


# SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878

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

### 1.1 Product identifier

Product name	<b>Proteinase K; part of 'Blood genomicPrep Mini Spin Kit, 250 purifications'</b>	
Catalogue Number	28-9042-65	 9 0 2 8 9 0 4 2 6 5
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

<b>Supplier</b>	Cytiva Amersham Place Little Chalfont Buckinghamshire HP7 9NA United Kingdom +44 1494 508000	<b>Hours of operation</b> 08.30 - 17.00
<b>Person who prepared the SDS :</b> sds_author@cytiva.com		

**1.4 Emergency telephone number**  
+49 (0)761 4543 0

**Europe**  
Cytiva Germany/Europe  
Munzinger Str. 5  
79111 Freiburg  
Germany  
t: +49 (0)761 4543 0

### National advisory body/Poison Centre

**Europe** <https://syntecshop.com/wp-content/uploads/Emergency-Phone-numbers-EU.pdf>

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [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 Regulation (EC) 1272/2008 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

<b>Ingredients of unknown ecotoxicity</b>	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



<b>Signal word</b>	Danger
<b>Hazard statements</b>	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.
<b><u>Precautionary statements</u></b>	
<b>General</b>	Not applicable.
<b>Prevention</b>	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.
<b>Response</b>	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.
<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed.
<b>Disposal</b>	Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	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**

<b>Containers to be fitted with child-resistant fastenings</b>	Not applicable.
<b>Tactile warning of danger</b>	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.

**Product meets the criteria for endocrine disrupting properties according to Regulation (EC) No. 1907/2006.** Contains Poly(oxy-1,2-ethanediyl),  $\alpha$ -[4-(1,1,3,3-tetramethylbutyl)phenyl]- $\omega$ -hydroxy-. May cause endocrine disruption.

**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 Regulation (EC) No. 1272/2008 [CLP]	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	ATE [Oral] = 475 mg/kg Acute Tox. 4, H302 Eye Dam. 1, H318 Aquatic Chronic 2, H411 ATE [Oral] = 1800 mg/kg See Section 16 for the full text of the H statements declared above.	[1] [2]

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 - Endocrine disrupting properties

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

<b>Eye contact</b>	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.
<b>Inhalation</b>	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.
<b>Skin contact</b>	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.
<b>Ingestion</b>	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.
<b>Protection of first-aiders</b>	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

<b>Eye contact</b>	Adverse symptoms may include the following: pain watering redness
<b>Inhalation</b>	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma
<b>Skin contact</b>	Adverse symptoms may include the following: pain or irritation redness blistering may occur



<b>Ingestion</b>	Adverse symptoms may include the following: stomach pains
------------------	--

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

<b>Notes to physician</b>	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.
<b>Specific treatments</b>	No specific treatment.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	Use an extinguishing agent suitable for the surrounding fire.
-------------------------------------	---

<b>Unsuitable extinguishing media</b>	None known.
---------------------------------------	-------------

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

<b>Hazards from the substance or mixture</b>	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.
<b>Hazardous combustion products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds

#### 5.3 Advice for firefighters

<b>Special precautions for fire-fighters</b>	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.
<b>Special protective equipment for fire-fighters</b>	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 European standard 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

<b>For non-emergency personnel</b>	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.
<b>For emergency responders</b>	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

<b>Small spill</b>	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.
<b>Large spill</b>	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

<b>Protective measures</b>	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.
----------------------------	---



<b>Advice on general occupational hygiene</b>	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)

<b>Recommendations</b>	Analytical chemistry. Laboratory chemicals. Scientific research and development.
<b>Industrial sector specific solutions</b>	Not available.

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Biological exposure indices

No exposure indices known.

<b>Recommended monitoring procedures</b>	Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard 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	Result
guanidinium chloride	<b>DNEL - General population - Long term - Oral</b> 0.5 mg/kg bw/day Effects: Systemic
	<b>DNEL - General population - Long term - Dermal</b> 0.5 mg/kg bw/day Effects: Systemic
	<b>DNEL - General population - Long term - Inhalation</b> 0.87 mg/m³ Effects: Systemic
	<b>DNEL - Workers - Long term - Dermal</b> 1 mg/kg bw/day Effects: Systemic
	<b>DNEL - Workers - Long term - Inhalation</b> 3.5 mg/m³ Effects: Systemic
	<b>DNEL - Workers - Short term - Inhalation</b> 10.5 mg/m³ Effects: Systemic

PNECs

Not available.

8.2 Exposure controls

<b>Appropriate engineering controls</b>	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.
---	---

Individual protection measures

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.
<b>Skin protection</b>	
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

<b>Appearance</b>		
Physical state	Liquid.	
Colour	Colourless.	
Odour	Faint odour. Irritant.	
Odour threshold	Not available.	
Melting point/freezing point	Decomposes	
Boiling point or initial boiling point and boiling range	Decomposes	
Flammability	Not available.	
Lower and upper explosion limit	Not available.	
Flash point	Not applicable.	
Auto-ignition temperature	Not available.	
Decomposition temperature	Not available.	
pH	7	
Viscosity	Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C): Not available.	
<b>Solubility</b>		
	<b>Media</b>	<b>Result</b>
	cold water	Easily soluble
	hot water	Easily soluble
Solubility in water	Not available.	
Partition coefficient: n-octanol/ water	Not applicable.	
Vapour pressure	Not available.	

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	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
	Relative density	Not available.	
	Relative vapour density	Not available.	
<u>Particle characteristics</u>			
	Median particle size	Not applicable.	

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Burning time	Not applicable.
Burning rate	Not applicable.
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.

9.2.2 Other safety characteristics

Evaporation rate	Not available.
Not applicable.	

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

Product/ingredient name	Result
guanidinium chloride	<b>Rat - Oral - LD50</b> 475 mg/kg <u>Toxic effects:</u> Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Excitement Gastrointestinal - Hypermotility, diarrhea
Poly(oxy-1,2-ethanediyl), α-[4-(1,1,3,3-tetramethylbutyl)phenyl]-ω-hydroxy-	<b>Rabbit - Dermal - LD50</b> 8000 mg/kg  <b>Rat - Oral - LD50</b> 1800 mg/kg
Conclusion/Summary [Product]	Not available.
Ingredient name	Conclusion/Summary
proteases	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	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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.

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.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product]      The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

11.2.2 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* - Neonate  
Age: 24 hours  
5.85 mg/l [48 hours]  
Effect: Mortality

Chronic - NOEC - Fresh water

OECD  
Fish - Eastern mosquitofish - *Gambusia holbrooki*  
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 <sub>ow</sub>	BCF	Potential
guanidinium chloride	-1.7	-	Low

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	logK <sub>oc</sub>	K <sub>oc</sub>
guanidinium chloride	0.56	3.63133

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
proteases	No	N/A	N/A	No	N/A	N/A	N/A
guanidinium chloride	No	N/A	Yes	No	N/A	N/A	Yes
Poly(oxy-1,2-ethanediyl), α-[4-(1,1,3,3-tetramethylbutyl)phenyl]-ω-hydroxy-	No	No	No	No	No	No	No
Mobility	Not available.						
Conclusion/Summary	The product does not meet the criteria to be considered as a PMT or vPvM.						

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1907/2006 [REACH]

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

Regulation (EC) No. 1272/2008 [CLP]

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-	No	No	No	No	No	No	No

Conclusion/Summary                      The product does not meet the criteria to be considered as a PBT or vPvB.

Regulation (EC) No. 1272/2008 [CLP]

12.6 Endocrine disrupting properties

Not applicable.

Conclusion/Summary [Product]    May cause endocrine disruption.

12.7 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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Endocrine disrupting properties for environment	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	Listed	42	7/3/2017

Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Endocrine disrupting properties for environment	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues	Recommended	5th recommendation	2/6/2014

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.

Other EU regulations

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

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

Explosive precursors Not applicable.

Ozone depleting substances (EU 2024/590)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

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	ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number vPvB = Very Persistent and Very Bioaccumulative
----------------------------	---

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Resp. Sens. 1, H334 STOT SE 3, H335 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method Calculation method Calculation method 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 [CLP/GHS]	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
--	---

Date of printing	20 February 2026
Date of issue/ Date of revision	20 February 2026
Date of previous issue	28 July 2025

Version

12.23

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. 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.

---

