# ENERGY TOPKLIKS

**WM 0716103** **Order number: 0716103**

Version 11.0 Revision Date 15.10.2026 Print Date 15.10.2026

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

### 1.1 Product identifier

| | | |
|---|---|---|
| Trade name | : | ENERGY TOPKLIKS |
| UFI | : | 1RN3-Y07G-P00N-HQH9 |

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

| | | |
|---|---|---|
| Use of the Substance/Mixture | : | Cleaning agent |
| | | Restricted to professional users. |

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

| | | |
|---|---|---|
| Company | : | Tana Chemie GmbH<br>Rheinallee 96<br>55120 Mainz |
| Telephone | : | +49613196403 |
| Telefax | : | +4961319642526 |
| E-mail address | : | Produktsicherheit@werner-mertz.com |
| Responsible/issuing person | | |
| Contact person | : | Product development / product safety |

### 1.4 Emergency telephone

EU: 112

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**

| | |
|---|---|
| Corrosive to Metals, Category 1 | H290: May be corrosive to metals. |
| Skin corrosion, Category 1B | H314: Causes severe skin burns and eye damage. |
| Serious eye damage, Category 1 | H318: Causes serious eye damage. |

### 2.2 Label elements

**Labeling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :

| | | | |
|---|---|---|---|
| Signal Word | : | Danger | |
| Hazard Statements | : | H290<br>H314 | May be corrosive to metals.<br>Causes severe skin burns and eye damage. |
| Precautionary Statements | : | P102<br>**Prevention:** | Keep out of reach of children. |

| | |
|---|---|
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| **Response:** | |
| 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. |
| 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. |
| **Disposal:** | |
| P501 | Dispose of container into the collection of recyclables only when it is completely empty. |

Hazardous ingredients which must be listed on the label:

sodium hydroxide

**Additional Labeling:**

Safety data sheet available on request.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

**Components**

| Chemical name | CAS-No.<br>EC-No.<br>Index-No.<br>Registration number | Classification | Concentration (% w/w) |
|---|---|---|---|
| sodium hydroxide | 1310-73-2<br>215-185-5<br>011-002-00-6<br>01-2119457892-27 | Met. Corr. 1; H290<br>Skin Corr. 1A; H314<br>Eye Dam. 1; H318<br>---<br>specific concentration limit<br>Skin Corr. 1A; H314<br>>= 5 %<br>Skin Corr. 1B; H314<br>2 - < 5 %<br>Skin Irrit. 2; H315<br>0,5 - < 2 % | >= 5 - < 10 |

| | | | |
|---|---|---|---|
| | | Eye Irrit. 2; H319<br>0,5 - < 2 % | |
| tetrasodium (1-hydroxyethylidene)bisphosphonate | 3794-83-0<br>223-267-7<br>01-2119510382-52 | Acute Tox. 4; H302<br>Eye Irrit. 2; H319<br>---<br>Acute toxicity estimate<br><br>Acute oral toxicity: > 2.000 mg/kg | >= 5 - < 10 |
| potassium hydroxide | 1310-58-3<br>215-181-3<br>019-002-00-8<br>01-2119487136-33 | Acute Tox. 4; H302<br>Skin Corr. 1A; H314<br>Met. Corr. 1; H290<br>Eye Dam. 1; H318<br>---<br>specific concentration limit<br>Skin Corr. 1A; H314<br>>= 5 %<br>Skin Corr. 1B; H314<br>2 - < 5 %<br>Skin Irrit. 2; H315<br>0,5 - < 2 %<br>Eye Irrit. 2; H319<br>0,5 - < 2 %<br>---<br>Acute toxicity estimate<br><br>Acute oral toxicity: 500,0 mg/kg | >= 3 - < 5 |
| Alanine, N,N-bis(carboxymethyl)-, trisodium salt | 164462-16-2<br>423-270-5423-270-5<br>01-0000016977-53 | Met. Corr. 1; H290 | >= 1 - < 3 |

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

General advice : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

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

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
Protect unharmed eye.
Continue rinsing eyes during transport to hospital.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do NOT induce vomiting.

Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.

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

| | | |
|---|---|---|
| Symptoms | : | corrosive effects |
| Risks | : | No information available. |

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

| | | |
|---|---|---|
| Treatment | : | For specialist advice physicians should contact the Poisons Information Service. |

## SECTION 5: Firefighting measures

**5.1 Extinguishing media**

| | | |
|---|---|---|
| Suitable extinguishing media | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |

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

| | | |
|---|---|---|
| Specific hazards during fire fighting | : | Do not allow run-off from fire fighting to enter drains or water courses. |
| Hazardous combustion products | : | No hazardous combustion products are known |

**5.3 Advice for firefighters**

| | | |
|---|---|---|
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus. |
| Further information | : | Collect contaminated fire extinguishing water separately. This must not be discharged into drains.<br>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**

| | | |
|---|---|---|
| Personal precautions | : | Use personal protective equipment.<br>Ensure adequate ventilation.<br>Evacuate personnel to safe areas. |

**6.2 Environmental precautions**

| | | |
|---|---|---|
| Environmental precautions | : | Do not flush into surface water or sanitary sewer system. |

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

| | | |
|---|---|---|
| Methods for cleaning up | : | Neutralize with acid.<br>Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).<br>Keep in suitable, closed containers for disposal. |

### 6.4 Reference to other sections

For personal protection see section 8., Treat recovered material as described in the section "Disposal considerations"., Refer to section 15 for specific national regulation.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

| | | |
|---|---|---|
| Advice on safe handling | : | Avoid contact with skin and eyes.<br>For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the application area.<br>To avoid spills during handling keep bottle on a metal tray.<br>Dispose of rinse water in accordance with local and national regulations. |
| Advice on protection against fire and explosion | : | Normal measures for preventive fire protection. |
| Hygiene measures | : | Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday. |

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

| | | |
|---|---|---|
| Requirements for storage areas and containers | : | Store in original container. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store at room temperature in the original container. |
| Further information on storage stability | : | No decomposition if stored and applied as directed. |

### 7.3 Specific end use(s)

| | | |
|---|---|---|
| Specific use(s) | : | Cleaning agent |

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

| Substance name | End Use | Routes of exposure | Potential health effects | Value |
|---|---|---|---|---|
| tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate | Workers | Inhalation | Acute systemic effects | 55 mg/m3 |
| | Workers | Inhalation | Acute local effects | 55 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 15000 mg/kg |

| | | | | |
|---|---|---|---|---|
| | Workers | Inhalation | Long-term systemic effects | 7,3 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 7500 mg/kg |
| | Consumers | Inhalation | Long-term systemic effects | 1,8 mg/m3 |
| | Consumers | Ingestion | Long-term systemic effects | 1,5 mg/kg |
| sodium hydroxide | Workers | Inhalation | Long-term local effects | 1,0 mg/m3 |
| | Workers | Inhalation | Long-term systemic effects, Long-term local effects | 1,5 mg/m3 |
| | Workers | Inhalation | Short-term exposure, Local effects, Systemic effects | 3 mg/m3 |
| | Consumers | Inhalation | Long-term local effects, Long-term systemic effects | 0,6 mg/m3 |
| | Consumers | Inhalation | Short-term exposure, Local effects, Systemic effects | 1,2 mg/m3 |
| | Consumers | Ingestion | Long-term local effects, Long-term systemic effects | 25 mg/m3 |
| potassium hydroxide | Workers | Inhalation | Long-term local effects | 1 mg/m3 |
| | Consumers | Inhalation | Long-term local effects | 1 mg/m3 |
| Alanine, N,N-bis(carboxymethyl)-, trisodium salt | Workers | Inhalation | Acute systemic effects | 40 mg/m3 |
| | Workers | Inhalation | Acute local effects | 40 mg/m3 |
| | Workers | Inhalation | Long-term systemic effects | 40 mg/m3 |
| | Workers | Inhalation | Long-term local effects | 4 mg/m3 |
| | Consumers | Inhalation | Acute local effects | 20 mg/m3 |
| | Consumers | Inhalation | Acute systemic effects | 20 mg/m3 |
| | Consumers | Inhalation | Long-term systemic | 20 mg/m3 |

| | | | | |
|---|---|---|---|---|
| | | | effects | |
| | Consumers | Inhalation | Long-term local effects | 2 mg/m3 |
| | Consumers | Ingestion | Acute systemic effects | 85 mg/kg |
| | Consumers | Ingestion | Long-term systemic effects | 17 mg/kg |

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

| Substance name | Environmental Compartment | Value |
|---|---|---|
| tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate | Fresh water | > 2 mg/l |
| | Sea water | > 0,2 mg/l |
| | intermittent release | > 1 mg/l |
| | STP | > 41,2 mg/l |
| | Oral | 67 mg/kg |
| Alanine, N,N-bis(carboxymethyl)-, trisodium salt | Fresh water | 2 mg/l |
| | Sea water | 0,2 mg/l |
| | Fresh water sediment | 24 mg/kg |
| | Soil | 2,5 mg/kg |
| | STP | 100 mg/l |
| | intermittent release | 1 mg/l |

**8.2 Exposure controls**

**Personal protective equipment**

Eye/face protection : Tightly fitting safety goggles

Hand protection

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

Remarks : Take note of the information given by the producer concerning permeability and break through times, and of special workplace

conditions (mechanical strain, duration of contact).

| | | |
|---|---|---|
| Skin and body protection | : | Choose body protection according to the amount and concentration of the dangerous substance at the work place.<br><br>Remove and wash contaminated clothing before re-use. |
| Respiratory protection | : | Not required; except in case of aerosol formation.<br><br>Recommended Filter type:<br><br>ABEK-P3-filter |

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | liquid |
| Color | : | light yellow, clear |
| Odor | : | characteristic |
| Melting point/freezing point | : | No data available |
| Boiling point/boiling range | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Flammability (liquids) | : | No data available |
| Lower explosion limit | : | No data available |
| Upper explosion limit | : | No data available |
| Flash point | : | does not flash |
| Ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| pH | : | ca. 13, 100 %<br>at 20 °C |
| Viscosity, dynamic | : | No data available |
| Viscosity, kinematic | : | No data available |
| Water solubility | : | soluble |
| Solubility in other solvents | : | No data available |
| Partition coefficient: n-octanol/water | : | No data available |
| Vapor pressure | : | No data available |

| | | |
|---|---|---|
| Density | : | ca. 1,351 g/cm3 at 20 °C |
| Relative density | : | No data available |
| Relative vapor density | : | No data available |
| Particle characteristics | : | No data available |

**9.2 Other information**

none

## SECTION 10: Stability and reactivity

**10.1 Reactivity**

Stable under recommended storage conditions.
No dangerous reaction known under conditions of normal use.

**10.2 Chemical stability**

No decomposition if stored and applied as directed.

**10.3 Possibility of hazardous reactions**

| | | |
|---|---|---|
| Hazardous reactions | : | Stable under recommended storage conditions.<br>No decomposition if used as directed. |

**10.4 Conditions to avoid**

| | | |
|---|---|---|
| Conditions to avoid | : | No data available |

**10.5 Incompatible materials**

| | | |
|---|---|---|
| Materials to avoid | : | No data available |

**10.6 Hazardous decomposition products**

No hazardous decomposition products are known.

## SECTION 11: Toxicological information

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

Our company is strongly against animal testing.
Our company does not place any orders for animal testing for the finished product or the ingredients.
However, as a result of EU legislation (REACH Regulation), the manufacturers of ingredients or EU importers are obliged to test ingredients with regard to their effects on human health and the environment before they are brought onto the market. Some of the tests made necessary by this took place decades ago.

**Acute toxicity**

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: > 2.000 mg/kg<br>Method: Calculation method |

**Components:**

**sodium hydroxide**

**1310-73-2:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 Oral (Rat): 2.000 mg/kg |

**tetrasodium (1-hydroxyethylidene)bisphosphonate**

**3794-83-0:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: > 2.000 mg/kg<br>Method: Calculation method |

**potassium hydroxide**

**1310-58-3:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 273 mg/kg<br><br>Acute toxicity estimate: 500,0 mg/kg<br>Method: Converted acute toxicity point estimate<br><br>LD50 Oral (Rat, male): 333 mg/kg<br>Method: OECD Test Guideline 425 |

**Alanine, N,N-bis(carboxymethyl)-, trisodium salt**

**164462-16-2:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 Oral (Rat): > 2.000 mg/kg<br>Method: Tested according to Directive 92/69/EEC. |
| Acute inhalation toxicity | : | LC50 (Rat): > 5 mg/l<br>Exposure time: 4 h |
| Acute dermal toxicity | : | LD50 (Rat): > 2.000 mg/kg<br>Method: OECD Test Guideline 402 |

**Skin corrosion/irritation**

**Product:**

| | | |
|---|---|---|
| Remarks | : | Extremely corrosive and destructive to tissue. |

**Components:**

**sodium hydroxide**

**1310-73-2:**

| | | |
|---|---|---|
| Result | : | Corrosive |

**potassium hydroxide**

**1310-58-3:**

| | | |
|---|---|---|
| Result | : | Corrosive |

**Alanine, N,N-bis(carboxymethyl)-, trisodium salt**

**164462-16-2:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| Result | : | No skin irritation |

**Serious eye damage/eye irritation**

**Product:**

| | | |
|---|---|---|
| Remarks | : | May cause irreversible eye damage. |

**Components:**

**sodium hydroxide**

**1310-73-2:**

| | | |
|---|---|---|
| Result | : | Corrosive |

**potassium hydroxide**

**1310-58-3:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 405 |
| Result | : | Corrosive |

**Alanine, N,N-bis(carboxymethyl)-, trisodium salt**

**164462-16-2:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 405 |
| Result | : | No eye irritation |

**Respiratory or skin sensitization**

**Product:**

| | | |
|---|---|---|
| Remarks | : | No data available |

**Components:**

**potassium hydroxide**

**1310-58-3:**

| | | |
|---|---|---|
| Species | : | Guinea pig |
| Result | : | Did not cause sensitization on laboratory animals. |

**Alanine, N,N-bis(carboxymethyl)-, trisodium salt**

**164462-16-2:**

| | | |
|---|---|---|
| Test Type | : | Maximization Test |
| Species | : | Guinea pig |
| Method | : | OECD Test Guideline 406 |
| Result | : | Did not cause sensitization on laboratory animals. |

**Germ cell mutagenicity**

| | | |
|---|---|---|
| Germ cell mutagenicity | : | Not Rated |

**Components:**

**potassium hydroxide**

**1310-58-3:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Ames test<br>Test system: Salmonella typhimurium |

Result: negative

**Alanine, N,N-bis(carboxymethyl)-, trisodium salt**

**164462-16-2:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Ames test<br>Method: OECD Test Guideline 471<br>Result: negative<br><br>Test Type: Micronucleus test<br>Method: Mutagenicity (micronucleus test)<br>Result: negative<br><br>Method: OECD Test Guideline 476<br>Result: negative |
| Genotoxicity in vivo | : | Method: OECD Test Guideline 474 |
| Carcinogenicity | : | Not Rated |
| Reproductive toxicity | : | Not Rated |
| 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. |

**Repeated dose toxicity**

**Components:**

**Alanine, N,N-bis(carboxymethyl)-, trisodium salt**

**164462-16-2:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 262 mg/kg |
| Application Route | : | Oral |
| Symptoms | : | Kidney disorders |

Aspiration toxicity : Not Rated

### 11.2 Information on other hazards

**Endocrine disrupting properties**

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Further information**

**Product:**

Remarks : No data available

## SECTION 12: Ecological information

### 12.1 Toxicity

**Components:**

**sodium hydroxide**

**1310-73-2:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Fish): 33 - 189 mg/l<br>Exposure time: 96 h<br><br>LC50 (Gambusia affinis (Mosquito fish)): 125 mg/l<br>Exposure time: 96 h<br><br>LC50 (Poecilia reticulata (guppy)): 76 mg/l<br>Exposure time: 24 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia): 40,4 mg/l<br><br>EC50 (Daphnia magna (Water flea)): 76 mg/l<br>Exposure time: 24 h<br><br>EC50 (Ceriodaphnia (water flea)): 40,4 mg/l<br>Exposure time: 48 h<br>Test Type: Immobilization |
| Toxicity to microorganisms | : | EC50 (Photobacterium phosphoreum): 22 mg/l<br>Exposure time: 15 min |

**tetrasodium (1-hydroxyethylidene)bisphosphonate**

**3794-83-0:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Leuciscus idus (Golden orfe)): 7,5 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
| Toxicity to microorganisms | : | EC10 : 61 mg/l<br>Method: DIN 38412 |

**potassium hydroxide**

**1310-58-3:**

| | | |
|---|---|---|
| Toxicity to fish | : | (Pimephales promelas (fathead minnow)): 880 mg/l<br>Exposure time: 96 h<br>Test Type: static test<br><br>LC50 (Gambusia affinis (Mosquito fish)): 80 mg/l<br>Exposure time: 96 h<br><br>LC50 (Poecilia reticulata (guppy)): 165 mg/l<br>Exposure time: 24 h<br><br>LC50 (Oncorhynchus mykiss (rainbow trout)): 45,4 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 660 mg/l<br>Exposure time: 48 h |

| | | |
|---|---|---|
| | | Test Type: static test<br><br>EC50 (Ceriodaphnia dubia (water flea)): 40,4 mg/l<br>Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : | EC50 : 1.337 mg/l<br>Exposure time: 120 h |
| Toxicity to microorganisms | : | EC50 (Photobacterium phosphoreum): 22 mg/l<br>Exposure time: 15 min |
| Toxicity to soil dwelling organisms | : | LC50: 850 mg/kg<br>Exposure time: 90 d |

**Alanine, N,N-bis(carboxymethyl)-, trisodium salt**

**164462-16-2:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Brachydanio rerio): > 100 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | EC50 (Pseudokirchneriella subcapitata (microalgae)): > 100 mg/l<br>Exposure time: 72 h<br>Test Type: static test |
| Toxicity to microorganisms | : | EC20 (activated sludge): > 1.000 mg/l<br>Exposure time: 0,5 h<br>Method: OECD Test Guideline 209 |
| Toxicity to fish (Chronic toxicity) | : | NOEC: > 100 mg/l<br>Exposure time: 28 d<br>Species: Oncorhynchus mykiss (rainbow trout)<br>Method: OECD Test Guideline 204 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: > 100 mg/l<br>Species: Daphnia magna (Water flea)<br>Method: OECD Test Guideline 202 |
| Toxicity to soil dwelling organisms | : | LC50: 142 mg/kg<br>Exposure time: 14 d<br>Species: Eisenia fetida (earthworms) |
| Plant toxicity | : | EC50: 794 mg/kg<br>Test period: 19 d<br>Species: Avena sativa (oats)<br>Method: OECD 208 |

**12.2 Persistence and degradability**

**Components:**

**sodium hydroxide**

**1310-73-2:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Biodegradable<br>Remarks: The methods for determining the biological degradability are not applicable to inorganic substances. |

**tetrasodium (1-hydroxyethylidene)bisphosphonate**

**3794-83-0:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Biodegradable<br>Biodegradation: 96 %<br>Method: OECD 301 D |

**potassium hydroxide**

**1310-58-3:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Biodegradable<br>Remarks: The methods for determining the biological degradability are not applicable to inorganic substances. |

**Alanine, N,N-bis(carboxymethyl)-, trisodium salt**

**164462-16-2:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: > 80 %<br>Related to: see user defined free text<br>Exposure time: 28 d<br>Method: OECD 301 F<br>Remarks: According to the results of tests of biodegradability this product is considered as being readily biodegradable. |

### 12.3 Bioaccumulative potential

**Components:**

**sodium hydroxide**

**1310-73-2:**

| | | |
|---|---|---|
| Bioaccumulation | : | Species: Fish<br>Remarks: No bioaccumulation is to be expected (log Pow <= 4). |

**potassium hydroxide**

**1310-58-3:**

| | | |
|---|---|---|
| Bioaccumulation | : | Remarks: Bioaccumulation is unlikely. |

**Alanine, N,N-bis(carboxymethyl)-, trisodium salt**

**164462-16-2:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: < -4 (25 °C)<br>pH: 11,4<br>Method: Tested according to Directive 92/69/EEC. |

### 12.4 Mobility in soil

**Components:**

**Alanine, N,N-bis(carboxymethyl)-, trisodium salt**

**164462-16-2:**

| | | |
|---|---|---|
| Stability in soil | : | Remarks: Will not adsorb on soil. |

### 12.5 Results of PBT and vPvB assessment

**Product:**

| | | |
|---|---|---|
| Assessment | : | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. |

**Components:**

**potassium hydroxide**

**1310-58-3:**

| | | |
|---|---|---|
| Assessment | : | Not very persistent and very bioaccumulative (vPvB).. Not persistent, bioaccumulative, and toxic (PBT). |

**12.6 Endocrine disrupting properties**

**Product:**

| | | |
|---|---|---|
| Assessment | : | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |

**12.7 Other adverse effects**

**Product:**

| | | |
|---|---|---|
| Additional ecological information | : | There is no data available for this product. |

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

| | | |
|---|---|---|
| Product | : | Do not dispose of waste into sewer.<br>Do not contaminate ponds, waterways or ditches with chemical or used container.<br>In accordance with local and national regulations. |
| Contaminated packaging | : | Empty remaining contents.<br>Dispose of as unused product.<br>Do not re-use empty containers. |
| Waste Code | | European Waste Catalog<br>20 01 29*<br>According to the European Waste Catalog, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. |

## SECTION 14: Transport information

**14.1 UN number or ID number**

| | | |
|---|---|---|
| **ADR** | : | 1719 |
| **IMDG** | : | 1719 |
| **IATA** | : | 1719 |

**14.2 UN proper shipping name**

| | | |
|---|---|---|
| **ADR** | : | CAUSTIC ALKALI LIQUID, N.O.S.<br>(sodium hydroxide, potassium hydroxide) |
| **IMDG** | : | CAUSTIC ALKALI LIQUID, N.O.S.<br>(sodium hydroxide, potassium hydroxide) |
| **IATA** | : | Caustic alkali liquid, n.o.s. |

**14.3 Transport hazard class(es)**

| | | |
|---|---|---|
| **ADR** | : | 8 |
| **IMDG** | : | 8 |
| **IATA** | : | 8 |

**14.4 Packing group**

| | | |
|---|---|---|
| **ADR** | | |
| Classification Code | : | C5 |
| Packaging group | : | II |
| Hazard Identification Number | : | 80 |
| Labels | : | 8 |
| Tunnel restriction code | : | (E) |
| **IMDG** | | |
| Packaging group | : | II |
| Labels | : | 8 |
| EmS Number | : | F-A, S-B |
| **IATA** | | |
| **(Cargo)** | : | Caustic alkali liquid, n.o.s. |
| Packaging group | : | II |
| Labels | : | 8 |

**14.5 Environmental hazards**

| | | |
|---|---|---|
| **ADR** | | |
| Environmentally hazardous | : | no |
| **IMDG** | | |
| Marine pollutant | : | no |
| **IATA** | | |
| Environmentally hazardous | : | no |

**14.6 Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

For personal protection see section 8.

14.7 Maritime transport in bulk according to IMO instruments
Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

| | | |
|---|---|---|
| Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals | : | Not applicable |
| REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) | : | See Annex XVII to Regulation (EC) no 1907/2006 for Conditions of restriction |
| Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. | : | Not applicable |
| TA Luft List (Germany) | : | Total dust: Not applicable |
| | : | Inorganic substances in powdered form: Not applicable |

| | | |
|---|---|---|
| | : | Inorganic substances in vapor or gaseous form: Not applicable |
| | : | Organic Substances: : portionClass 2: 0,04 % |
| | : | Carcinogenic substances: Not applicable |
| | : | mutagenic: Not applicable |
| | : | Toxic to reproduction: Not applicable |
| Volatile organic compounds (VOC) content | : | Directive 2010/75/EU of 24 November 2010 on industrial and livestock rearing emissions (integrated pollution prevention and control)<br>Update: Percent volatile: 0,04 % |
| according to Detergents Regulation EC 648/2004 | : | 5 - <15% phosphonates, <5% polycarboxylates |

**15.2 Chemical Safety Assessment**

There is no data available for this product.

## SECTION 16: Other information

**Full text of H-Statements**

| | | |
|---|---|---|
| H290 | : | May be corrosive to metals. |
| H302 | : | Harmful if swallowed. |
| H314 | : | Causes severe skin burns and eye damage. |
| H318 | : | Causes serious eye damage. |
| H319 | : | Causes serious eye irritation. |

**Full text of other abbreviations**

| | | |
|---|---|---|
| Acute Tox. | : | Acute toxicity |
| Eye Dam. | : | Serious eye damage |
| Eye Irrit. | : | Eye irritation |
| Met. Corr. | : | Corrosive to Metals |
| Skin Corr. | : | Skin corrosion |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardization; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organization for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical

Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

**Further information**

| **Classification of the mixture:** | | **Classification procedure:** |
|---|---|---|
| Met. Corr. 1 | H290 | Calculation method |
| Skin Corr. 1B | H314 | On basis of test data. |
| Eye Dam. 1 | H318 | On basis of test data. |

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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