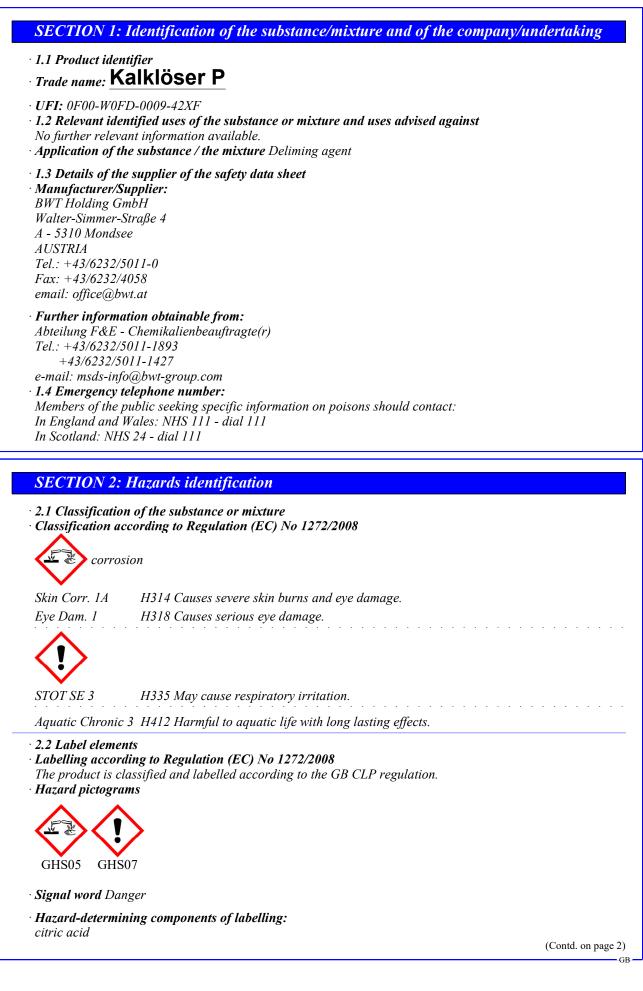
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|--------------------|---|
| · Hazard statemen | ts |
| H314 Causes sev | ere skin burns and eye damage. |
| H335 May cause | respiratory irritation. |
| | aquatic life with long lasting effects. |
| · Precautionary st | |
| P260 | Do not breathe dusts or mists. |
| P264 | Wash hands thoroughly after handling. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves / eye protection / face protection. |
| | 53 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with |
| | water [or shower]. |
| P305+P351+P35 | 38 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if |
| | present and easy to do. Continue rinsing. |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. |
| P337+P313 | <i>If eye irritation persists: Get medical advice/attention.</i> |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international |
| | regulations. |
| · 2.3 Other hazard | 0 |
| - | nd vPvB assessment |
| | • • |

• *PBT:* Not applicable. • *vPvB:* Not applicable.

*

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

• **Description:** Mixture of substances listed below with nonhazardous additions.

| · Dangerous components: | | | |
|--------------------------------|---|-------------|--|
| CAS: 5329-14-6 | sulphamic acid | 50-100% | |
| EINECS: 226-218-8 | 🚸 Skin Irrit. 2, H315; Eye Irrit. 2, H319 | | |
| Reg.nr.: 01-2119488633-28-xxxx | Aquatic Chronic 3, H412 | | |
| CAS: 77-92-9 | citric acid | 25-50% | |
| EINECS: 201-069-1 | | | |
| CAS: 95-14-7 | 1,2,3-benzotriazole | ≥0.25-<2.5% | |
| EINECS: 202-394-1 | Aquatic Chronic 2, H411 | | |
| | Acute Tox. 4, H302; Eye Irrit. 2, H319 | | |
| | wording of the listed has and physics refer to gootion 16 | | |

• Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

• 4.1 Description of first aid measures

- General information: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: Drink plenty of water and provide fresh air. Call for a doctor immediately.
- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

• Suitable extinguishing agents:

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

• 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released: Nitrogen oxides (NOx)

- Sulphur dioxide (SO2)
- 5.3 Advice for firefighters
- · Protective equipment: No special measures required.
- · Additional information Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures Not required.

- 6.2 Environmental precautions: Do not allow product to reach sewage system or any water course. Inform respective authorities in case of seepage into water course or sewage system.
- 6.3 Methods and material for containment and cleaning up: Pick up mechanically.
- Dispose contaminated material as waste according to section 13.
- 6.4 Reference to other sections
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling Prevent formation of dust.

- · Information about fire and explosion protection:
- No special measures required. The product is not flammable.
- 7.2 Conditions for safe storage, including any incompatibilities
- Storage:
- Requirements to be met by storerooms and receptacles: Store only in the original receptacle.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:
- Keep container tightly sealed.
- Store in dry conditions.
- Protect from heat and direct sunlight.
- Protect from frost.
- Storage class: 8 A
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- · 8.1 Control parameters
- Additional information about design of technical facilities: No further data; see section 7.
- · Ingredients with limit values that require monitoring at the workplace:
- The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Additional information: The lists valid during the making were used as basis.

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- · 8.2 Exposure controls
- · Personal protective equipment:
- General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.
- · Protection of hands:



Protective gloves

Acid resistant gloves

- *Material of gloves* Nitrile rubber, NBR
- · Penetration time of glove material
- The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye protection:



Tightly sealed goggles

· Body protection: Acid resistant protective clothing

| 9.1 Information on basic physical and ch | nemical properties | |
|--|---|--|
| General Information | | |
| Appearance: | a 1.1 | |
| Form: | Solid | |
| Colour: | White | |
| Odour: | Odourless | |
| Odour threshold: | Not determined. | |
| pH-value (100 g/l) at 25 °C: | 1.2 | |
| Change in condition | | |
| Melting point/freezing point: | Undetermined. | |
| Initial boiling point and boiling range: | Undetermined. | |
| Flash point: | 71 °C | |
| Flammability (solid, gas): | Not determined. | |
| Auto-ignition temperature: | 485 °C | |
| Decomposition temperature: | Not determined. | |
| Ignition temperature: | Product is not selfigniting. | |
| Explosive properties: | Product does not present an explosion hazard. | |
| Explosion limits: | | |
| Lower: | Not determined. | |
| Upper: | Not determined. | |
| Vapour pressure: | Not applicable. | |
| Density at 20 °C: | 1.0 - 1.2 g/cm ³ (Schüttdichte) | |
| Relative density | Not determined. | |

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|---|--|-------------------|
| · Vapour density | Not applicable. | |
| Evaporation rate | Not applicable. | |
| · Solubility in / Miscibility with | | |
| water at 20 °C: | 250 g/l | |
| · Partition coefficient: n-octanol/water: | Not determined. | |
| · Viscosity: | | |
| Dynamic: | Not applicable. | |
| Kinematic: | Not applicable. | |
| · Solvent content: | | |
| Organic solvents: | 0.0 % | |
| Solids content: | 100.0 % | |
| · 9.2 Other information | No further relevant information available. | |

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- 10.3 Possibility of hazardous reactions
- *Reacts with halogenated compounds. Reacts with alkali (lyes).*
- 10.4 Conditions to avoid No further relevant information available.
- 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

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

· LD/LC50 values relevant for classification:

CAS: 5329-14-6 sulphamic acid

Oral LD50 3,160 mg/kg (rat)

Dermal LD50 > 2,000 mg/kg (rat)

CAS: 77-92-9 citric acid

Oral LD50 5,040 mg/kg (mouse)

Dermal | LD50 | >2,000 mg/kg (rat)

Primary irritant effect:

Skin corrosion/irritation

Causes severe skin burns and eye damage.

- · Serious eye damage/irritation
- Causes serious eye damage.
- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- Additional toxicological information:
- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure
- May cause respiratory irritation.

• STOT-repeated exposure Based on available data, the classification criteria are not met.

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

| SECTIO | N 12: Ecological information | |
|---|---|-----------|
| · 12.1 Toxici | it, | |
| · Aquatic tox | - | |
| - | -14-6 sulphamic acid | |
| EC50 | 48 mg/L (algae) | |
| LCJU | | |
| 1050/071 | 71.6 mg/L (daphnia) | |
| | 70.3 mg/l (Pimephales promelas) | |
| | 2-9 citric acid | |
| | 440 mg/l (fish) | |
| | tence and degradability No further relevant information available. | |
| | cumulative potential No further relevant information available. ity in soil No further relevant information available. | |
| · Ecotoxical | | |
| | larmful to fish | |
| | ecological information: | |
| · General not | | |
| | rd class 1 (German Regulation) (Self-assessment): slightly hazardous for water | |
| | ow undiluted product or large quantities of it to reach ground water, water course or | sewage |
| system. Harmful to | aquatic organisms | |
| | | |
| | t bigger amounts into drains or the aquatic environment may lead to decreased pH-value | es. A low |
| | f bigger amounts into drains or the aquatic environment may lead to decreased pH-value arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre | |
| pH-value ha that after th | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre he use of the product the aqueous waste, emptied into drains, is only low water-dangerous. | |
| pH-value ha that after th • 12.5 Results | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre he use of the product the aqueous waste, emptied into drains, is only low water-dangerous. ts of PBT and vPvB assessment | |
| pH-value ha that after th • 12.5 Result • PBT: Not a | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre he use of the product the aqueous waste, emptied into drains, is only low water-dangerous. ts of PBT and vPvB assessment upplicable. | |
| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre he use of the product the aqueous waste, emptied into drains, is only low water-dangerous. ts of PBT and vPvB assessment upplicable. applicable. | |
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| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a 12.6 Other SECTION | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre- the use of the product the aqueous waste, emptied into drains, is only low water-dangerous. Its of PBT and vPvB assessment applicable. adverse effects No further relevant information available. N 13: Disposal considerations | |
| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a 12.6 Other SECTION 13.1 Waste | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre- the use of the product the aqueous waste, emptied into drains, is only low water-dangerous. Its of PBT and vPvB assessment applicable. adverse effects No further relevant information available. N 13: Disposal considerations treatment methods | |
| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a 12.6 Other SECTION 13.1 Waste Recommend | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre- the use of the product the aqueous waste, emptied into drains, is only low water-dangerous. Is of PBT and vPvB assessment applicable. adverse effects No further relevant information available. N 13: Disposal considerations treatment methods adation | eased, so |
| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a 12.6 Other SECTION 13.1 Waste Recomment Must not be | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre- the use of the product the aqueous waste, emptied into drains, is only low water-dangerous. Its of PBT and vPvB assessment applicable. adverse effects No further relevant information available. N 13: Disposal considerations treatment methods adation e disposed together with household garbage. Do not allow product to reach sewage system | eased, so |
| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a 12.6 Other SECTION 13.1 Waste Recomment Must not be Uncleaned | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre- the use of the product the aqueous waste, emptied into drains, is only low water-dangerous. Its of PBT and vPvB assessment applicable. adverse effects No further relevant information available. N 13: Disposal considerations treatment methods adation e disposed together with household garbage. Do not allow product to reach sewage system packaging: | eased, so |
| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a 12.6 Other SECTION 13.1 Waste Recommend Must not be Uncleaned Recommend | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre- the use of the product the aqueous waste, emptied into drains, is only low water-dangerous. Its of PBT and vPvB assessment applicable. adverse effects No further relevant information available. N 13: Disposal considerations treatment methods adation e disposed together with household garbage. Do not allow product to reach sewage system packaging: adation: Disposal must be made according to official regulations. | eased, so |
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| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a 12.6 Other SECTION 13.1 Waste Recommend Must not be Uncleaned Recommend Recommend | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre- the use of the product the aqueous waste, emptied into drains, is only low water-dangerous. Is of PBT and vPvB assessment applicable. adverse effects No further relevant information available. N 13: Disposal considerations treatment methods adation e disposed together with household garbage. Do not allow product to reach sewage system packaging: dation: Disposal must be made according to official regulations. adation gagents: Water, if necessary together with cleansing agents. | eased, so |
| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a 12.6 Other SECTION 13.1 Waste Recommend Must not be Uncleaned Recommend Recommend | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre- the use of the product the aqueous waste, emptied into drains, is only low water-dangerous. Its of PBT and vPvB assessment applicable. adverse effects No further relevant information available. N 13: Disposal considerations treatment methods adation e disposed together with household garbage. Do not allow product to reach sewage system packaging: adation: Disposal must be made according to official regulations. | eased, so |
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| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a 12.6 Other SECTION 13.1 Waste Recommend Recommend Recommend Recommend SECTION | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre- the use of the product the aqueous waste, emptied into drains, is only low water-dangerous. Its of PBT and vPvB assessment applicable. applicable. adverse effects No further relevant information available. N 13: Disposal considerations treatment methods dation e disposed together with household garbage. Do not allow product to reach sewage system packaging: dation: Disposal must be made according to official regulations. ded cleansing agents: Water, if necessary together with cleansing agents. N 14: Transport information | eased, so |
| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a 12.6 Other SECTION 13.1 Waste Recommend Must not be Uncleaned Recommend SECTION 14.1 UN-Ni ADR, IMD | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre- the use of the product the aqueous waste, emptied into drains, is only low water-dangerous. Its of PBT and vPvB assessment applicable. applicable. adverse effects No further relevant information available. N 13: Disposal considerations treatment methods dation e disposed together with household garbage. Do not allow product to reach sewage system packaging: dation: Disposal must be made according to official regulations. ded cleansing agents: Water, if necessary together with cleansing agents. N 14: Transport information fumber of, IATA UN2967 | eased, so |
| pH-value ha that after th 12.5 Results PBT: Not a vPvB: Not a 12.6 Other SECTION 13.1 Waste Recommend Must not be Uncleaned Recommend SECTION 14.1 UN-Ni ADR, IMD | arms aquatic organisms. In the dilution of the use-level the pH-value is considerably incre- the use of the product the aqueous waste, emptied into drains, is only low water-dangerous. Its of PBT and vPvB assessment applicable. applicable. adverse effects No further relevant information available. N 13: Disposal considerations treatment methods dation e disposed together with household garbage. Do not allow product to reach sewage system packaging: dation: Disposal must be made according to official regulations. ded cleansing agents: Water, if necessary together with cleansing agents. N 14: Transport information | eased, so |

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|--|--|
| 14.3 Transport hazard class(es) | |
| ADR, IMDG, IATA | |
| ALT THE | |
| Class | 8 Corrosive substances. |
| Label | 8 |
| 14.4 Packing group ADR, IMDG, IATA | 111 |
| 14.5 Environmental hazards: Marine pollutant: | No |
| 14.6 Special precautions for user | Warning: Corrosive substances. |
| Hazard identification number (Kemler code): | 80 |
| EMS Number: Stowage Category | F-A,S-B A |
| 14.7 Transport in bulk according to Annex II of | |
| Marpol and the IBC Code | Not applicable. |
| Transport/Additional information: | |
| ADR | |
| Limited quantities (LQ) | 5 kg |
| Excepted quantities (EQ) | Code: El |
| | Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g |
| Transport category | 3 |
| Tunnel restriction code | E |
| IMDG | |
| Limited quantities (LQ) | 5 kg |
| Excepted quantities (EQ) | Code: El |
| | Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g |
| UN "Model Regulation": | UN 2967 SULPHAMIC ACID, 8, III |

SECTION 15: Regulatory information

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

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I None of the ingredients is listed.

• 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

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|---|
| H411 Toxic to aquatic life with long lasting effects. |
| H412 Harmful to aquatic life with long lasting effects. |
| · Abbreviations and acronyms: |
| ADDR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the |
| International Carriage of Dangerous Goods by Road) |
| IMDG: International Maritime Code for Dangerous Goods |
| IATA: International Air Transport Association |
| GHS: Globally Harmonised System of Classification and Labelling of Chemicals |
| EINECS: European Inventory of Existing Commercial Chemical Substances |
| ELINECS. European List of Notified Chemical Substances |
| CAS: Chemical Abstracts Service (division of the American Chemical Society) |
| LC50: Lethal concentration, 50 percent |
| LD50: Lethal dose, 50 percent |
| PBT: Persistent, Bioaccumulative and Toxic |
| VPvB: very Persistent and very Bioaccumulative |
| Acute Tox, 4: Acute toxicity – Category 4 |
| Skin Corr. 1A: Skin corrosion/irritation – Category 1A |
| Skin Irrit. 2: Skin corrosion/irritation – Category 2 |
| Eye Dam. 1: Serious eye damage/eye irritation – Category 1 |
| Eye Irrit. 2: Serious eye damage/eye irritation – Category 2 |
| STOT SE 3: Specific target organ toxicity (single exposure) – Category 3 |
| Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2 |
| Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3 |
| * Data compared to the previous version altered. |
| |