# Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)

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

### 1.1 Product identifier

**Hull preCleaner acid**
**Art.: 512999**

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

**Relevant identified uses of the substance or mixture:**
Vehicle cleansing

**Uses advised against:**
No information available at present.

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

Koch-Chemie GmbH
Einsteinstrasse 42
59423 Unna
Telefon: +49 (0) 2303 / 9 86 70 - 0
Fax: +49 (0) 2303 / 9 86 70 - 26
info@koch-chemie.com
www.koch-chemie.com

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

### 1.4 Emergency telephone number

**Emergency information services / official advisory body:**

IRL

National Poisons Information Centre, Beaumont Hospital, Dublin 9, Ireland, Tel.:
+353 (0)1 809 2166 (Public Poisons Info Line, 8am-10pm, 7 days a week)
+353 (0)1 809 2566 (Info for Healthcare Professionals ONLY, 24 h, 7 days a week)

**Telephone number of the company in case of emergencies:**
+1 872 5888271 (KCC)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) 1272/2008 (CLP)**

| Hazard class | Hazard category | Hazard statement |
|---|---|---|
| Eye Dam. | 1 | H318-Causes serious eye damage. |
| Aquatic Chronic | 3 | H412-Harmful to aquatic life with long lasting effects. |
| Met. Corr. | 1 | H290-May be corrosive to metals. |
| Skin Corr. | 1 | H314-Causes severe skin burns and eye damage. |

### 2.2 Label elements

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)
Revision date / version: 16.12.2024 / 0006
Replacing version dated / version: 11.03.2024 / 0005
Valid from: 16.12.2024
PDF print date: 16.12.2024
Hull preCleaner acid
Art.: 512999

## Labeling according to Regulation (EC) 1272/2008 (CLP)

Danger

H412-Harmful to aquatic life with long lasting effects. H290-May be corrosive to metals. H314-Causes severe skin burns and eye damage.

P260-Do not breathe vapours or spray. P273-Avoid release to the environment. P280-Wear protective gloves / protective clothing / eye protection / face protection.
P301+P330+P331-IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353-IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310-Immediately call a POISON CENTER / doctor. P390-Absorb spillage to prevent material damage.

Methanesulphonic acid
Myristyl dimethyl aminoxide
Phosphoric acid

### 2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

n.a.

### 3.2 Mixtures

| **Phosphoric acid** | **Substance for which an EU exposure limit value applies.** |
|---|---|
| **Registration number (REACH)** | 01-2119485924-24-XXXX |
| **Index** | 015-011-00-6 |
| **EINECS, ELINCS, NLP, REACH-IT List-No.** | 231-633-2 |
| **CAS** | 7664-38-2 |
| **content %** | 10-<25 |
| **Classification according to Regulation (EC) 1272/2008 (CLP), M-factors** | Met. Corr. 1, H290<br>Acute Tox. 4, H302<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318 |
| **Specific Concentration Limits and ATE** | Skin Corr. 1B, H314: >=25 %<br>Skin Irrit. 2, H315: >=10 %<br>Eye Dam. 1, H318: >=25 %<br>Eye Irrit. 2, H319: >=10 %<br>ATE (oral): 500 mg/kg |

| **Methanesulphonic acid** | |
|---|---|
| **Registration number (REACH)** | 01-2119491166-34-XXXX |
| **Index** | 607-145-00-4 |
| **EINECS, ELINCS, NLP, REACH-IT List-No.** | 200-898-6 |
| **CAS** | 75-75-2 |
| **content %** | 5-<10 |
| **Classification according to Regulation (EC) 1272/2008 (CLP), M-factors** | Met. Corr. 1, H290<br>Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>STOT SE 3, H335 |
| **Specific Concentration Limits and ATE** | ATE (oral): 648,7 mg/kg<br>ATE (dermal): 1100 mg/kg |

| **2-Butoxyethanol** | **Substance for which an EU exposure limit value applies.** |
|---|---|
| **Registration number (REACH)** | 01-2119475108-36-XXXX |
| **Index** | 603-014-00-0 |
| **EINECS, ELINCS, NLP, REACH-IT List-No.** | 203-905-0 |
| **CAS** | 111-76-2 |
| **content %** | 5-<10 |
| **Classification according to Regulation (EC) 1272/2008 (CLP), M-factors** | Acute Tox. 3, H331<br>Acute Tox. 4, H302<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319 |
| **Specific Concentration Limits and ATE** | ATE (oral): 1200 mg/kg<br>ATE (as inhalation, Aerosol): 0,5 mg/l/4h<br>ATE (as inhalation, Vapours): 3 mg/l |

| **Myristyl dimethyl aminoxide** | |
|---|---|
| **Registration number (REACH)** | --- |
| **Index** | --- |
| **EINECS, ELINCS, NLP, REACH-IT List-No.** | 222-059-3 |
| **CAS** | 3332-27-2 |
| **content %** | 2,5-<5 |
| **Classification according to Regulation (EC) 1272/2008 (CLP), M-factors** | Acute Tox. 4, H302<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Aquatic Acute 1, H400 (M=1)<br>Aquatic Chronic 2, H411 |
| **Specific Concentration Limits and ATE** | ATE (oral): 500 mg/kg |

Impurities, test data and additional information may have been taken into account in classifying and labelling the product.
For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!
For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.
The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

First-aiders should ensure they are protected!
Never pour anything into the mouth of an unconscious person!

### Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

### Skin contact

Wash thoroughly using copious water - remove contaminated clothing immediately and call a doctor. Have Data Sheet available.
Cauterizations not treated lead to wounds difficult to heal.

### Eye contact

Remove contact lenses.
Wash thoroughly for several minutes using copious water - call doctor immediately, have Data Sheet available.
Protect uninjured eye.
Follow-up examination by an ophthalmologist.

### Ingestion

Rinse the mouth thoroughly with water.
Do not induce vomiting - give copious water to drink. Consult doctor immediately.

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

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.
Corrosive burns on skin as well as mucous membrane possible.
Risk of serious damage to eyes.
Corneal damage.
Danger of blindness.
pain in the mouth and throat
stomach pain
Oesophageal perforation
Gastric perforation

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

Symptomatic treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

### Suitable extinguishing media

Adapt to the nature and extent of fire.
Water jet spray/foam/CO2/dry extinguisher

### Unsuitable extinguishing media

High volume water jet

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

In case of fire the following can develop:
Oxides of carbon
Oxides of nitrogen
Oxides of phosphorus
Oxides of sulphur
Toxic gases

### 5.3 Advice for firefighters

For personal protective equipment see Section 8.
In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
According to size of fire
Full protection, if necessary.
Dispose of contaminated extinction water according to official regulations.

## SECTION 6: Accidental release measures

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

### 6.1.1 For non-emergency personnel

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.
Ensure sufficient ventilation, remove sources of ignition.
Avoid dust formation with solid or powder products.
Leave the danger zone if possible, use existing emergency plans if necessary.

Keep unprotected persons away.
Avoid contact with eyes or skin.
If applicable, caution - risk of slipping.

### 6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

### 6.2 Environmental precautions

If leakage occurs, dam up.
Resolve leaks if this possible without risk.
Prevent from entering drainage system.
Prevent surface and ground-water infiltration, as well as ground penetration.
If accidental entry into drainage system occurs, inform responsible authorities.

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

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.
Fill the absorbed material into lockable containers.
Neutralising is possible (only from a specialist).
Diluting with water is possible.
Flush residue using copious water.

### 6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

## SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

### 7.1 Precautions for safe handling

### 7.1.1 General recommendations

Ensure good ventilation.
Avoid contact with eyes or skin.
Handle and open container with care.
There should be an eyewash station and safety shower located near the area of use.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Observe directions on label and instructions for use.
Use working methods according to operating instructions.

### 7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

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

Keep out of access to unauthorised individuals.
Store product closed and only in original packing.
Not to be stored in gangways or stair wells.
Do not store with alkalis.
Acid-resistant floor necessary.
Do not use acid sensitive materials.
Store at room temperature.
Store in a dry place.

### 7.3 Specific end use(s)

No information available at present.
Observe the instructions for good working practice and the recommendations for risk assessment.
Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries,
depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

| GB **Chemical Name** | Phosphoric acid | |
|---|---|---|
| WEL-TWA: 1 mg/m3 (WEL-TWA, EU) | WEL-STEL: 2 mg/m3 (WEL-STEL, EU) | --- |
| Monitoring procedures: | - INSHT MTA/MA-019/A90 (Determination of inorganic acid anions in air)<br>- OSHA ID-111 (Phosphoric Acid in Workplace Atmospheres)<br>- OSHA ID-165SG (Acid Mist In Workplace Atmospheres) - 1985 | |
| BMGV: --- | Other information: --- | |

| IRL **Chemical Name** | Phosphoric acid | |
|---|---|---|
| OELV-8h: 1 mg/m3 (OELV-8h, EU) | OELV-15min: 2 mg/m3 (OELV-15min, EU) | --- |
| Monitoring procedures: | - INSHT MTA/MA-019/A90 (Determination of inorganic acid anions in air)<br>- OSHA ID-111 (Phosphoric Acid in Workplace Atmospheres)<br>- OSHA ID-165SG (Acid Mist In Workplace Atmospheres) - 1985 | |
| BLV: --- | Other information: IOELV | |

| M **Chemical Name** | Phosphoric acid | |
|---|---|---|
| OELV-8h: 1 mg/m3 (OELV-8h, EU) | OELV-ST: 2 mg/m3 (OELV-ST, EU) | --- |
| Monitoring procedures: | - INSHT MTA/MA-019/A90 (Determination of inorganic acid anions in air)<br>- OSHA ID-111 (Phosphoric Acid in Workplace Atmospheres)<br>- OSHA ID-165SG (Acid Mist In Workplace Atmospheres) - 1985 | |
| BMGV: --- | Other information: --- | |

| GB **Chemical Name** | 2-Butoxyethanol | |
|---|---|---|
| WEL-TWA: 25 ppm (123 mg/m3) (WEL-TWA), 20 ppm (98 mg/m3) (EU) | WEL-STEL: 50 ppm (246 mg/m3) (WEL-STEL, EU) | --- |
| Monitoring procedures: | - Compur - KITA-190 U(C) (548 873)<br>DFG Meth.-Nr. 2 (D) (Loesungsmittelgemische 3), DFG (E) (Solvent mixtures 3) -<br>- 2014, 2002 - EU project BC/CEN/ENTR/000/2002-16 card 32-2 (2004)<br>- NIOSH 1403 (ALCOHOLS IV) - 2003<br>- NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996<br>- OSHA 83 (2-Butoxyethanol (Butyl Cellosolve)) - 1990 | |
| BMGV: 240 mmol butoxyacetic acid/mol creatinine in urine, post shift (BMGV) | Other information: Sk (WEL) | |

| IRL **Chemical Name** | 2-Butoxyethanol | |
|---|---|---|
| OELV-8h: 20 ppm (98 mg/m3) (OELV-8h, EU) | OELV-15min: 50 ppm (246 mg/m3) (OELV-15min, EU) | --- |
| Monitoring procedures: | - Compur - KITA-190 U(C) (548 873)<br>DFG Meth.-Nr. 2 (D) (Loesungsmittelgemische 3), DFG (E) (Solvent mixtures 3) -<br>- 2014, 2002 - EU project BC/CEN/ENTR/000/2002-16 card 32-2 (2004)<br>- NIOSH 1403 (ALCOHOLS IV) - 2003<br>- NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996<br>- OSHA 83 (2-Butoxyethanol (Butyl Cellosolve)) - 1990 | |
| BLV: 200 mg/g creatinine (Butoxyacetic acid (BAA) in urine, h) (ACGIH-BEI) | Other information: Sk, IOELV | |

| M **Chemical Name** | 2-Butoxyethanol | |
|---|---|---|
| OELV-8h: 20 ppm (98 mg/m3) (OELV-8h, EU) | OELV-ST: 50 ppm (246 mg/m3) (OELV-ST, EU) | --- |
| Monitoring procedures: | - Compur - KITA-190 U(C) (548 873)<br>DFG Meth.-Nr. 2 (D) (Loesungsmittelgemische 3), DFG (E) (Solvent mixtures 3) -<br>- 2014, 2002 - EU project BC/CEN/ENTR/000/2002-16 card 32-2 (2004)<br>- NIOSH 1403 (ALCOHOLS IV) - 2003<br>- NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996<br>- OSHA 83 (2-Butoxyethanol (Butyl Cellosolve)) - 1990 | |
| BMGV: 240 mmol butoxyacetic acid/mol creatinine in urine, post shift (BMGV) | Other information: Skin | |

**Phosphoric acid**

| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
|---|---|---|---|---|---|---|
| Consumer | Human - inhalation | Long term, local effects | DNEL | 0,73 | mg/m3 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Consumer | Human - inhalation | Short term, local effects | DNEL | 2 | mg/m3 | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 4,57 | mg/m3 | |
| Consumer | Human - inhalation | Long term, local effects | DNEL | 0,36 | mg/m3 | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 0,1 | mg/kg bw/day | |
| Workers / employees | Human - inhalation | Short term, local effects | DNEL | 2 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 10,7 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, local effects | DNEL | 1 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, local effects | DNEL | 2,92 | mg/m3 | |

| **Methanesulphonic acid** | | | | | | |
|---|---|---|---|---|---|---|
| **Area of application** | **Exposure route / Environmental compartment** | **Effect on health** | **Descriptor** | **Value** | **Unit** | **Note** |
| | Environment - freshwater | | PNEC | 0,012 | mg/l | |
| | Environment - marine | | PNEC | 0,0012 | mg/l | |
| | Environment - water, sporadic (intermittent) release | | PNEC | 0,12 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 0,0251 | mg/kg | |
| | Environment - soil | | PNEC | 0,00183 | mg/kg | |
| | Environment - sewage treatment plant | | PNEC | 100 | mg/l | |
| | Environment - sediment, marine | | PNEC | 0,0044 | mg/kg | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 8,33 | mg/kg | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 1,44 | mg/m3 | |
| Consumer | Human - inhalation | Short term, systemic effects | DNEL | 1,44 | mg/m3 | |
| Consumer | Human - inhalation | Long term, local effects | DNEL | 0,42 | mg/m3 | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 8,33 | mg/kg | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 6,76 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, local effects | DNEL | 0,7 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 19,44 | mg/kg | |

| **2-Butoxyethanol** | | | | | | |
|---|---|---|---|---|---|---|
| **Area of application** | **Exposure route / Environmental compartment** | **Effect on health** | **Descriptor** | **Value** | **Unit** | **Note** |
| | Environment - freshwater | | PNEC | 8,8 | mg/l | |
| | Environment - marine | | PNEC | 0,88 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 34,6 | mg/kg dw | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Environment - soil | | PNEC | 2,8 | mg/kg dw | |
| | Environment - sewage treatment plant | | PNEC | 463 | mg/l | |
| | Environment - sediment, marine | | PNEC | 3,46 | mg/kg dw | |
| | Environment - sporadic (intermittent) release | | PNEC | 9,1 | mg/l | |
| | Environment - soil | | PNEC | 2,33 | mg/kg | |
| | Environment - oral (animal feed) | | PNEC | 20 | mg/kg | |
| Consumer | Human - inhalation | Long term, local effects | DNEL | 123 | mg/m3 | |
| Consumer | Human - dermal | Short term, systemic effects | DNEL | 44,5 | mg/kg bw/d | |
| Consumer | Human - inhalation | Short term, systemic effects | DNEL | 426 | mg/m3 | |
| Consumer | Human - oral | Short term, systemic effects | DNEL | 13,4 | mg/kg bw/d | |
| Consumer | Human - inhalation | Short term, local effects | DNEL | 147 | mg/m3 | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 38 | mg/kg bw/d | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 49 | mg/m3 | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 3,2 | mg/kg bw/d | |
| Workers / employees | Human - dermal | Short term, systemic effects | DNEL | 89 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Short term, systemic effects | DNEL | 663 | mg/m3 | |
| Workers / employees | Human - inhalation | Short term, local effects | DNEL | 246 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 75 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 98 | mg/m3 | |

| **Myristyl dimethyl aminoxide** | | | | | | |
|---|---|---|---|---|---|---|
| **Area of application** | **Exposure route / Environmental compartment** | **Effect on health** | **Descriptor** | **Value** | **Unit** | **Note** |
| | Environment - freshwater | | PNEC | 0,034 | mg/l | |
| | Environment - marine | | PNEC | 0,003 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 5,24 | mg/kg dry weight | |
| | Environment - sediment, marine | | PNEC | 0,524 | mg/kg dry weight | |
| | Environment - soil | | PNEC | 1,02 | mg/kg dry weight | |
| | Environment - sewage treatment plant | | PNEC | 24 | mg/l | |
| | Environment - oral (animal feed) | | PNEC | 1,1 | mg/kg bw/day | |
| | Environment - sporadic (intermittent) release | | PNEC | 0,034 | mg/l | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 1,53 | mg/m3 | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 5,5 | mg/kg bw/day | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Consumer | Human - oral | Long term, systemic effects | DNEL | 0,44 | mg/kg bw/day | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 6,2 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 11 | mg/kg bw/day | |

GB - United Kingdom | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit - 8-hour TWA (= time weighted average) reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/CE, 2017/164/EU). (9) = Respirable fraction (2004/37/CE, 2017/164/EU). (11) = Inhalable fraction (2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/CE). |
| WEL-STEL = Workplace Exposure Limit - Short-term exposure limit - 15-minute reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |
| BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
| Other information (EH40/2005 Workplace exposure limits (Fourth Edition 2020)): Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE), (15) = Substantial contribution to the total body burden via dermal exposure possible. |

IRL - Ireland/Éire | OELV-8h = Occupational Exposure Limit Value - 8-hour reference period (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (11) = Inhalable fraction (2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/CE). |
| OELV-15min = Occupational Exposure Limit Value - 15-minute reference period (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |
| BMGV = Biological Monitoring Guidance Value (Biological Monitoring Guidelines 2011, HSA (Health and Safety Authority)): ACGIH-BEI = BMGV have been sourced from Biological Exposure Indices (BEI) as issued by the American Conference of Governmental Industrial Hygienists (ACGIH). SCOEL = BMGV have been sourced from the Scientific Committee on Occupational Exposure Limit Values (SCOEL) which was set up by a Commission Decision (95/320/EC) with the mandate to advise the European Commission on occupational exposure limits for chemicals in the workplace. HSE = BMGV have been sourced from the Health and Safety Executive (HSE), UK.
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
| Other information (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): Carc1A, Carc1B = carcinogenic substance, Cat. 1A or 1B. Muta1A, Muta1B = mutagenic substance, Cat. 1A or 1B. Repr1A, Repr1B = Substances known to be toxic for reproduction, Cat. 1A or 1B. Sk = can be absorbed through skin. Asphx = asphyxiant. Sen = Respiratory sensitizer. BOELV = Binding Occupational Exposure Limit Values. IOELV = Indicative Occupational Exposure Limit Values.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE), (15) = Substantial contribution to the total body burden via dermal exposure possible. |

- Malta | OELV-8h = Occupational Exposure Limit Value - 8 h (8-hour reference period as a time-weighted average) [S.L.424.24, last amended by L.N. 356 of 2021]: [9] = Inhalable fraction, [10] = Respirable fraction.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (11) = Inhalable fraction (2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/CE). |
| OELV-ST = Occupational Exposure Limit Value - Short-term (15-minute reference period) [S.L.424.24, last amended by L.N. 356 of 2021]: [8] = Short-term exposure limit value in relation to a reference period of 1 minute, [9] = Inhalable fraction, [10] = Respirable fraction.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |
| BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020), United Kingdom).
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
| Other information [S.L.424.24, last amended by L.N. 356 of 2021]: Skin = Possibility of a significant uptake through the skin. [11] = When selecting an appropriate exposure monitoring method , account should be taken of potential limitations and interferences that may arise in the presence of other sulphur compounds. [12] = The mist is defined as the thoracic fraction. [13] = Established in accordance with the Annex to Directive 91/322/EEC. [14] = During exposure monitoring for mercury and its divalent inorganic compounds, account should be taken of relevant biological monitoring techniques that complement the OELV.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:
(EU13) = The substance can cause sensitisation of the skin and of the respiratory tract (2004/37/CE), (EU14) = The substance can cause sensitisation of the skin (2004/37/CE), (EU15) = Substantial contribution to the total body burden via dermal exposure possible. |

## 8.2 Exposure controls
## 8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.
If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
Applies only if maximum permissible exposure values are listed here.
Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.
These are specified by e.g. EN 14042.
EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

## 8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
Tight fitting protective goggles with side protection (EN 166).
If applicable
Face protection (EN 166).

Skin protection - Hand protection:
Use acid resistant protective gloves (EN ISO 374).
If applicable
Protective gloves in butyl rubber (EN ISO 374).
Protective Neoprene® / polychloroprene gloves (EN ISO 374).
Minimum layer thickness in mm:
0,5
Permeation time (penetration time) in minutes:
> 480
The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
The recommended maximum wearing time is 50% of breakthrough time.

Protective hand cream recommended.

Skin protection - Other:
Acid-resistant protection clothing (EN 13034)

Respiratory protection:
Normally not necessary.

Thermal hazards:
Not applicable

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

### 8.2.3 Environmental exposure controls
No information available at present.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Physical state: | Liquid |
| Colour: | Yellow |
| Odour: | Characteristic |
| Melting point/freezing point: | There is no information available on this parameter. |
| Boiling point or initial boiling point and boiling range: | There is no information available on this parameter. |
| Flammability: | There is no information available on this parameter. |
| Lower explosion limit: | There is no information available on this parameter. |
| Upper explosion limit: | There is no information available on this parameter. |
| Flash point: | There is no information available on this parameter. |
| Auto-ignition temperature: | There is no information available on this parameter. |
| Decomposition temperature: | There is no information available on this parameter. |
| pH: | 0-1 |
| Kinematic viscosity: | There is no information available on this parameter. |
| Solubility: | Soluble |
| Partition coefficient n-octanol/water (log value): | Does not apply to mixtures. |
| Vapour pressure: | There is no information available on this parameter. |
| Density and/or relative density: | 1,09 g/ml |
| Relative vapour density: | There is no information available on this parameter. |
| Particle characteristics: | Does not apply to liquids. |

### 9.2 Other information

| | |
|---|---|
| Corrosive to metals: | There is no information available on this parameter. |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity
Product corrodes metals.

### 10.2 Chemical stability
Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions
Avoid contact with strong alkalis (exothermic reaction possible).
Avoid contact with certain metals e.g. aluminium (development of hydrogen gas possible).

### 10.4 Conditions to avoid

See also section 7.
None known

### 10.5 Incompatible materials

Avoid contact with strong alkalis.
Avoid contact with strong oxidizing agents.
Avoid contact with certain metals e.g. aluminium.
Avoid contact with acid sensitive materials.

### 10.6 Hazardous decomposition products

See also section 5.2
No decomposition when used as directed.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Possibly more information on health effects, see Section 2.1 (classification).

| **Hull preCleaner acid<br>Art.: 512999** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | ATE | >2000 | mg/kg | | | calculated value |
| Acute toxicity, by dermal route: | ATE | >2000 | mg/kg | | | calculated value |
| Acute toxicity, by inhalation: | ATE | >20 | mg/l/4h | | | calculated value, Vapours |
| Acute toxicity, by inhalation: | ATE | >5 | mg/l/4h | | | calculated value, Aerosol |
| Skin corrosion/irritation: | | | | | | n.d.a. |
| Serious eye damage/irritation: | | | | | | n.d.a. |
| Respiratory or skin sensitisation: | | | | | | n.d.a. |
| Germ cell mutagenicity: | | | | | | n.d.a. |
| Carcinogenicity: | | | | | | n.d.a. |
| Reproductive toxicity: | | | | | | n.d.a. |
| Specific target organ toxicity - single exposure (STOT-SE): | | | | | | n.d.a. |
| Specific target organ toxicity - repeated exposure (STOT-RE): | | | | | | n.d.a. |
| Aspiration hazard: | | | | | | n.d.a. |
| Symptoms: | | | | | | n.d.a. |

| **Phosphoric acid** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | ATE | 500 | mg/kg | | | |
| Acute toxicity, by oral route: | LD50 | 300-2000 | mg/kg | Rat | OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method) | |
| Skin corrosion/irritation: | | | | Rabbit | | Skin Corr. 1B |
| Serious eye damage/irritation: | | | | Rabbit | | Eye Dam. 1 |
| Germ cell mutagenicity: | | | | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 473 (In Vitro Mammalian Chromosome Aberration Test) | Negative |

| | | | | | | |
|---|---|---|---|---|---|---|
| Germ cell mutagenicity: | | | | Mouse | OECD 476 (In Vitro Mammalian Cell Gene Mutation Test) | Negative |
| Symptoms: | | | | | | respiratory distress, vomiting, coughing, collapse, cramps, mucous membrane irritation, shock |

**Methanesulphonic acid**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | LD50 | 648,7 | mg/kg | Rat | OECD 401 (Acute Oral Toxicity) | The toxicity is determined by the corrosivity of the product. |
| Acute toxicity, by oral route: | ATE | 648,7 | mg/kg | | | |
| Acute toxicity, by dermal route: | ATE | 1100 | mg/kg | | | |
| Acute toxicity, by dermal route: | LD50 | >1000-<2000 | mg/kg | Rabbit | OECD 402 (Acute Dermal Toxicity) | The toxicity is determined by the corrosivity of the product. |
| Acute toxicity, by inhalation: | LC50 | 1,1-1,4 | mg/l/6h | Rat | | |
| Skin corrosion/irritation: | | | | Rabbit | (Draize-Test) | Skin Corr. 1B |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Eye Dam. 1 |
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | Not sensitizising |
| Germ cell mutagenicity: | | | | Mouse | OECD 474 (Mammalian Erythrocyte Micronucleus Test) | Negative |
| Reproductive toxicity: | NOAEL | >=1000 | mg/kg bw/d | Rat | OECD 421 (Reproduction/Developmental Toxicity Screening Test) | |
| Specific target organ toxicity - repeated exposure (STOT-RE): | NOAEL | 1805 | mg/kg | Rat | | |
| Symptoms: | | | | | | asthmatic symptoms, respiratory distress, burning of the membranes of the nose and throat, cornea opacity, coughing, headaches, dizziness, nausea and vomiting. |

**2-Butoxyethanol**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | ATE | 1200 | mg/kg | | | |
| Acute toxicity, by dermal route: | LD50 | 2275 | mg/kg | Rabbit | OECD 402 (Acute Dermal Toxicity) | |
| Acute toxicity, by inhalation: | ATE | 3 | mg/l | | | Vapours |
| Acute toxicity, by inhalation: | ATE | 0,5 | mg/l/4h | | | Aerosol |
| Skin corrosion/irritation: | | | | Rabbit | Regulation (EC) 440/2008 B.4 (DERMAL IRRITATION/CORROSION) | Skin Irrit. 2, Product removes fat. |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Eye Irrit. 2 |
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | No (skin contact) |
| Germ cell mutagenicity: | | | | Mouse | OECD 474 (Mammalian Erythrocyte Micronucleus Test) | Negative |
| Germ cell mutagenicity: | | | | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 473 (In Vitro Mammalian Chromosome Aberration Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 476 (In Vitro Mammalian Cell Gene Mutation Test) | Negative |
| Carcinogenicity: | | | | Rat | OECD 451 (Carcinogenicity Studies) | Negative |
| Carcinogenicity: | NOAEC | 125 | ppm | Mouse | OECD 451 (Carcinogenicity Studies) | Negative |
| Reproductive toxicity: | NOAEL | 720 | mg/kg bw/d | | | |
| Specific target organ toxicity - repeated exposure (STOT-RE), oral: | NOAEL | <69 | mg/kg bw/d | Rat | OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents) | |
| Specific target organ toxicity - repeated exposure (STOT-RE), dermal: | NOAEL | >150 | mg/kg bw/d | Rabbit | OECD 411 (Subchronic Dermal Toxicity - 90-day Study) | |
| Aspiration hazard: | | | | | | No |

| | | | | | | |
|---|---|---|---|---|---|---|
| Symptoms: | | | | | | acidosis, ataxia, breathing difficulties, respiratory distress, drowsiness, unconsciousness, annoyance, coughing, headaches, gastrointestinal disturbances, insomnia, mucous membrane irritation, dizziness, nausea |

| **Myristyl dimethyl aminoxide** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | LD50 | >300-2000 | mg/kg | Rat | OECD 401 (Acute Oral Toxicity) | |
| Acute toxicity, by oral route: | ATE | 500 | mg/kg | | | |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Irritant |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Risk of serious damage to eyes. |
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | Not sensitizising |
| Germ cell mutagenicity: | | | | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Germ cell mutagenicity: | | | | Mammalian | Regulation (EC) 440/2008 B.17 (IN VITRO MAMMALIAN CELL GENE MUTATION TESTS USING HPRT + XPRT GENES) | Negative |
| Germ cell mutagenicity: | | | | Mouse | OECD 478 (Genetic Toxicology - Rodent dominant Lethal Test) | Negative |
| Carcinogenicity: | | | | Rat | OECD 451 (Carcinogenicity Studies) | Negative |
| Specific target organ toxicity - repeated exposure (STOT-RE), oral: | NOEL | 100 | mg/kg bw/d | Rat | OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test) | Negative |
| Specific target organ toxicity - repeated exposure (STOT-RE), dermal: | | | | Mouse | OECD 411 (Subchronic Dermal Toxicity - 90-day Study) | Negative |

## 11.2. Information on other hazards

| **Hull preCleaner acid Art.: 512999** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Endocrine disrupting properties: | | | | | | Does not apply to mixtures. |
| Other information: | | | | | | No other relevant information available on adverse effects on health. |

# SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

| **Hull preCleaner acid Art.: 512999** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | | | | | | | n.d.a. |
| 12.1. Toxicity to daphnia: | | | | | | | n.d.a. |
| 12.1. Toxicity to algae: | | | | | | | n.d.a. |
| 12.2. Persistence and degradability: | | | | | | | The surfactant(s) contained in this mixture complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. |
| 12.3. Bioaccumulative potential: | | | | | | | n.d.a. |
| 12.4. Mobility in soil: | | | | | | | n.d.a. |
| 12.5. Results of PBT and vPvB assessment | | | | | | | n.d.a. |
| 12.6. Endocrine disrupting properties: | | | | | | | Does not apply to mixtures. |
| 12.7. Other adverse effects: | | | | | | | No information available on other adverse effects on the environment. |
| Other information: | | | | | | | DOC-elimination degree(complexing organic substance)>= 80%/28d: n.a. |
| Other information: | AOX | | | % | | | According to the recipe, contains no AOX. |

| **Phosphoric acid** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | LC50 | 96h | 3,0 - 3,25 | mg/l | Lepomis macrochirus | | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | >100 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| 12.1. Toxicity to algae: | EC50 | 72h | >100 | mg/l | Desmodesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.2. Persistence and degradability: | | | | | | | Not relevant for inorganic substances. |

| **Methanesulphonic acid** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | LC50 | 96h | 73 | mg/l | Oncorhynchus mykiss | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | 70 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| 12.1. Toxicity to algae: | EC50 | 96h | 7,2-20 | mg/l | Selenastrum capricornutum | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.2. Persistence and degradability: | | 10d | 84 | % | | OECD 301 F (Ready Biodegradability - Manometric Respirometry Test) | |
| 12.2. Persistence and degradability: | | 28d | 90-100 | % | | OECD 301 A (Ready Biodegradability - DOC Die-Away Test) | Readily biodegradable |
| 12.3. Bioaccumulative potential: | Log Pow | | -2,38 | | | | Not to be expectedcaculated |
| Toxicity to bacteria: | EC50 | 30min | >1000 | mg/l | activated sludge | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) | |

| **2-Butoxyethanol** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | LC50 | 96h | 1474 | mg/l | Oncorhynchus mykiss | OECD 203 (Fish, Acute Toxicity Test) | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12.1. Toxicity to fish: | NOEC/NOEL | 21d | >100 | mg/l | Brachydanio rerio | OECD 204 (Fish, Prolonged Toxicity Test - 14-Day Study) | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | 1550 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| 12.1. Toxicity to daphnia: | NOEC/NOEL | 21d | 100 | mg/l | Daphnia magna | OECD 211 (Daphnia magna Reproduction Test) | |
| 12.1. Toxicity to algae: | EC50 | 72h | 1840 | mg/l | Pseudokirchneriella subcapitata | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.1. Toxicity to algae: | NOEC/NOEL | 72h | 286 | mg/l | Pseudokirchneriella subcapitata | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.2. Persistence and degradability: | | 28d | 95 | % | | OECD 301 E (Ready Biodegradability - Modified OECD Screening Test) | Readily biodegradable |
| 12.2. Persistence and degradability: | | 28d | >99 | % | | OECD 302 B (Inherent Biodegradability - Zahn-Wellens/EMPA Test) | Readily biodegradable |
| 12.3. Bioaccumulative potential: | BCF | | 3,2 | | | | Slight |
| 12.3. Bioaccumulative potential: | Log Pow | | 0,81 | | | OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method) | Not to be expected |
| 12.4. Mobility in soil: | H (Henry) | | 0,0000016 | atm*m3/mol | | | |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |
| Toxicity to bacteria: | EC10 | 16h | >700 | mg/l | Pseudomonas putida | DIN 38412 T.8 | |

| **Myristyl dimethyl aminoxide** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | LC50 | 96h | >1-10 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | >1-10 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| 12.1. Toxicity to algae: | EC50 | 72h | >0,1-1 | mg/l | Pseudokirchneriella subcapitata | OECD 201 (Alga, Growth Inhibition Test) | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12.2. Persistence and degradability: | | | | | | OECD 301 D (Ready Biodegradability - Closed Bottle Test) | Readily biodegradable |
| 12.2. Persistence and degradability: | | 28d | 67,5 | % | activated sludge | OECD 301 B (Ready Biodegradability - Co2 Evolution Test) | Readily biodegradable |
| 12.3. Bioaccumulative potential: | Log Pow | | 2,7 | | | | calculated value |
| 12.3. Bioaccumulative potential: | | | | | | | Not to be expected |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

### For the substance / mixture / residual amounts

EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product.
Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)
20 01 29 detergents containing hazardous substances
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
E.g. suitable incineration plant.
E.g. dispose at suitable refuse site.

### For contaminated packing material

Empty container completely.
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.

## SECTION 14: Transport information

### General statements

14.1. UN number or ID number: 1760
14.2. UN proper shipping name:
UN 1760 CORROSIVE LIQUID, N.O.S. (PHOSPHORIC ACID, METHANESULFONIC ACID)

14.3. Transport hazard class(es): 8
14.4. Packing group: II
14.5. Environmental hazards: Not applicable
Tunnel restriction code: E
Classification code: C9
LQ: 1 L
Transport category: 2

### Transport by sea (IMDG-code)

14.1. UN number or ID number: 1760
14.2. UN proper shipping name:
UN 1760 CORROSIVE LIQUID, N.O.S. (PHOSPHORIC ACID, METHANESULFONIC ACID)

14.3. Transport hazard class(es): 8
14.4. Packing group: II
14.5. Environmental hazards: Not applicable

| | |
|---|---|
| Marine Pollutant: | Not applicable |
| EmS: | F-A, S-B |
| Segregation: | - |

### Transport by air (IATA)

| | |
|---|---|
| 14.1. UN number or ID number: | 1760 |

14.2. UN proper shipping name:
UN 1760 Corrosive liquid, n.o.s. (PHOSPHORIC ACID, METHANESULFONIC ACID)

| | |
|---|---|
| 14.3. Transport hazard class(es): | 8 |
| 14.4. Packing group: | II |
| 14.5. Environmental hazards: | Not applicable |

### 14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.
All persons involved in transporting must observe safety regulations.
Precautions must be taken to prevent damage.

### 14.7. Maritime transport in bulk according to IMO instruments

Freighted as packaged goods rather than in bulk, therefore not applicable.
Minimum amount regulations have not been taken into account.
Danger code and packing code on request.
Comply with special provisions.

## SECTION 15: Regulatory information

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

Observe restrictions:
Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!
Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!
Comply with trade association/occupational health regulations.

Directive 2010/75/EU (VOC): 5 %

### REGULATION (EC) No 648/2004

5 % or over but less than 15 %
phosphates
less than 5 %
cationic surfactants

National rules/regulation for the compliance with maximum quantities with regard to phosphates and or phosphorous compounds must be observed and complied with.

National requirements/regulations on safety and health protection must be applied when using work equipment.

### 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

## SECTION 16: Other information

Revised sections: 8
Employee training in handling dangerous goods is required.
These details refer to the product as it is delivered.
Employee instruction/training in handling hazardous materials is required.

### Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

| Classification in accordance with regulation (EC) No. 1272/2008 (CLP) | Evaluation method used |
|---|---|

| | |
|---|---|
| Eye Dam. 1, H318 | Classification based on the pH value. |
| Aquatic Chronic 3, H412 | Classification according to calculation procedure. |
| Met. Corr. 1, H290 | Classification based on test data. |
| Skin Corr. 1, H314 | Classification based on the pH value. |

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents.
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.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Eye Dam. — Serious eye damage
Aquatic Chronic — Hazardous to the aquatic environment - chronic
Met. Corr. — Substance or mixture corrosive to metals
Skin Corr. — Skin corrosion
Acute Tox. — Acute toxicity - oral
Acute Tox. — Acute toxicity - dermal
STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation
Acute Tox. — Acute toxicity - inhalation
Skin Irrit. — Skin irritation
Eye Irrit. — Eye irritation
Aquatic Acute — Hazardous to the aquatic environment - acute

## Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.
Guidelines for the preparation of safety data sheets as amended (ECHA).
Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).
Safety data sheets for the constituent substances.
ECHA Homepage - Information about chemicals.
GESTIS Substance Database (Germany).
German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).
EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.
National Lists of Occupational Exposure Limits for each country as amended.
Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

## Any abbreviations and acronyms used in this document:

acc., acc. to according, according to
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ASTM ASTM International (American Society for Testing and Materials)
ATE Acute Toxicity Estimate
BAM Bundesanstalt für Materialforschung und -prüfung (= Federal Institute for Materials Research and Testing, Germany)
BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BCF Bioconcentration factor
BSEF The International Bromine Council

CAS Chemical Abstracts Service
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
DOC Dissolved organic carbon
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EbCx, EyCx, EbLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)
EC European Community
ECHA European Chemicals Agency
ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
EN European Norms
EPA United States Environmental Protection Agency (United States of America)
ErCx, EμCx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)
etc. et cetera
EU European Union
EVAL Ethylene-vinyl alcohol copolymer
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GWP Global warming potential
Koc Adsorption coefficient of organic carbon in the soil
Kow octanol-water partition coefficient
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC (Code) International Bulk Chemical (Code)
IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCLID International Uniform Chemical Information Database
IUPAC International Union for Pure Applied Chemistry
LC50 Lethal Concentration to 50 % of a test population
LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)
Log Koc Logarithm of adsorption coefficient of organic carbon in the soil
Log Kow, Log Pow Logarithm of octanol-water partition coefficient
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
mg/kg bw mg/kg body weight
mg/kg bw/d, mg/kg bw/day mg/kg body weight/day
mg/kg dw mg/kg dry weight
mg/kg wwt mg/kg wet weight
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute for Occupational Safety and Health (USA)
NLP No-longer-Polymer
NOEC, NOEL No Observed Effect Concentration/Level
OECD Organisation for Economic Co-operation and Development
org. organic
OSHA Occupational Safety and Health Administration (USA)
PBT persistent, bioaccumulative and toxic
PE Polyethylene
PNEC Predicted No Effect Concentration
ppm parts per million
PVC Polyvinylchloride
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)

REACH-IT List-No. 6/7/8/9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SVHC Substances of Very High Concern
Tel. Telephone
TOC Total organic carbon
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.
No responsibility.
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