

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**1043-99 Chloride 2 Indicator**

Revision date: 24.04.2019

Product code: 104399

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

1043-99 Chloride 2 Indicator

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

Water analysis

**1.3. Details of the supplier of the safety data sheet**

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

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

**1.4. Emergency telephone number:**

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

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

Hazard categories:

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Skin Sens. 1

Germ cell mutagenicity: Muta. 1B

Carcinogenicity: Carc. 1B

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Acute 1

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer by inhalation.

May cause respiratory irritation.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

**2.2. Label elements**

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

##### Hazard components for labelling

potassium chromate

**Signal word:** Danger

##### Pictograms:



##### Hazard statements

H302 Harmful if swallowed.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H335 May cause respiratory irritation.  
 H340 May cause genetic defects.  
 H350i May cause cancer by inhalation.  
 H410 Very toxic to aquatic life with long lasting effects.

##### Precautionary statements

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.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P391 Collect spillage.

##### Special labelling of certain mixtures

Restricted to professional users.

##### Additional advice on labelling

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

#### 2.3. Other hazards

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

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

| CAS No    | Chemical name   | Quantity |
|-----------|---|----------|
|           | EC No   |          |
|           | Index No  |          |
|           | REACH No  |          |
|           | GHS Classification  |          |
| 144-55-8  | Sodium hydrogen carbonate   | 45-55 %  |
|           | 205-633-8   |          |
|           |   |          |
| 7789-00-6 | potassium chromate  | 45-55 %  |
|           | 232-140-5   |          |
|           | 024-006-00-8  |          |
|           | Carc. 1B, Muta. 1B, Acute Tox. 3, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3, Aquatic Acute 1, Aquatic Chronic 1; H350i H340 H301 H315 H319 H317 H335 H400 H410 |          |

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

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#### Further Information

This product contains substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).  
potassium chromate

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

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

#### After inhalation

Move to fresh air.  
Consult a physician. Show this safety data sheet to the doctor in attendance.

#### 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. 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. Show this safety data sheet to the doctor in attendance.

#### After ingestion

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

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

irritant effects

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

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

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

Fire may liberate hazardous vapours.

### 5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. 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

Use mechanical handling equipment. Treat recovered material as described in the section "Disposal considerations".

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#### 6.4. Reference to other sections

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

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

Use only in well-ventilated areas. Do not breathe vapours/dust.

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

##### Requirements for storage rooms and vessels

Keep tightly closed in a dry, cool and well-ventilated place. Protect against light. Accessible only for authorized 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 <sup>3</sup> | fibres/ml | Category  | Origin |
|--------|---------------------------------|-----|-------------------|-----------|-----------|--------|
| -      | Chromium (VI) compounds (as Cr) | -   | 0.05              |           | TWA (8 h) | WEL    |

##### Biological Monitoring Guidance Values (EH40)

| CAS No | Substance   | Parameter             | Value       | Test material | Sampling time |
|--------|-------------|-----------------------|-------------|---------------|---------------|
|        | Chromium VI | chromium (creatinine) | 10 µmol/mol | urine         | Post shift    |

#### Additional advice on limit values

None known.

#### 8.2. Exposure controls

##### Appropriate engineering controls

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

##### Protective and hygiene measures

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

Wash hands before breaks and after work.

##### Eye/face protection

Safety glasses with side-shields

##### Hand protection

Use barrier skin cream.

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

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

material: nitrile rubber, Layer thickness 0.40 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.

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Recommended Filter type: ABEK-filter

**Environmental exposure controls**

Do not flush into surface water or sanitary sewer system.

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

|                      |                    |
|----------------------|--------------------|
| Physical state:      | solid, powder      |
| Colour:              | light yellow       |
| Odour:               | odourless          |
| pH-Value (at 20 °C): | 8,2 (5 % solution) |

**Changes in the physical state**

|                            |                |
|----------------------------|----------------|
| Melting point:             | not applicable |
| Sublimation point:         | not applicable |
| Softening point:           | not applicable |
| Pour point:                | not applicable |
| Decomposition temperature: | 100 °C         |
| 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: | not applicable |
| Gas:   | not applicable |

Decomposition temperature: no data available

**Oxidizing properties**

no data available

|                                 |                        |
|---------------------------------|------------------------|
| Vapour pressure:                | no data available      |
| Vapour pressure:                | no data available      |
| Density (at 20 °C):             | 2,25 g/cm <sup>3</sup> |
| Bulk density:                   | not applicable         |
| Water solubility:<br>(at 20 °C) | completely 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 |

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Solvent separation test: no data available

Solvent content: no data available

#### 9.2. Other information

Solid content: not applicable

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Corrosive to metals

#### 10.2. Chemical stability

Stable under recommended storage conditions.

#### 10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

#### 10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.

#### 10.5. Incompatible materials

Organic materials,

#### 10.6. Hazardous decomposition products

Chromium oxides

#### Further information

very reactive

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity

Harmful if swallowed.

No data is available on the product itself. Information given is based on data on the components and the toxicology of similar products.

##### ATEmix calculated

ATE (oral) 360,0 mg/kg

| CAS No    | Chemical name             |               |         |        |        |
|-----------|---------------------------|---------------|---------|--------|--------|
|           | Exposure route            | Dose          | Species | Source | Method |
| 144-55-8  | Sodium hydrogen carbonate |               |         |        |        |
|           | oral                      | LD50<br>mg/kg | 4220    | rat    |        |
| 7789-00-6 | potassium chromate        |               |         |        |        |
|           | oral                      | LD50<br>mg/kg | 180     | mouse  |        |

##### Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

##### Sensitising effects

May cause an allergic skin reaction. (potassium chromate)

##### Carcinogenic/mutagenic/toxic effects for reproduction

May cause genetic defects. (potassium chromate)

May cause cancer by inhalation. (potassium chromate)

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

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#### STOT-single exposure

May cause respiratory irritation. (potassium chromate)

#### STOT-repeated exposure

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

#### Aspiration hazard

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

#### Specific effects in experiment on an animal

No 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

May cause long-term adverse effects in the aquatic environment.

Do not flush into surface water or sanitary sewer system.

| CAS No    | Chemical name             |              |           |         |                     |        |
|-----------|---------------------------|--------------|-----------|---------|---------------------|--------|
|           | Aquatic toxicity          | Dose         | [h]   [d] | Species | Source              | Method |
| 144-55-8  | Sodium hydrogen carbonate |              |           |         |                     |        |
|           | Acute fish toxicity       | LC50<br>mg/l | 7550      | 96 h    |                     |        |
|           | Acute crustacea toxicity  | EC50<br>mg/l | 2350      | 48 h    |                     |        |
| 7789-00-6 | potassium chromate        |              |           |         |                     |        |
|           | Acute fish toxicity       | LC50<br>mg/l | 45,6      | 96 h    | Pimephales promelas |        |
|           | Acute crustacea toxicity  | EC50<br>mg/l | 0,18      | 48 h    | Daphnia pulex       |        |

#### 12.2. Persistence and degradability

No data is available on the product itself.

#### 12.3. Bioaccumulative potential

no data available

#### 12.4. Mobility in soil

no data available

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

no data available

#### 12.6. Other adverse effects

Discharge into the environment must be avoided.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Advice on disposal

In accordance with local and national regulations.

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

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

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#### 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

### SECTION 14: Transport information

#### Land transport (ADR/RID)

**14.1. UN number:** UN 3288  
**14.2. UN proper shipping name:** Toxic solid, inorganic, n.o.s.  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III

#### Inland waterways transport (ADN)

**Other applicable information (inland waterways transport)**  
Not tested

#### Marine transport (IMDG)

**14.1. UN number:** UN 3288  
**14.2. UN proper shipping name:** Toxic solid, inorganic, n.o.s. (Potassium chromate mixture)  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III  
Marine pollutant: --  
EmS: F-A,S-A

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

**14.1. UN number:** UN 3288  
**14.2. UN proper shipping name:** Toxic solid, inorganic, n.o.s. (Potassium chromate mixture)  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes



#### 14.6. Special precautions for user

Use personal protective equipment.

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

not applicable

#### 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

##### EU regulatory information

Authorisations (REACH, annex XIV):  
potassium chromate



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Restrictions on use (REACH, annex XVII):

Entry 28: potassium chromate

**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):

3 - highly water contaminating

**Additional information**

professional use

**15.2. Chemical safety assessment**

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

**SECTION 16: Other information****Changes**

Revision: 24.04.2019

Safety datasheet sections which have been updated: 11, 15

Revision: 4.09.2017

Safety datasheet sections which have been updated: 2, 4

Revision: 08.06.2016

Safety datasheet sections which have been updated: 2, 3, 8, 9, 11

Revision: 11.04.2016

Safety datasheet sections which have been updated: 3

Revision: 26.05.2015

Safety datasheet sections which have been updated: 2, 11

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

|       |   |
|-------|---|
| H301  | Toxic if swallowed.                                   |
| H302  | Harmful if swallowed.                                 |
| H315  | Causes skin irritation.                               |
| H317  | May cause an allergic skin reaction.                  |
| H319  | Causes serious eye irritation.                        |
| H335  | May cause respiratory irritation.                     |
| H340  | May cause genetic defects.                            |
| H350i | May cause cancer by inhalation.                       |
| H400  | Very toxic to aquatic life.                           |
| H410  | Very toxic to aquatic life with long lasting effects. |

**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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according to Regulation (EC) No 1907/2006

**23497-32 Sulfuric Acid Standard Solution 0,035N**

Revision date: 08.06.2017

Product code: 2349732

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

23497-32 Sulfuric Acid Standard Solution 0,035N

**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**

sulphuric acid 0,5 %

**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

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

#### Additional advice on labelling

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

#### 2.3. Other hazards

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   |              |          | 90-100 % |
|           | 231-791-2   |              |          |          |
| 67-63-0   | propan-2-ol; isopropyl alcohol; isopropanol                     |              |          | 1-5 %    |
|           | 200-661-7   | 603-117-00-0 |          |          |
|           | Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336           |              |          |          |
| 7664-93-9 | sulphuric acid ... %  |              |          | <0,5 %   |
|           | 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.

##### After inhalation

Move to fresh air.

##### After contact with skin

Wash off immediately with plenty of water.

##### After contact with eyes

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

##### After ingestion

Clean mouth with water and drink afterwards plenty of water.

Consult 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. The

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product itself does not burn.

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

Fire may liberate hazardous vapours.

#### **5.3. Advice for firefighters**

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

#### **Additional information**

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

### SECTION 6: Accidental release measures

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

Use personal protective equipment.

#### **6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

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

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

#### **6.4. Reference to other sections**

13. Disposal considerations

### SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

Use only in well-ventilated areas.

##### **Advice on protection against fire and explosion**

See also section 5

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

##### **Requirements for storage rooms and vessels**

Keep in a dry, cool place.

##### **Hints on joint storage**

None known.

#### **7.3. Specific end use(s)**

Reagent for analysis

### SECTION 8: Exposure controls/personal protection

#### **8.1. Control parameters**

##### **Exposure limits (EH40)**

| CAS No    | Substance             | ppm | mg/m <sup>3</sup> | fibres/ml | Category      | Origin |
|-----------|-----------------------|-----|-------------------|-----------|---------------|--------|
| 67-63-0   | Propan-2-ol           | 400 | 999               |           | TWA (8 h)     | WEL    |
|           |                       | 500 | 1250              |           | STEL (15 min) | WEL    |
| 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**

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

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protective equipment.

#### Protective and hygiene measures

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

Wash hands before breaks and after work.

#### Eye/face protection

Safety glasses with side-shields

#### Hand protection

Use barrier skin cream.

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

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

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

#### Skin protection

Remove and wash contaminated clothing before re-use.

#### Respiratory protection

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

## SECTION 9: Physical and chemical properties

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

|                      |                |
|----------------------|----------------|
| Physical state:      | liquid         |
| Colour:              | colourless     |
| Odour:               | characteristic |
| pH-Value (at 20 °C): | 1,6            |

#### Changes in the physical state

|  |                   |
|--|-------------------|
| Melting point:                           | -1 °C             |
| Initial boiling point and boiling range: | 89 °C             |
| Sublimation point:                       | not applicable    |
| Softening point:                         | not applicable    |
| Pour point:                              | not applicable    |
| :  | no data available |
| Flash point:                             | >100 °C           |
| Sustaining combustion:                   | No data available |

#### Flammability

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

#### Explosive properties

not applicable

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

#### Auto-ignition temperature

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

|                            |                   |
|----------------------------|-------------------|
| Decomposition temperature: | no data available |
|----------------------------|-------------------|

#### Oxidizing properties

not applicable

|                  |                   |
|------------------|-------------------|
| Vapour pressure: | no data available |
|------------------|-------------------|

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|                     |                          |
|---------------------|--------------------------|
| Vapour pressure:    | no data available        |
| Density (at 20 °C): | 0,9943 g/cm <sup>3</sup> |
| Bulk density:       | not applicable           |
| Water solubility:   | soluble                  |

**Solubility in other solvents**

soluble (Acid)

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

**9.2. Other information**

|                   |                |
|-------------------|----------------|
| Solid content:    | not applicable |
| no data available |                |

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

Reactivity Hazard: Oxidizing agents

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

No decomposition if stored and applied as directed.

**Further information**

None known.

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

No data is available on the product itself.

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| CAS No  | Chemical name                               |               |           |        |        |
|---------|---|---------------|-----------|--------|--------|
|         | Exposure route                              | Dose          | Species   | Source | Method |
| 67-63-0 | propan-2-ol; isopropyl alcohol; isopropanol |               |           |        |        |
|         | oral  | LD50<br>mg/kg | 5045      | rat    | RTECS  |
|         | dermal                                      | LD50<br>mg/kg | 12800     | rabbit |        |
|         | inhalation (4 h) vapour                     | LC50          | 46,5 mg/l | rat    |        |

**Irritation and corrosivity**

H318 - Causes serious eye damage.

Skin corrosion: Not applicable.

Test Method: Animal studies, rabbit skin

**Sensitising effects**

Contains no substance or substances classified as sensitising.

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

Contains no ingredient listed as a carcinogen

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

No aspiration toxicity classification

**Specific effects in experiment on an animal**

No data is available on the product itself.

**Additional information on tests**

no data available

**Practical experience****Observations relevant to classification**

no data available

**Other observations**

no data available

**Further information**

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

**SECTION 12: Ecological information****12.1. Toxicity**

No data is available on the product itself.

Do not flush into surface water or sanitary sewer system.

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| CAS No  | Chemical name                               |               |           |         |   |        |
|---------|---|---------------|-----------|---------|---|--------|
|         | Aquatic toxicity                            | Dose          | [h]   [d] | Species | Source  | Method |
| 67-63-0 | propan-2-ol; isopropyl alcohol; isopropanol |               |           |         |   |        |
|         | Acute fish toxicity                         | LC50<br>mg/l  | 1400      | 96 h    | Lepomis macrochirus<br>(Bluegill sunfish)           |        |
|         | Acute algae toxicity                        | ErC50<br>mg/l | > 1000    | 72 h    | Pseudokirchneriella<br>subcapitata (green<br>algae) | IUCLID |
|         | Acute crustacea toxicity                    | EC50<br>mg/l  | 13299     | 48 h    | Daphnia magna<br>(Water flea)                       | IUCLID |

#### 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

##### **Waste disposal number of used product**

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

##### **Waste disposal number of contaminated packaging**

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

##### **Contaminated packaging**

Dispose of as unused product.

### SECTION 14: Transport information

#### **Land transport (ADR/RID)**

##### **Other applicable information (land transport)**

Not subject to transport regulations.

#### **Inland waterways transport (ADN)**



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

Not tested

**Marine transport (IMDG)****Other applicable information (marine transport)**

Not subject to transport regulations.

**Air transport (ICAO-TI/IATA-DGR)****Other applicable information (air transport)**

Not subject to transport regulations.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

no data available

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

not applicable

**Other applicable information**

no data available

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Water contaminating class (D): - - not 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: 8.06.2017

Safety datasheet sections which have been updated: 2, 11

Revision: 27.04.2015

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

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

|      |  |
|------|--|
| H225 | Highly flammable liquid and vapour.      |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage.               |
| H319 | Causes serious eye irritation.           |
| H336 | May cause drowsiness or dizziness.       |

**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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**2349832 Silver Nitrate Titrant 0,0493 N**

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

2349832 Silver Nitrate Titrant 0,0493 N

**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:

Hazardous to the aquatic environment: Aquatic Acute 1

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

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

silver nitrate

**Signal word:** Warning**Pictograms:****Hazard statements**

H410

Very toxic to aquatic life with long lasting effects.

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**Precautionary statements**

P273 Avoid release to the environment.  
P391 Collect spillage.

**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   |              |          | > 95 %   |
|           | 231-791-2   |              |          |          |
| 67-63-0   | propan-2-ol; isopropyl alcohol; isopropanol   |              |          | < 5 %    |
|           | 200-661-7   | 603-117-00-0 |          |          |
|           | Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336   |              |          |          |
| 7761-88-8 | silver nitrate  |              |          | <1 %     |
|           | 231-853-9   | 047-001-00-2 |          |          |
|           | Ox. Sol. 2, Acute Tox. 4, Skin Corr. 1B, STOT SE 3, STOT RE 1, Aquatic Acute 1 (M-Factor = 100), Aquatic Chronic 1 (M-Factor = 100); H272 H302 H314 H335 H372 H400 H410 |              |          |          |

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

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

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

**After inhalation**

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

**After contact with skin**

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

**After contact with eyes**

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**After ingestion**

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

Silver in the form of a finely divided dust may cause discoloration in contact with skin, and argyrosis in case of inhalation.

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

Treat symptomatically.

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Water Dry powder Carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

None known.

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

Fire may liberate hazardous vapours.

### 5.3. Advice for firefighters

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.  
In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

#### Additional information

Prevent fire extinguishing water from contaminating surface water or the ground water system.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## SECTION 6: Accidental release measures

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

Use personal protective equipment.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

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

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

### 6.4. Reference to other sections

13. Disposal considerations

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Use only in well-ventilated areas.  
Wash thoroughly after handling.

#### Advice on protection against fire and explosion

None known.  
See also section 5

#### Further information on handling

Observe label precautions.  
Avoid contact with skin, eyes and clothing.  
Avoid contact with eyes.

### 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.  
Keep away from direct sunlight.

#### Hints on joint storage

None known.

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**Further information on storage conditions**

no data available

**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 <sup>3</sup> | fibres/ml | Category      | Origin |
|---------|----------------------------------|-----|-------------------|-----------|---------------|--------|
| 67-63-0 | Propan-2-ol                      | 400 | 999               |           | TWA (8 h)     | WEL    |
|         |                                  | 500 | 1250              |           | STEL (15 min) | WEL    |
| -       | Silver (soluble compounds as Ag) | -   | 0.01              |           | 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 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**

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

**Environmental exposure controls**

Do not flush into surface water or sanitary sewer system.

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

|                      |              |
|----------------------|--------------|
| Physical state:      | liquid       |
| Colour:              | colourless   |
| Odour:               | alcohol-like |
| pH-Value (at 20 °C): | 3,5          |

**Changes in the physical state**

Melting point: not applicable

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Initial boiling point and boiling range: no data available  
Sublimation point: not applicable  
Softening point: not applicable  
Pour point: no data available  
:  
Flash point: >94,4 °C

**Flammability**

Solid: not applicable  
Gas: not applicable

**Explosive properties**

no data available

Lower explosion limits: no data available  
Upper explosion limits: no data available  
Ignition temperature: no data available

**Auto-ignition temperature**

Solid: not applicable  
Gas: not applicable

Decomposition temperature: no data available

**Oxidizing properties**

no data available

Vapour pressure: no data available

Vapour pressure: no data available

Density (at 20 °C): 1 g/cm<sup>3</sup>

Bulk density: no data available

Water solubility: soluble  
(at 20 °C)**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

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.

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**10.3. Possibility of hazardous reactions**

None known.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**Decomposition products: Carbon dioxide (CO<sub>2</sub>) Carbon monoxide**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.

Health injuries are not known or expected under normal use.

| CAS No    | Chemical name                               |               |           |        |        |
|-----------|---|---------------|-----------|--------|--------|
|           | Exposure route                              | Dose          | Species   | Source | Method |
| 67-63-0   | propan-2-ol; isopropyl alcohol; isopropanol |               |           |        |        |
|           | oral  | LD50<br>mg/kg | 5045      | rat    | RTECS  |
|           | dermal                                      | LD50<br>mg/kg | 12800     | rabbit |        |
|           | inhalation (4 h) vapour                     | LC50          | 46,5 mg/l | rat    |        |
| 7761-88-8 | silver nitrate                              |               |           |        |        |
|           | oral  | LD50<br>mg/kg | 1173      | rat    | RTECS  |

**Irritation and corrosivity**

No known effect.

**Sensitising effects**

No sensitisation responses were observed.

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

Contains no ingredient listed as a carcinogen

**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.

**Additional information on tests**

None known.

**Practical experience****Observations relevant to classification**

None known.

**Other observations**

None known.

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#### 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 information on ecology is available.

Do not flush into surface water or sanitary sewer system.

| CAS No    | Chemical name                               |               |           |         |   |        |
|-----------|---|---------------|-----------|---------|---|--------|
|           | Aquatic toxicity                            | Dose          | [h]   [d] | Species | Source  | Method |
| 67-63-0   | propan-2-ol; isopropyl alcohol; isopropanol |               |           |         |   |        |
|           | Acute fish toxicity                         | LC50<br>mg/l  | 1400      | 96 h    | Lepomis macrochirus<br>(Bluegill sunfish)           |        |
|           | Acute algae toxicity                        | ErC50<br>mg/l | > 1000    | 72 h    | Pseudokirchneriella<br>subcapitata (green<br>algae) | IUCLID |
|           | Acute crustacea toxicity                    | EC50<br>mg/l  | 13299     | 48 h    | Daphnia magna<br>(Water flea)                       | IUCLID |
| 7761-88-8 | silver nitrate                              |               |           |         |   |        |
|           | Acute fish toxicity                         | LC50<br>mg/l  | 0,006     | 96 h    | Oncorhynchus mykiss<br>(rainbow trout)              |        |
|           | Acute crustacea toxicity                    | EC50<br>mg/l  | 0,00156   | 48 h    | Daphnia magna<br>(Water flea)                       |        |

#### 12.2. Persistence and degradability

No data is available on the product itself.

#### 12.3. Bioaccumulative potential

no data available

#### 12.4. Mobility in soil

no data available

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

no data available

#### 12.6. Other adverse effects

Discharge into the environment must be avoided.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Advice on disposal

In accordance with local and national regulations.

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

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

##### Waste disposal number of used product

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

##### Waste disposal number of contaminated packaging



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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:            yes



##### 14.6. Special precautions for user

not applicable

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

not applicable

#### SECTION 15: Regulatory information

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

###### National regulatory information

Water contaminating class (D):            3 - highly 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: 18.01.2017

Safety datasheet sections which have been updated: 2, 4, 8, 9, 10, 11, 12

Revision: 20.05.2015

Safety datasheet sections which have been updated: 2, 4, 11, 14

Revision: 10.01.2013

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

H225                            Highly flammable liquid and vapour.

H272                            May intensify fire; oxidiser.

H302                            Harmful if swallowed.

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|      |   |
|------|---|
| H314 | Causes severe skin burns and eye damage.                        |
| H319 | Causes serious eye irritation.                                  |
| H335 | May cause respiratory irritation.                               |
| H336 | May cause drowsiness or dizziness.                              |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life.                                     |
| H410 | Very toxic to aquatic life with long lasting effects.           |

#### 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

### 424-32 Hardness 1 Buffer

Revision date: 23.04.2018

Product code: 42432

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

### 1.1. Product identifier

424-32 Hardness 1 Buffer

### 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

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Causes skin irritation.

Causes serious eye irritation.

Harmful to aquatic life with long lasting effects.

### 2.2. Label elements

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

#### Hazard components for labelling

2-amino-2-methylpropanol

Signal word: Warning

Pictograms:



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**Hazard statements**

- |      |  |
|------|--|
| H315 | Causes skin irritation.                            |
| H319 | Causes serious eye irritation.                     |
| H412 | Harmful to aquatic life with long lasting effects. |

**Precautionary statements**

- |                |  |
|----------------|--|
| P273           | Avoid release to the environment.  |
| P280           | Wear protective gloves/protective clothing/eye protection/face protection.   |
| P302+P352      | IF ON SKIN: Wash with plenty of water.   |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312           | Call a POISON CENTER/doctor if you feel unwell.  |
| P501           | Dispose of contents/container in accordance with local regulation.   |

**Additional advice on labelling**

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

**2.3. Other hazards**

no data available

## SECTION 3: Composition/information on ingredients

**3.2. Mixtures**
**Hazardous components**

| CAS No     | Chemical name   |              |          | Quantity |
|------------|---|--------------|----------|----------|
|            | EC No   | Index No     | REACH No |          |
|            | Classification according to Regulation (EC) No. 1272/2008 [CLP] |              |          |          |
| 124-68-5   | 2-amino-2-methylpropanol  |              |          | 50-60 %  |
|            | 204-709-8   | 603-070-00-6 |          |          |
|            | Eye Irrit. 2, Skin Irrit. 2, Aquatic Chronic 3; H319 H315 H412  |              |          |          |
| 7732-18-5  | Water   |              |          | 35-45 %  |
|            | 231-791-2   |              |          |          |
|            |   |              |          |          |
| 64-19-7    | acetic acid ... %   |              |          | 1-10 %   |
|            | 200-580-7   | 607-002-00-6 |          |          |
|            | Flam. Liq. 3, Skin Corr. 1A; H226 H314                          |              |          |          |
| 14402-88-1 | Diaminoethane tetra-acetic acid Magnesium-disodium salt         |              |          | <1 %     |
|            | 238-372-3   |              |          |          |
|            |   |              |          |          |

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

**After inhalation**

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

**After contact with skin**

- Wash off immediately with plenty of water for at least 15 minutes.

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Take off all contaminated clothing immediately.  
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**

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

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

irritant effects

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

Treat symptomatically.

## 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.

#### **Unsuitable extinguishing media**

No Limit

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

Fire may liberate hazardous vapours.

### **5.3. Advice for firefighters**

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

In the event of fire, wear self-contained breathing apparatus.

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

#### **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. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.

Do not breathe vapours, mist or gas.

### **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**

Use only in well-ventilated areas.

Avoid contact with skin and eyes.

Do not breathe vapours/dust.

#### **Advice on protection against fire and explosion**

None known.

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See also section 5

**Further information on handling**

Observe label precautions.

Avoid contact with skin, eyes and clothing.

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

Keep in a dry, cool place.

**Hints on joint storage**

Do not store together with Oxidizing agents

**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 <sup>3</sup> | fibres/ml | Category      | Origin |
|---------|-------------|-----|-------------------|-----------|---------------|--------|
| 64-19-7 | Acetic acid | 10  | 25                |           | TWA (8 h)     | EU     |
|         |             | 15  | 37                |           | STEL (15 min) | EU     |

**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.

General industrial hygiene practice.

**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: &gt;480 min. In splash contact: Glove

material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: &gt; 30 min

Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

**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

**Environmental exposure controls**

Should not be released into the environment.

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

|                      |                   |
|----------------------|-------------------|
| Physical state:      | liquid            |
| Colour:              | yellow            |
| Odour:               | vinegar-like      |
| pH-Value (at 20 °C): | 10 (2 % solution) |

**Changes in the physical state**

|  |                   |
|--|-------------------|
| Melting point:                           | not applicable    |
| Initial boiling point and boiling range: | 104,5 °C          |
| Sublimation point:                       | not applicable    |
| Softening point:                         | not applicable    |
| Pour point:                              | no data available |
| :  | no data available |
| Flash point:                             | >97,2 °C          |

**Flammability**

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

**Explosive properties**

no data available

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

**Auto-ignition temperature**

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

Decomposition temperature: no data available

**Oxidizing properties**

no data available

|                  |                   |
|------------------|-------------------|
| Vapour pressure: | no data available |
| Vapour pressure: | no data available |

|                                 |                         |
|---------------------------------|-------------------------|
| Density (at 20 °C):             | 1,033 g/cm <sup>3</sup> |
| Bulk density:                   | not applicable          |
| Water solubility:<br>(at 20 °C) | completely 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:<br>(at 20 °C) | 0,36              |
| Solvent separation test:        | no data available |

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Solvent content: no data available

#### 9.2. Other information

Solid content: no data available

no data available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reactivity Hazard: Oxidizing agents

#### 10.2. Chemical stability

The product is chemically stable.

#### 10.3. Possibility of hazardous reactions

Reacts with the following substances: Oxidizing agents

#### 10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

#### 10.5. Incompatible materials

None known.

#### 10.6. Hazardous decomposition products

Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke.

### 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 |  |
| 124-68-5 | 2-amino-2-methylpropanol |               |         |        |        |  |
|          | oral                     | LD50<br>mg/kg | 2900    | Rat    | IUCLID |  |
|          | dermal                   | LD50<br>mg/kg | > 2000  | Rabbit | IUCLID |  |
| 64-19-7  | acetic acid ... %        |               |         |        |        |  |
|          | oral                     | LD50<br>mg/kg | 3310    | Rat    | GESTIS |  |

##### Irritation and corrosivity

Irritating to eyes and skin.

##### Sensitising effects

No known effect.

##### Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

##### STOT-single exposure

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

##### STOT-repeated exposure

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

##### Aspiration hazard

No aspiration toxicity classification



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#### Specific effects in experiment on an animal

No data is available on the product itself.

#### 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        |
| 124-68-5 | 2-amino-2-methylpropanol |       |           |         |                         |               |
|          | Acute fish toxicity      | LC50  | 190 mg/l  | 96 h    | Lepomis macrochirus     | IUCLID        |
|          | Acute algae toxicity     | ErC50 | 520 mg/l  | 72 h    | Desmodesmus subspicatus |               |
| 64-19-7  | acetic acid ... %        |       |           |         |                         |               |
|          | Acute crustacea toxicity | EC50  | 65 mg/l   | 48 h    | Daphnia magna           | Janssen et al |

### 12.2. Persistence and degradability

No data is available on the product itself.

### 12.3. Bioaccumulative potential

No data is available on the product itself.

#### Partition coefficient n-octanol/water

| CAS No   | Chemical name            | Log Pow |
|----------|--------------------------|---------|
| 124-68-5 | 2-amino-2-methylpropanol | -0,74   |
| 64-19-7  | acetic acid ... %        | -0,17   |

### 12.4. Mobility in soil

no data available

### 12.5. Results of PBT and vPvB assessment

no data available

### 12.6. Other adverse effects

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.

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#### 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

###### National regulatory information

Water contaminating class (D): 2 - clearly water contaminating

##### 15.2. Chemical safety assessment

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

#### SECTION 16: Other information

##### Changes

Revision: 23.04.2018

Safety datasheet sections which have been updated: 8, 11, 16

Revision: 23.04.2015

Safety datasheet sections which have been updated: 2

Revision: 25.02.2015

Safety datasheet sections which have been updated: 2, 10

Revision: 06.11.2013

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

| Classification          | Classification procedure |
|-------------------------|--------------------------|
| Skin Irrit. 2; H315     | Calculation method       |
| Eye Irrit. 2; H319      | Calculation method       |
| Aquatic Chronic 3; H412 | Calculation method       |

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

H226 Flammable liquid and vapour.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.

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H319 Causes serious eye irritation.  
H412 Harmful to aquatic life with long lasting effects.

**Further Information**

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

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*(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

425-32 Hardness 2 Solution

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

#### Use of the substance/mixture

Water analysis

### 1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH  
Street: Willstätterstr. 11  
Place: D-40549 Düsseldorf  
Telephone: +49 (0)211 5288-383  
e-mail: SDS@hach.com  
Internet: www.de.hach.com  
Responsible Department: HACH LANGE Ltd.  
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

Flammable liquid: Flam. Liq. 3

Skin corrosion/irritation: Skin Corr. 1

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Skin Sens. 1

Carcinogenicity: Carc. 2

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazard Statements:

May be corrosive to metals.

Flammable liquid and vapour.

Causes severe skin burns and eye damage.

Causes serious eye damage.

May cause an allergic skin reaction.

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure.

### 2.2. Label elements

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

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#### Hazard components for labelling

hydroxylammonium chloride; hydroxylamine hydrochloride  
propan-2-ol; isopropyl alcohol; isopropanol

**Signal word:** Danger

#### Pictograms:



#### Hazard statements

|      |  |
|------|--|
| H226 | Flammable liquid and vapour.                                       |
| H290 | May be corrosive to metals.  |
| H314 | Causes severe skin burns and eye damage.                           |
| H317 | May cause an allergic skin reaction.                               |
| H351 | Suspected of causing cancer.                                       |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

#### Precautionary statements

|                |  |
|----------------|--|
| P210           | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.                                   |
| P243           | Take action to prevent static discharges.  |
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.   |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.                           |
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.   |
| P310           | Immediately call a POISON CENTER/doctor.   |

#### Additional advice on labelling

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

#### 2.3. Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

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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]   |              |          |          |
| 57-55-6   | 1,2-Propanediol   |              |          | 90-100 % |
|           | 200-338-0   |              |          |          |
| 5470-11-1 | hydroxylammonium chloride; hydroxylamine hydrochloride  |              |          | 1-10 %   |
|           | 226-798-2   | 612-123-00-2 |          |          |
|           | Met. Corr. 1, Carc. 2, Acute Tox. 4, Acute Tox. 4, STOT RE 2, Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1, Aquatic Acute 1; H290 H351 H312 H302 H373 ** H319 H315 H317 H400 |              |          |          |
| 67-63-0   | propan-2-ol; isopropyl alcohol; isopropanol   |              |          | < 5 %    |
|           | 200-661-7   | 603-117-00-0 |          |          |
|           | Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336   |              |          |          |
| 3147-14-6 | Calmagite   |              |          | < 1 %    |
|           | 221-563-0   |              |          |          |
|           | Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; 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 for severe cases.

**After contact with skin**

Wash off with soap and water. 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. Show this safety data sheet to the doctor in attendance.

**After ingestion**

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

Never give anything by mouth to an unconscious person.

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

Irritation and corrosion. May produce an allergic reaction. Can be absorbed through skin.

### 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.  
Water, Dry powder, Carbon dioxide (CO<sub>2</sub>), Alcohol-resistant foam

**Unsuitable extinguishing media**

No Limit

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

Fire may liberate hazardous vapours.  
Carbon monoxide, Carbon dioxide (CO<sub>2</sub>), Acid chlorides

#### **5.3. Advice for firefighters**

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

#### **Additional information**

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
Prevent fire extinguishing water from contaminating surface water or the ground water system.

### **SECTION 6: Accidental release measures**

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

Use personal protective equipment. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.  
Do not breathe vapours, mist or gas.

#### **6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

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

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

#### **6.4. Reference to other sections**

13. Disposal considerations

### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

Avoid contact with skin and eyes. Use only in well-ventilated areas. Do not breathe vapours or spray mist.

##### **Advice on protection against fire and explosion**

None known.  
See also section 5 Observe label precautions.

##### **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 open flames, hot surfaces and sources of ignition.

##### **Hints on joint storage**

Incompatible with oxidizing agents.

#### **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 <sup>3</sup> | fibres/ml | Category      | Origin |
|---------|--------------------------------|-----|-------------------|-----------|---------------|--------|
| 67-63-0 | Propan-2-ol                    | 400 | 999               |           | TWA (8 h)     | WEL    |
|         |                                | 500 | 1250              |           | STEL (15 min) | WEL    |
| 57-55-6 | Propane-1,2-diol, particulates | -   | 10                |           | 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.

General industrial hygiene practice.

##### 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

Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

##### Skin protection

Avoid contact with skin, eyes and clothing.

##### Respiratory protection

Provide adequate ventilation.

Avoid breathing dust or vapour.

Breathing apparatus needed only when aerosol or mist is formed.

Recommended Filter type: ABEK-filter

##### Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

## SECTION 9: Physical and chemical properties

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

|                      |                      |
|----------------------|----------------------|
| Physical state:      | liquid               |
| Colour:              | dark red             |
| Odour:               | pleasant, like fruit |
| pH-Value (at 20 °C): | 1,09                 |

#### Changes in the physical state

|  |                   |
|--|-------------------|
| Melting point:                           | not applicable    |
| Initial boiling point and boiling range: | 118 °C            |
| Sublimation point:                       | not applicable    |
| Softening point:                         | not applicable    |
| Pour point:                              | no data available |



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|                                     |                        |
|-------------------------------------|------------------------|
| :                                   | no data available      |
| Flash point:                        | 25,7 °C                |
| <b>Flammability</b>                 |                        |
| Solid:                              | no data available      |
| Gas:                                | no data available      |
| <b>Explosive properties</b>         |                        |
| not applicable                      |                        |
| Lower explosion limits:             | no data available      |
| Upper explosion limits:             | no data available      |
| Ignition temperature:               | no data available      |
| <b>Auto-ignition temperature</b>    |                        |
| Solid:                              | no data available      |
| Gas:                                | no data available      |
| Decomposition temperature:          | no data available      |
| <b>Oxidizing properties</b>         |                        |
| no data available                   |                        |
| Vapour pressure:                    | no data available      |
| Density (at 20 °C):                 | 1,01 g/cm <sup>3</sup> |
| Bulk density:                       | not applicable         |
| Water solubility:<br>(at 20 °C)     | soluble                |
| <b>Solubility in other solvents</b> |                        |
| 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 |
| May be corrosive to metals.<br>Aluminium 0,001 in/yr<br>Mild steel: 0,288 in/yr |                   |

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

May be corrosive to metals.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

Reacts with the following substances: Oxidizing agents

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#### 10.4. Conditions to avoid

Heat, flames and sparks. To avoid thermal decomposition, do not overheat.

#### 10.5. Incompatible materials

None known.

#### 10.6. Hazardous decomposition products

Carbon monoxide, Carbon dioxide (CO<sub>2</sub>), Acid chlorides

### 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 |
| 57-55-6   | 1,2-Propanediol  |                     |         |                      |        |
|           | oral   | LD50<br>mg/kg 20000 | rat     | Toxicology and Appli |        |
|           | dermal   | LD50<br>mg/kg 20800 | rabbit  | Raw Material Data Ha |        |
| 5470-11-1 | hydroxylammonium chloride; hydroxylamine hydrochloride |                     |         |                      |        |
|           | oral   | LD50<br>mg/kg 141   | rat     |                      |        |
|           | dermal   | ATE<br>mg/kg 1100   |         |                      |        |
| 67-63-0   | propan-2-ol; isopropyl alcohol; isopropanol            |                     |         |                      |        |
|           | oral   | LD50<br>mg/kg 5045  | rat     | RTECS                |        |
|           | dermal   | LD50<br>mg/kg 12800 | rabbit  |                      |        |
|           | inhalation (4 h) vapour                                | LC50 46,5 mg/l      | rat     |                      |        |

#### Irritation and corrosivity

Causes skin and eye burns.

#### Sensitising effects

May cause allergic skin reaction.

#### Carcinogenic/mutagenic/toxic effects for reproduction

H351 - Suspected of causing cancer.

#### STOT-single exposure

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

#### STOT-repeated exposure

H373 - May cause damage to organs through prolonged or repeated exposure.

#### Aspiration hazard

No aspiration toxicity classification

#### Specific effects in experiment on an animal

No toxicology information is available.

#### Additional information on tests

None known.

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**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  |
| 57-55-6   | 1,2-Propanediol  |               |           |         |   |   |
|           | Acute fish toxicity                                    | LC50<br>mg/l  | 51600     | 96 h    | Oncorhynchus mykiss<br>(rainbow trout)              | OECD 203  |
|           | Acute crustacea toxicity                               | EC50<br>mg/l  | 34400     | 48 h    | Daphnia magna<br>(Water flea)                       | Information taken<br>from reference<br>works and the<br>literature. |
| 5470-11-1 | hydroxylammonium chloride; hydroxylamine hydrochloride |               |           |         |   |   |
|           | Acute fish toxicity                                    | LC50<br>mg/l  | 1-10      | 96 h    | Leuciscus idus<br>(Golden orfe)                     |   |
| 67-63-0   | propan-2-ol; isopropyl alcohol; isopropanol            |               |           |         |   |   |
|           | Acute fish toxicity                                    | LC50<br>mg/l  | 1400      | 96 h    | Lepomis macrochirus<br>(Bluegill sunfish)           |   |
|           | Acute algae toxicity                                   | ErC50<br>mg/l | > 1000    | 72 h    | Pseudokirchneriella<br>subcapitata (green<br>algae) | IUCLID  |
|           | Acute crustacea toxicity                               | EC50<br>mg/l  | 13299     | 48 h    | Daphnia magna<br>(Water flea)                       | IUCLID  |

**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 |
|---------|-----------------|---------|
| 57-55-6 | 1,2-Propanediol | -0,92   |

**12.4. Mobility in soil**

No data is available on the product itself.

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

No data is available on the product itself.

**12.6. Other adverse effects**

Discharge into the environment must be avoided.

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

In accordance with local and national regulations.

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

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

**Waste disposal number of used product**

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

**Waste disposal number of contaminated packaging**

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

**Contaminated packaging**

Dispose of as unused product.

## SECTION 14: Transport information

**Land transport (ADR/RID)**

**14.1. UN number:** UN 2924  
**14.2. UN proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (<10% propan-2-ol; isopropyl alcohol; isopropanol, hydroxylammonium chloride; hydroxylamine hydrochloride)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III

Hazard label: 3+8



Classification code: FC  
Special Provisions: 274  
Limited quantity: 5 L  
Excepted quantity: E1  
Transport category: 3  
Hazard No: 38  
Tunnel restriction code: D/E

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

Not tested

**Marine transport (IMDG)**

**14.1. UN number:** UN 2924  
**14.2. UN proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S.(10% Isopropanol-/hydroxylamine hydrochloride solution)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III

Hazard label: 3+8



Marine pollutant: --  
Special Provisions: 223, 274  
Limited quantity: 5 L

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Excepted quantity: E1  
EmS: F-E, S-C

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

**14.1. UN number:** UN 2924  
**14.2. UN proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (10% Isopropanol-/hydroxylamine hydrochloride solution)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III  
Hazard label: 3+8



Special Provisions: A3 A803  
Limited quantity Passenger: 1 L  
Passenger LQ: Y342  
Excepted quantity: E1  
IATA-packing instructions - Passenger: 354  
IATA-max. quantity - Passenger: 5 L  
IATA-packing instructions - Cargo: 365  
IATA-max. quantity - Cargo: 60 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: hydroxylammonium chloride; hydroxylamine hydrochloride

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

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.  
Water contaminating class (D): 2 - clearly water contaminating

**15.2. Chemical safety assessment**

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

**SECTION 16: Other information****Changes**

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Revision: 23.04.2018

Safety datasheet sections which have been updated: 8, 11, 15, 16

Revision: 16.03.2017

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

Revision: 27.05.2015

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

Revision: 06.11.2013

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

| Classification     | Classification procedure |
|--------------------|--------------------------|
| Met. Corr. 1; H290 | On basis of test data    |
| Flam. Liq. 3; H226 | On basis of test data    |
| Skin Corr. 1; H314 | On basis of test data    |
| Eye Dam. 1; H318   | On basis of test data    |
| Skin Sens. 1; H317 | Calculation method       |
| Carc. 2; H351      | Calculation method       |
| STOT RE 2; H373    | Calculation method       |

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

|      |  |
|------|--|
| H225 | Highly flammable liquid and vapour.                                |
| H226 | Flammable liquid and vapour.                                       |
| H290 | May be corrosive to metals.  |
| H302 | Harmful if swallowed.  |
| H312 | Harmful in contact with skin.                                      |
| H314 | Causes severe skin burns and eye damage.                           |
| H315 | Causes skin irritation.  |
| H317 | May cause an allergic skin reaction.                               |
| H319 | Causes serious eye irritation.                                     |
| H335 | May cause respiratory irritation.                                  |
| H336 | May cause drowsiness or dizziness.                                 |
| H351 | Suspected of causing cancer.                                       |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life.  |

#### 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

426-32 Hardness 3 Solution

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

#### Use of the substance/mixture

Water analysis

### 1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH  
Street: Willstätterstr. 11  
Place: D-40549 Düsseldorf  
Telephone: +49 (0)211 5288-383  
e-mail: SDS@hach.com  
Internet: www.de.hach.com  
Responsible Department: HACH LANGE Ltd.  
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.

### 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   |              |          | 70-80 %  |
|           | 231-791-2   |              |          |          |
| 57-55-6   | 1,2-Propanediol   |              |          | 20-30 %  |
|           | 200-338-0   |              |          |          |
| -         | hydrochloric acid ... %   |              |          | < 1 %    |
|           | 231-595-7   | 017-002-01-X |          |          |
|           | Skin Corr. 1B, STOT SE 3; H314 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.

###### After inhalation

Move to fresh air.

If symptoms persist, call a physician.

###### After contact with skin

Wash off immediately with plenty of water.

In the case of skin irritation or allergic reactions see a physician.

###### After contact with eyes

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

###### After ingestion

Clean mouth with water and drink afterwards plenty of water.

Call a physician immediately.

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

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

Fire may liberate hazardous vapours.

##### 5.3. Advice for firefighters

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

##### Additional information

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



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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**

Use only in well-ventilated areas.

###### **Advice on protection against fire and explosion**

See also section 5

###### **Further information on handling**

Avoid contact with skin, eyes and clothing.

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

###### **Requirements for storage rooms and vessels**

Keep in a dry, cool place.

###### **Hints on joint storage**

None known.

##### 7.3. Specific end use(s)

Reagent for analysis

#### SECTION 8: Exposure controls/personal protection

##### 8.1. Control parameters

###### **Exposure limits (EH40)**

| CAS No    | Substance                                 | ppm | mg/m <sup>3</sup> | fibres/ml | Category      | Origin |
|-----------|---|-----|-------------------|-----------|---------------|--------|
| 7647-01-0 | Hydrogen chloride (gas and aerosol mists) | 1   | 2                 |           | TWA (8 h)     | WEL    |
|           |   | 5   | 8                 |           | STEL (15 min) | WEL    |
| 57-55-6   | Propane-1,2-diol, particulates            | -   | 10                |           | 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.

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#### 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: &gt;480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: &gt; 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

#### 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:      | liquid            |
| Colour:              | colourless, clear |
| Odour:               | odourless         |
| pH-Value (at 20 °C): | 5                 |

#### Changes in the physical state

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

#### Oxidizing properties

not applicable

|                     |                         |
|---------------------|-------------------------|
| Vapour pressure:    | no data available       |
| Vapour pressure:    | no data available       |
| Density (at 20 °C): | 1,026 g/cm <sup>3</sup> |

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|                                     |                   |
|-------------------------------------|-------------------|
| Bulk density:                       | not applicable    |
| Water solubility:<br>(at 20 °C)     | soluble           |
| <b>Solubility in other solvents</b> |                   |
| soluble                             |                   |
| Partition coefficient:              | no data available |
| Viscosity / dynamic:                | no data available |
| Viscosity / kinematic:              | no data available |
| Flow time:                          | no data available |
| Vapour density:                     | no data available |
| Evaporation rate:                   | no data available |
| Solvent separation test:            | no data available |
| Solvent content:                    | no data available |

#### **9.2. Other information**

|                   |                |
|-------------------|----------------|
| Solid content:    | not applicable |
| no data available |                |

### **SECTION 10: Stability and reactivity**

#### **10.1. Reactivity**

No dangerous reaction known under conditions of normal use.

#### **10.2. Chemical stability**

Stable under recommended storage conditions.

#### **10.3. Possibility of hazardous reactions**

Hazardous polymerisation does not occur.

#### **10.4. Conditions to avoid**

None known.

#### **10.5. Incompatible materials**

None known.

#### **10.6. Hazardous decomposition products**

No hazardous decomposition products are known.

#### **Further information**

None known.

### **SECTION 11: Toxicological information**

#### **11.1. Information on toxicological effects**

##### **Acute toxicity**

No data is available on the product itself.

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| CAS No  | Chemical name           |                     |         |                      |        |
|---------|-------------------------|---------------------|---------|----------------------|--------|
|         | Exposure route          | Dose                | Species | Source               | Method |
| 57-55-6 | 1,2-Propanediol         |                     |         |                      |        |
|         | oral                    | LD50<br>mg/kg 20000 | rat     | Toxicology and Appli |        |
|         | dermal                  | LD50<br>mg/kg 20800 | rabbit  | Raw Material Data Ha |        |
| -       | hydrochloric acid ... % |                     |         |                      |        |
|         | dermal                  | LD50<br>mg/kg >5010 |         |                      |        |

**Irritation and corrosivity**

No known effect.

**Sensitising effects**

No known effect.

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

Contains no ingredient listed as a carcinogen

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

No aspiration toxicity classification

**Specific effects in experiment on an animal**

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.

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| CAS No  | Chemical name            |              |           |         |  |   |
|---------|--------------------------|--------------|-----------|---------|--|---|
|         | Aquatic toxicity         | Dose         | [h]   [d] | Species | Source                                 | Method  |
| 57-55-6 | 1,2-Propanediol          |              |           |         |  |   |
|         | Acute fish toxicity      | LC50<br>mg/l | 51600     | 96 h    | Oncorhynchus mykiss<br>(rainbow trout) | OECD 203  |
|         | Acute crustacea toxicity | EC50<br>mg/l | 34400     | 48 h    | Daphnia magna<br>(Water flea)          | Information taken<br>from reference<br>works and the<br>literature. |
| -       | hydrochloric acid ... %  |              |           |         |  |   |
|         | Acute fish toxicity      | LC50         | 862 mg/l  | 96 h    | Leuciscus idus                         |   |

**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 |
|---------|-----------------|---------|
| 57-55-6 | 1,2-Propanediol | -0,92   |

**12.4. Mobility in soil**

no data available

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

no data available

**12.6. Other adverse effects**

No known effect.

**Further information**

no data available

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

In accordance with local and national regulations.

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

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

**Waste disposal number of used product**

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

**Waste disposal number of contaminated packaging**

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

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information**

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**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

**Other applicable information**

no data available

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Water contaminating class (D): 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: 23.04.2018

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

Revision: 22.04.2015

Safety datasheet sections which have been updated: 2

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

H314 Causes severe skin burns and eye damage.

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.)*

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**942-99 Phenolphthalein Indicator Powder**

Revision date: 14.08.2017

Product code: 94299

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

942-99 Phenolphthalein Indicator Powder

**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 Statements:

May cause cancer by inhalation.

Suspected of damaging fertility.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**Sodium chloride  
phenolphthalein**Signal word:**

Danger

**Pictograms:****Hazard statements**

H350i

May cause cancer by inhalation.

H361f

Suspected of damaging fertility.

**Precautionary statements**

P201

Obtain special instructions before use.

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### 942-99 Phenolphthalein Indicator Powder

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P281 Use personal protective equipment as required.  
P308+P313 IF exposed or concerned: 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] |              |          |          |
| 77-09-8 | phenolphthalein   |              |          | < 1 %    |
|         | 201-004-7   | 604-076-00-1 |          |          |
|         | Carc. 1B, Muta. 2, Repr. 2; H350 H341 H361f ***                 |              |          |          |

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).  
phenolphthalein

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

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

##### After inhalation

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

##### After contact with skin

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

##### After contact with eyes

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

##### After ingestion

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

irritant effects

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

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



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### 942-99 Phenolphthalein Indicator Powder

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#### Unsuitable extinguishing media

None known.

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

Fire may liberate hazardous vapours.

#### 5.3. Advice for firefighters

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

In the event of fire, wear self-contained breathing apparatus.

#### Additional information

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

### SECTION 6: Accidental release measures

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

Use personal protective equipment.

#### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

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

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

#### 6.4. Reference to other sections

13. Disposal considerations

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

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

##### Advice on protection against fire and explosion

None known.

See also section 5

##### Further information on handling

Observe label precautions.

Avoid contact with skin, eyes and clothing.

#### 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

None known.

##### Further information on storage conditions

no data available

#### 7.3. Specific end use(s)

Reagent for analysis

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Additional advice on limit values

None known.

#### 8.2. Exposure controls

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 942-99 Phenolphthalein Indicator Powder

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#### 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

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

#### Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

## SECTION 9: Physical and chemical properties

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

|                      |                 |
|----------------------|-----------------|
| Physical state:      | solid           |
| Colour:              | off-white /red  |
| Odour:               | odourless       |
| pH-Value (at 20 °C): | 5% solution 6,2 |

#### Changes in the physical state

|  |                   |
|--|-------------------|
| Melting point:                           | 258-262 °C        |
| Initial boiling point and boiling range: | no data available |
| Sublimation point:                       | not applicable    |
| Softening point:                         | not applicable    |
| Pour point:                              | not applicable    |
| :  | no data available |
| Flash point:                             | not applicable    |

#### Flammability

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

#### Explosive properties

no data available

|                         |                   |
|-------------------------|-------------------|
| Lower explosion limits: | no data available |
| Upper explosion limits: | no data available |
| Ignition temperature:   | no data available |

#### Auto-ignition temperature

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

|                            |                |
|----------------------------|----------------|
| Decomposition temperature: | not applicable |
|----------------------------|----------------|

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### 942-99 Phenolphthalein Indicator Powder

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**Oxidizing properties**

no data available

Vapour pressure:

no data available

Vapour pressure:

no data available

Density (at 20 °C):

2,10 g/cm<sup>3</sup>

Bulk density:

no data available

Water solubility:

soluble

(at 20 °C)

**Solubility in other solvents**

soluble

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

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**

None known.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

Lithium

**10.6. Hazardous decomposition products**

No decomposition if stored and applied as directed.

**Further information**

This information is not available.

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

No toxicology information is available.

**Acute toxicity**

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

No data is available on the product itself.

**Safety Data Sheet**

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**942-99 Phenolphthalein Indicator Powder**

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**Irritation and corrosivity**

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

**Sensitising effects**

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

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

May cause cancer by inhalation.

Suspected of damaging fertility. (phenolphthalein)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

This product contains one or more substances which are classified in the EU as carcinogenic, mutagenic and/or reprotoxic.

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

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

**Specific effects in experiment on an animal**

No toxicology information is available.

**Additional information on tests**

None known.

**Practical experience****Observations relevant to classification**

None known.

**Other observations**

None known.

**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.

**Partition coefficient n-octanol/water**

| CAS No  | Chemical name   | Log Pow |
|---------|-----------------|---------|
| 77-09-8 | phenolphthalein | 2,4     |

**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**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 942-99 Phenolphthalein Indicator Powder

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#### 13.1. Waste treatment methods

##### Advice on disposal

In accordance with local and national regulations.

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

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

##### Waste disposal number of used product

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

##### Waste disposal number of contaminated packaging

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

#### SECTION 14: Transport information

##### Land transport (ADR/RID)

###### Other applicable information (land transport)

Not subject to transport regulations.

##### Inland waterways transport (ADN)

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

Not tested

##### Marine transport (IMDG)

###### Other applicable information (marine transport)

Not subject to transport regulations.

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

###### Other applicable information (air transport)

Not subject to transport regulations.

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

#### 14.6. Special precautions for user

Use personal protective equipment.

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

Not 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):  
phenolphthalein

Restrictions on use (REACH, annex XVII):

Entry 28: phenolphthalein

##### National regulatory information

Water contaminating class (D): 1 - slightly water contaminating

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### 942-99 Phenolphthalein Indicator Powder

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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: 14.08.2017

Safety datasheet sections which have been updated: 2, 11

Revision: 17.05.2016

Safety datasheet sections which have been updated: 2

Revision: 11.04.2016

Safety datasheet sections which have been updated: 3

Revision: 27.05.2015

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

Revision: 26.01.2015

Safety datasheet sections which have been updated: 2

Revision: 17.06.2014

Safety datasheet sections which have been updated: 2.1, 4.2, 6.4, 7.1, 8, 10.1

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

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H350i May cause cancer by inhalation.

H361f Suspected of damaging fertility.

##### **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

**943-99 Bromcresol Green-Methly Red Indicator**

Revision date: 21.06.2017

Product code: 94399

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

943-99 Bromcresol Green-Methly Red Indicator

**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.

**2.3. Other hazards**

None known.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures**

**Safety Data Sheet**

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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] |          |          |          |
| 7447-40-7 | Potassium chloride  |          |          | >99 %    |
|           | 231-211-8   |          |          |          |
|           |   |          |          |          |
| 845-10-3  | Methyl red sodium salt  |          |          | < 0,5 %  |
|           | 212-682-9   |          |          |          |
|           | Muta. 2, Aquatic Chronic 3; H341 H412                           |          |          |          |

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

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

Take off all contaminated clothing immediately.

**After inhalation**

Move to fresh air.

**After contact with skin**

Wash off immediately with plenty of water.

**After contact with eyes**

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

**After ingestion**

Clean mouth with water and drink afterwards plenty of water.

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

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.

**Unsuitable extinguishing media**

None known.

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

Fire may liberate hazardous vapours.

**5.3. Advice for firefighters**

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

**Additional information**

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

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



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 943-99 Bromcresol Green-Methly Red Indicator

Revision date: 21.06.2017

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Use personal protective equipment.

#### **6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

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

Use mechanical handling equipment.

#### **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.

Do not breathe vapours/dust.

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

#### **Requirements for storage rooms and vessels**

Keep in a dry, cool 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**

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

#### **Protective and hygiene measures**

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

Wash hands before breaks and after work.

#### **Eye/face protection**

Safety glasses with side-shields

#### **Hand protection**

Use barrier skin cream.

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

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

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

#### **Skin protection**

Remove and wash contaminated clothing before re-use.

#### **Respiratory protection**

Avoid breathing dust or vapour.

Provide adequate ventilation.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**943-99 Bromcresol Green-Methyl Red Indicator**

Revision date: 21.06.2017

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

|                      |                  |
|----------------------|------------------|
| Physical state:      | powder           |
| Colour:              | red brown        |
| Odour:               | odourless        |
| pH-Value (at 20 °C): | 9 (5 % solution) |

**Changes in the physical state**

|  |                |
|--|----------------|
| Melting point:                           | 181 °C         |
| 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: | not applicable |
| Gas:   | not applicable |

|                            |                |
|----------------------------|----------------|
| Decomposition temperature: | not applicable |
|----------------------------|----------------|

**Oxidizing properties**

not applicable

|                  |                |
|------------------|----------------|
| Vapour pressure: | not applicable |
| Vapour pressure: | not applicable |

|                     |                        |
|---------------------|------------------------|
| Density (at 20 °C): | 1,91 g/cm <sup>3</sup> |
| Bulk density:       | no data available      |

|                   |         |
|-------------------|---------|
| Water solubility: | soluble |
|-------------------|---------|

**Solubility in other solvents**

soluble

|                          |                |
|--------------------------|----------------|
| Partition coefficient:   | not applicable |
| Viscosity / dynamic:     | not applicable |
| Viscosity / kinematic:   | not applicable |
| Flow time:               | not applicable |
| Vapour density:          | not applicable |
| Evaporation rate:        | not applicable |
| Solvent separation test: | not applicable |
| Solvent content:         | not applicable |

**9.2. Other information**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**943-99 Bromcresol Green-Methly Red Indicator**

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Solid content:

no data available

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

None known.

**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**

No decomposition if stored and applied as directed.

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

No toxicology information is available.

**Acute toxicity**

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

No data is available on the product itself.

| CAS No    | Chemical name      |               |         |        |        |
|-----------|--------------------|---------------|---------|--------|--------|
|           | Exposure route     | Dose          | Species | Source | Method |
| 7447-40-7 | Potassium chloride |               |         |        |        |
|           | oral               | LD50<br>mg/kg | 2600    | Ratte  | RTECS  |

**Irritation and corrosivity**

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

No known effect.

**Sensitising effects**

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

No known effect.

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

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

No known effect.

**STOT-single exposure**

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

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

**STOT-repeated exposure**

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

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

**Aspiration hazard**

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

No aspiration toxicity classification

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### 943-99 Bromcresol Green-Methly Red Indicator

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#### Specific effects in experiment on an animal

No data is available on the product itself.

#### 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 |
| 7447-40-7 | Potassium chloride       |                 |           |   |        |        |
|           | Acute fish toxicity      | LC50 920 mg/l   | 96 h      | Gambusia affinis (Mosquito fish)              | IUCLID |        |
|           | Acute algae toxicity     | ErC50 mg/l 2500 | 72 h      | Pseudokirchneriella subcapitata (green algae) | IUCLID |        |
|           | Acute crustacea toxicity | EC50 825 mg/l   | 48 h      | Daphnia magna (Water flea)                    | IUCLID |        |

### 12.2. Persistence and degradability

No data is available on the product itself.

### 12.3. Bioaccumulative potential

No data 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.

Dispose of in accordance with the European Directives on waste and hazardous waste.

#### Contaminated packaging

Dispose of as unused product.

The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

## 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

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**Marine transport (IMDG)****Other applicable information (marine transport)**

Not subject to transport regulations.

**Air transport (ICAO-TI/IATA-DGR)****Other applicable information (air transport)**

Not subject to transport regulations.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

Use personal protective equipment.

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

Not 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: 21.06.2017

Safety datasheet sections which have been updated: 2, 3, 4, 7, 11

Revision: 2.02.2017

Safety datasheet sections which have been updated: 2, 4, 7, 11, 15

Revision: 13.01.2017

Safety datasheet sections which have been updated: 2, 11

Revision: 11.08.2015

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

Revision: 26.01.2015

Safety datasheet sections which have been updated: 2

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

H341 Suspected of causing genetic defects.

H412 Harmful to aquatic life with long lasting effects.

**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.)*