

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by UK REACH Regulation SI 2019/758

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

1.1 Product identifier

Product name

Proteinase K; part of 'Blood genomicPrep Mini Spin Kit, 50 purifications'

Catalogue Number

28-9042-64



Component Number

406172

Product description

Not available.

Product type

Liquid.

Other means of identification

Not available.

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

Identified uses

Analytical chemistry.

Laboratory chemicals

Scientific research and development

1.3 Details of the supplier of the safety data sheet

Supplier

Cytiva
Amersham Place
Little Chalfont
Buckinghamshire
HP7 9NA United Kingdom
+44 1494 508000

Hours of operation

08.30 - 17.00

Person who prepared the SDS : sds_author@cytiva.com

1.4 Emergency telephone number

United Kingdom (UK)

Cytiva UK
Amersham Place
Little Chalfont
Buckinghamshire
HP7 9NA
t: 0870 606 1921

Call INFOTRAC 24 Hour number:
001-352-323-3500 (Call Collect).

National advisory body/Poison Centre

United Kingdom (UK)

Health professionals should contact the National Poisons Information Service (NPIS) by telephone,
or use TOXBASE www.toxbase.org .

NPIS <http://www.npis.org/> advise that others seeking specific information on poisons should contact:
In England and Wales: NHS Direct - 0845 4647 or 111
In Scotland: NHS 24 - 08454 24 24 24
In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www.gpoutofhours.hscni.net/) for GP services Out-of-Hours.



SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to UK CLP/GHS

Acute Tox. 4, H302
 Skin Irrit. 2, H315
 Eye Dam. 1, H318
 Resp. Sens. 1, H334
 STOT SE 3, H335
 Aquatic Chronic 3, H412

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

Ingredients of unknown toxicity 100 percent of the mixture consists of component(s) of unknown acute oral toxicity
 100 percent of the mixture consists of component(s) of unknown acute dermal toxicity
 100 percent of the mixture consists of component(s) of unknown acute inhalation toxicity

Ingredients of unknown ecotoxicity Contains 100% of components with unknown hazards to the aquatic environment

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms



Signal word Danger

Hazard statements
 Harmful if swallowed.
 Causes skin irritation.
 Causes serious eye damage.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause respiratory irritation.
 Harmful to aquatic life with long lasting effects.

Precautionary statements

General Not applicable.

Prevention Wear protective gloves. Wear eye or face protection. Wear respiratory protection. Avoid release to the environment. Avoid breathing vapour. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Response IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage Store in a well-ventilated place. Keep container tightly closed.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings Not applicable.

Tactile warning of danger Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.



Other hazards which do not result in classification None known.

SECTION 3: Composition/information on ingredients

| 3.2 Mixtures | Mixture | | | |
|---|---|-------|---|---------|
| Product/ingredient name | Identifiers | % | Classification | Type |
| proteases | EC: 254-457-8 CAS: 39450-01-6 Index: 647-014-00-9 | 100 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 STOT SE 3, H335 | [1] |
| guanidinium chloride | EC: 200-002-3 CAS: 50-01-1 Index: 607-148-00-0 | 66.87 | Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 | [1] |
| Poly(oxy-1,2-ethanediyl), α-[4-(1,1,3,3-tetramethylbutyl)phenyl]-ω-hydroxy- | CAS: 9002-93-1 | 4 | Acute Tox. 4, H302 Eye Dam. 1, H318 Aquatic Chronic 2, H411 | [1] [2] |

See Section 16 for the full text of the H statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a physical, health or environmental hazard
- [2] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

| | |
|-----------------------------------|---|
| Eye contact | Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. |
| Inhalation | Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure. |
| Skin contact | Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| Ingestion | Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |
| Protection of first-aiders | No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

| | |
|--------------------|--|
| Eye contact | Adverse symptoms may include the following: pain watering redness |
| Inhalation | Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma |



| | |
|---------------------|--|
| Skin contact | Adverse symptoms may include the following: pain or irritation redness blistering may occur |
| Ingestion | Adverse symptoms may include the following: stomach pains |

4.3 Indication of any immediate medical attention and special treatment needed

| | |
|----------------------------|---|
| Notes to physician | In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Specific treatments | No specific treatment. |

SECTION 5: Firefighting measures

5.1 Extinguishing media

| | |
|-------------------------------------|---|
| Suitable extinguishing media | Use an extinguishing agent suitable for the surrounding fire. |
|-------------------------------------|---|

| | |
|---------------------------------------|-------------|
| Unsuitable extinguishing media | None known. |
|---------------------------------------|-------------|

5.2 Special hazards arising from the substance or mixture

| | |
|--|---|
| Hazards from the substance or mixture | In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |
| Hazardous combustion products | Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds |

5.3 Advice for firefighters

| | |
|---|---|
| Special precautions for fire-fighters | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| Special protective equipment for fire-fighters | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents. |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

| | |
|--------------------------------------|--|
| For non-emergency personnel | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| For emergency responders | If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| 6.2 Environmental precautions | Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. |

6.3 Methods and material for containment and cleaning up

| | |
|--------------------|---|
| Small spill | Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| Large spill | Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. |

| | |
|--|---|
| 6.4 Reference to other sections | See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information. |
|--|---|



SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

| | |
|---|---|
| Protective measures | Put on appropriate personal protective equipment (see Section 8). Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| Advice on general occupational hygiene | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |

7.2 Conditions for safe storage, including any incompatibilities

Do not store above the following temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

| | |
|---|--|
| Recommendations | Analytical chemistry. Laboratory chemicals. Scientific research and development. |
| Industrial sector specific solutions | Laboratory chemicals Research and Development |

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures

Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name

guanidinium chloride

Result

DNEL - General population - Long term - Oral

0.5 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Dermal

0.5 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Inhalation

0.87 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Dermal

1 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Inhalation

3.5 mg/m³

Effects: Systemic

DNEL - Workers - Short term - Inhalation

10.5 mg/m³

Effects: Systemic

PNECs

Not available.



8.2 Exposure controls

| | |
|--|--|
| Appropriate engineering controls | Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. |
| <u>Individual protection measures</u> | |
| Hygiene measures | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Eye/face protection | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. |
| <u>Skin protection</u> | |
| Hand protection | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| Body protection | Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Other skin protection | Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Respiratory protection | Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. |
| Environmental exposure controls | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

| | |
|---|--|
| Physical state | Liquid. |
| Colour | Colourless. |
| Odour | Faint odour. Irritant. |
| Odour threshold | Not available. |
| pH | 7 |
| Melting point/freezing point | Decomposes |
| Initial boiling point and boiling range | Decomposes |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | Not available. |
| Flash point | Not applicable. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C): Not available. |

Solubility(ies)

| | Media | Result |
|---|--------------|-----------------|
| | cold water | Easily soluble |
| | hot water | Easily soluble |
| Solubility in water | | Not available. |
| Partition coefficient: n-octanol/water | | Not applicable. |
| Vapour pressure | | Not available. |

Vapour Pressure at 20°C

Vapour pressure at 50°C



| Ingredient name | mm Hg | kPa | Method | mm Hg | kPa | Method |
|--|--|-----|--------|-------|-----|--------|
| water | 17.5 | 2.3 | | | | |
| Sorbitan monolaurate, ethoxylated | 0 | 0 | | | | |
| Poly(oxy-1,2-ethanediyl), α - [4-(1,1,3,3-tetramethylbutyl) phenyl]- ω -hydroxy- | 0 | 0 | | | | |
| Evaporation rate | Not available. | | | | | |
| Relative density | Not available. | | | | | |
| Vapour density | Not available. | | | | | |
| Explosive properties | Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidising materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. | | | | | |
| Oxidising properties | Not available. | | | | | |
| Particle characteristics | | | | | | |
| Median particle size | Not applicable. | | | | | |

9.2 Other information

Not available.

| | |
|----------------------------|-----------------|
| Burning time | Not applicable. |
| Burning rate | Not applicable. |
| Solubility in water | Not available. |

SECTION 10: Stability and reactivity

| | |
|--|--|
| 10.1 Reactivity | No specific test data related to reactivity available for this product or its ingredients. |
| 10.2 Chemical stability | The product is stable. |
| 10.3 Possibility of hazardous reactions | Under normal conditions of storage and use, hazardous reactions will not occur. |
| 10.4 Conditions to avoid | No specific data. |
| 10.5 Incompatible materials | No specific data. |
| 10.6 Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result |
|--|---|
| guanidinium chloride | Rat - Oral - LD50 475 mg/kg <i>Toxic effects: Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Excitement Gastrointestinal - Hypermotility, diarrhea</i> |
| Poly(oxy-1,2-ethanediyl), α -[4-(1,1,3,3-tetramethylbutyl)phenyl]- ω -hydroxy- | Rabbit - Dermal - LD50 8000 mg/kg |
| | Rat - Oral - LD50 1800 mg/kg |

Conclusion/Summary [Product] Not available.

Ingredient name

proteases

Conclusion/Summary

To the best of our knowledge, the toxicological properties of this substance have not been thoroughly investigated.

Acute toxicity estimates

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapours) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|--|--------------|----------------|--------------------------|-----------------------------|-------------------------------------|
| Proteinase K | 699.3 | N/A | N/A | N/A | N/A |
| guanidinium chloride | 475 | N/A | N/A | N/A | N/A |
| Poly(oxy-1,2-ethanediyl), α -[4-(1,1,3,3-tetramethylbutyl)phenyl]- ω -hydroxy- | 1800 | 8000 | N/A | N/A | N/A |



Skin corrosion/irritation

Not available.

Conclusion/Summary [Product] Not available.

Serious eye damage/eye irritation

Not available.

Conclusion/Summary [Product] Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] Not available.

Respiratory

Conclusion/Summary [Product] Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] Not available.

Carcinogenicity

Not available.

Conclusion/Summary [Product] Not available.

Ingredient name

proteases

Conclusion/Summary

To the best of our knowledge, the toxicological properties of this substance have not been thoroughly investigated.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] Not available.

Specific target organ toxicity (single exposure)**Product/ingredient name**

proteases

Result

STOT SE 3, H335 (Respiratory tract irritation)

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

| | |
|---------------------|----------------------------|
| Inhalation | Causes serious eye damage. |
| Ingestion | Harmful if swallowed. |
| Skin contact | Causes skin irritation. |
| Eye contact | Causes serious eye damage. |



Symptoms related to the physical, chemical and toxicological characteristics

| | |
|---------------------|--|
| Inhalation | Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma |
| Ingestion | Adverse symptoms may include the following: stomach pains |
| Skin contact | Adverse symptoms may include the following: pain or irritation redness blistering may occur |
| Eye contact | Adverse symptoms may include the following: pain watering redness |

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Short term exposure**

| | |
|------------------------------------|----------------|
| Potential immediate effects | Not available. |
| Potential delayed effects | Not available. |

Long term exposure

| | |
|------------------------------------|----------------|
| Potential immediate effects | Not available. |
| Potential delayed effects | Not available. |

| | |
|---|----------------|
| Potential chronic health effects | Not available. |
|---|----------------|

Not available.

Conclusion/Summary [Product] Not available.

| | |
|------------------------------|---|
| General | Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. |
| Carcinogenicity | No known significant effects or critical hazards. |
| Mutagenicity | No known significant effects or critical hazards. |
| Reproductive toxicity | No known significant effects or critical hazards. |
| Other information | Not available. |

SECTION 12: Ecological information**12.1 Toxicity****Product/ingredient name**Poly(oxy-1,2-ethanediyl), α -[4-(1,1,3,3-tetramethylbutyl)phenyl]- ω -hydroxy-**Result****Acute - LC50 - Fresh water**Fish - Fathead minnow - *Pimephales promelas*
Age: 2 to 3 months; Size: 16 mm; Weight: 0.039 g

4500 µg/l [96 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Crustaceans - Water flea - *Ceriodaphnia rigaudi* - NeonateAge: 24 hours

5.85 mg/l [48 hours]

Effect: Mortality**Chronic - NOEC - Fresh water**

OECD

Fish - Eastern mosquitofish - *Gambusia holbrookii*Weight: 0.14 g

0.004 mg/l [28 days]

Effect: Enzymes**Conclusion/Summary [Product]** Not available.**12.2 Persistence and degradability**

Not available.

Conclusion/Summary [Product] Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--------------------------------|--------------------------|-------------------|-------------------------|
| guanidinium chloride | - | - | Not readily |

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| ≥50 - ≤75 | -1.7 | - | Low |

12.4 Mobility in soil

Soil/water partition coefficient Not available.

Mobility Not available.

12.5 Results of PBT and vPvB assessment

| Product/ingredient name | PBT | P | B | T | vPvB | vP | vB |
|---|-----|-----|-----|-----|------|-----|-----|
| proteases | No | N/A | N/A | No | N/A | N/A | N/A |
| guanidinium chloride | No | N/A | N/A | No | N/A | N/A | N/A |
| Poly(oxy-1,2-ethanediyl), α-[4-(1,1,3,3-tetramethylbutyl)phenyl]-ω-hydroxy- | N/A | N/A | N/A | Yes | N/A | N/A | N/A |

12.6 Other adverse effects No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods**Product**

Methods of disposal The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|--|----------------|----------------|----------------|----------------|
| 14.1 UN number | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| 14.2 UN proper shipping name | - | - | - | - |
| 14.3 Transport hazard class(es) | - | - | - | - |
| 14.4 Packing group | - | - | - | - |
| 14.5 Environmental hazards | No. | No. | No. | No. |
| Additional information | - | - | - | - |

14.6 Special precautions for user **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments Not available.



SECTION 15: Regulatory information

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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

| Intrinsic property | Ingredient name | Status | Reference number | Date of revision |
|---|---|--------|------------------|------------------|
| Substance of equivalent concern for environment | 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues | Listed | 42 | 1/1/2021 |

Substances of very high concern

| Intrinsic property | Ingredient name | Status | Reference number | Date of revision |
|---|---|-----------|------------------|------------------|
| Substance of equivalent concern for environment | 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues | Candidate | - | 12/19/2012 |

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

| Product/ingredient name | % | Designation [Usage] |
|-------------------------|-----|---------------------|
| Proteinase K | ≥90 | 3 |

Labelling Not applicable.

Seveso Directive

This product is not controlled under the Seveso Directive.

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air Not listed

Industrial emissions (integrated pollution prevention and control) - Water Not listed

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

| | |
|-------------------------|--|
| United States | Not determined. |
| Canada inventory | Not determined. |
| China | All components are listed or exempted. |
| Japan | Japan inventory (CSCL): Not determined. Japan inventory (ISHL): Not determined. |



15.2 Chemical safety assessment

This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

 Indicates information that has changed from previously issued version.

| Abbreviations and acronyms | Definition |
|----------------------------|--|
| ATE | Acute Toxicity Estimate |
| GB CLP | UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments |
| DMEL | Derived Minimal Effect Level |
| DNEL | Derived No Effect Level |
| EUH statement | GB CLP-specific Hazard statement |
| N/A | Not available |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No Effect Concentration |
| RRN | REACH Registration Number |
| SGG | Segregation Group |
| vPvB | Very Persistent and Very Bioaccumulative |

Procedure used to derive the classification

| Classification | Justification |
|--|---|
| Acute Tox. 4, H302 | Calculation method |
| Skin Irrit. 2, H315 | Calculation method |
| Eye Dam. 1, H318 | Calculation method |
| Resp. Sens. 1, H334 | Calculation method |
| STOT SE 3, H335 | Calculation method |
| Aquatic Chronic 3, H412 | Calculation method |
| Full text of abbreviated H statements | H302 Harmful if swallowed. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects. |
| Full text of classifications | Acute Tox. 4 ACUTE TOXICITY - Category 4 Aquatic Chronic 2 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 Aquatic Chronic 3 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 Eye Dam. 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 Eye Irrit. 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 Resp. Sens. 1 RESPIRATORY SENSITISATION - Category 1 Skin Irrit. 2 SKIN CORROSION/IRRITATION - Category 2 STOT SE 3 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3 |

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

