acute fish toxicity = *Poecilia reticulato* LC50: 100 mg/l/96h
Toxicity to daphnia = *Daphnia magna* EC50: 357 mg/l/24h
Toxicity to bacteria = *Pseudomonas putida* EC50: 36 mg/l

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| CAS No | Chemical name | | | | | |
|-----------|---|------|-----------|---------|---------------------|--------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 7727-21-1 | dipotassium peroxodisulphate; potassium persulphate | | | | | |
| | Acute fish toxicity | LC50 | 100 mg/l | 96 h | Poecilia reticulata | Hommel |

12.2. Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

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

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

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

Land transport (ADR/RID)

| | |
|--|-----------------------|
| 14.1. UN number: | UN 1492 |
| 14.2. UN proper shipping name: | Potassium persulphate |
| 14.3. Transport hazard class(es): | 5.1 |
| 14.4. Packing group: | III |
| Hazard label: | 5.1 |



| | |
|----------------------|------|
| Classification code: | O2 |
| Limited quantity: | 5 kg |
| Excepted quantity: | E1 |
| Transport category: | 3 |
| Hazard No: | 50 |

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Product code: 2790166

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Tunnel restriction code: E

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

Not tested

Marine transport (IMDG)

14.1. UN number: UN 1492
14.2. UN proper shipping name: Potassium persulphate
14.3. Transport hazard class(es): 5.1
14.4. Packing group: III
Hazard label: 5.1



Marine pollutant: --
Special Provisions: -
Limited quantity: 5 kg
Excepted quantity: E1
EmS: F-A, S-Q

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1492
14.2. UN proper shipping name: Potassium persulphate
14.3. Transport hazard class(es): 5.1
14.4. Packing group: III
Hazard label: 5.1



Special Provisions: A803
Limited quantity Passenger: 10 kg
Passenger LQ: Y546
Excepted quantity: E1
IATA-packing instructions - Passenger: 559
IATA-max. quantity - Passenger: 25 kg
IATA-packing instructions - Cargo: 563
IATA-max. quantity - Cargo: 100 kg

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

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

Safety Data Sheet

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27901-66 TOC Persulfate

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Product code: 2790166

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

EU regulatory information

Additional information

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

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

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

SECTION 16: Other information

Changes

Revision: 17.04.2018

Safety datasheet sections which have been updated: 2, 4, 8, 11, 13

Revision: 6.03.2017

Safety datasheet sections which have been updated: 2

Revision: 13.12.2016

Safety datasheet sections which have been updated: 2, 4, 8, 11

Relevant H and EUH statements (number and full text)

| | |
|------|--|
| H272 | May intensify fire; oxidiser. |
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| 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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

45233 Buffer Solution, pH 2,0

Revision date: 12.03.2015

Product code: 45233

Page 1 of 7

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

45233 Buffer Solution, pH 2,0

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

Hazard Statements:

Causes serious eye damage.

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

sodium hydrogensulphate

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

H318 Causes serious eye damage.

Precautionary statements

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

45233 Buffer Solution, pH 2,0

Revision date: 12.03.2015

Product code: 45233

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P310 present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.

Additional advice on labelling

Classification according to EU Directives 67/548/EEC or 1999/45/EC

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 | | | |
| 7757-82-6 | Sodium sulfate | | | 10-20 % |
| | 231-820-9 | | | |
| 7681-38-1 | sodium hydrogensulphate | | | 10-15 % |
| | 231-665-7 | 016-046-00-X | | |
| | Eye Dam. 1; H318 | | | |

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

No hazards which require special first aid measures.

After contact with skin

Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes.

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. 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**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

45233 Buffer Solution, pH 2,0

Revision date: 12.03.2015

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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

The product itself does not burn.

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

Should not be released into the environment.

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). Should not be released into the environment.

6.4. Reference to other sections

Neutralise with the following product(s): Cover with dry sodium carbonate. pH 6-9
Flush into sewer with plenty of water.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Do not get in eyes, on skin, or on clothing. General hygiene considerations

Further information on handling

Wash thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

45233 Buffer Solution, pH 2,0

Revision date: 12.03.2015

Product code: 45233

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Eye/face protection

Safety glasses with side-shields

Hand protection

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

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 0.40 mm, Breakthrough time: > 30 min

Skin protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Provide adequate ventilation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|----------------------|-----------|
| Physical state: | liquid |
| Colour: | clear |
| Odour: | odourless |
| pH-Value (at 20 °C): | 2,0 |

Changes in the physical state

| | |
|--|-------------------|
| Melting point: | no data available |
| Initial boiling point and boiling range: | 100 °C |
| Sublimation point: | not applicable |
| Softening point: | not applicable |
| Pour point: | 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: | 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): | 1,198 g/cm ³ |
| Bulk density: | not applicable |
| Water solubility: (at 20 °C) | soluble |

Safety Data Sheet

according to Regulation (EC) No 1907/2006

45233 Buffer Solution, pH 2,0

Revision date: 12.03.2015

Product code: 45233

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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

Risk of violent reaction.: calcium hypochlorite

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

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Sodium oxides, Sulphur oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No toxicology information is available.

Acute toxicity

No data is available on the product itself.

| CAS No | Chemical name | | | | |
|-----------|----------------|---------------|---------|--------|--------|
| | Exposure route | Dose | Species | Source | Method |
| 7757-82-6 | Sodium sulfate | | | | |
| | oral | LD50 mg/kg | 5989 | mouse | |

Irritation and corrosivity

Causes burns.

Sensitising effects

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

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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.

| CAS No | Chemical name | | | | | |
|-----------|--------------------------|------|-----------|---------|------------------|--------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 7757-82-6 | Sodium sulfate | | | | | |
| | Acute fish toxicity | LC50 | 120 mg/l | 96 h | Gambusia affinis | Merck |
| | Acute crustacea toxicity | EC50 | 2564 mg/l | 48 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.

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

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)

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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

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: 12.03.2015

Safety datasheet sections which have been updated: 2-16

Relevant H and EUH statements (number and full text)

H318 Causes serious eye damage.

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.)