

## HP Viral Nucleic Acid Kit

Version  
1.6

Revision Date:  
21.02.2015

Date of last issue: 31.07.2014  
Date of first issue: 03.12.2012

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

#### 1.1 Product identifier

Commercial Product Name : HP Viral Nucleic Acid Kit  
Mat.-No./ Genisys-No. : 11858874001

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

Recommended restrictions on use : For professional users only.

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

Company : Roche Diagnostics Deutschland GmbH  
-  
Sandhoferstrasse 116  
68305 Mannheim  
E-mail address : mannheim.umweltschutz@roche.com  
Telephone : +496217590  
Telefax : +496217592890  
Responsible Department : +49(0)621-759-2012+49(0)621-759-4848+49(0)8856-60-2629

#### 1.4 Emergency telephone number

In case of emergencies: : Central Works Security +49(0)621-759-2203  
Roche Diagnostics GmbH  
Centre for detoxification: : Mainz +49(0)6131-19240  
Munich +49(0)89-19240

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

The product is a kit consisting of individual ingredients. The classification of the ingredients can be obtained from section 3. Section Label elements contains the resulting labelling for the kit.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements : H302 + H332 Harmful if swallowed or if inhaled  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.

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Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear eye protection/ face protection.  
P280 Wear protective gloves.  
P284 Wear respiratory protection.  
**Response:**  
P305 + P351 + P338 + P310 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/ physician.  
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.  
P362 + P364 Take off contaminated clothing and wash it before reuse.

### 2.3 Other hazards

See SECTION 3

## SECTION 3: Composition/information on ingredients

### *Lysis/Binding Buffer/DNA PBB*

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

Acute toxicity, Category 4 H302: Harmful if swallowed.  
Skin irritation, Category 2 H315: Causes skin irritation.  
Serious eye damage, Category 1 H318: Causes serious eye damage.

#### Classification (67/548/EEC, 1999/45/EC)

Harmful R22: Harmful if swallowed.  
Irritant R38: Irritating to skin.  
R41: Risk of serious damage to eyes.

#### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
guanidinium chloride	50-01-1 200-002-3	Xn; R22 Xi; R36/38	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 30 - < 50
Triton X-100	9002-93-1	Xn; R22 Xi; R41	Acute Tox. 4; H302 Eye Dam. 1; H318	>= 10 - < 20

For explanation of abbreviations see section 16.

### *Poly (A), lyophilized*

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

Not a hazardous substance or mixture.

### Classification (67/548/EEC, 1999/45/EC)

Not a hazardous substance or mixture.

### Hazardous components

Remarks : No hazardous ingredients

### *Proteinase K, PCR grade*

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

Skin irritation, Category 2

H315: Causes skin irritation.

Eye irritation, Category 2

H319: Causes serious eye irritation.

Respiratory sensitisation, Category 1

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

Specific target organ toxicity - single exposure, Category 3, Respiratory system

H335: May cause respiratory irritation.

### Classification (67/548/EEC, 1999/45/EC)

Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
Proteinase, Tritirachium album serine	39450-01-6 254-457-8	Xi; R36/37/38 R42 Xi; Xi; R36/37/38 Xn; R42 Xi; R43	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335	>= 70 - < 90

For explanation of abbreviations see section 16.

### *Wash Buffer*

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

Not a hazardous substance or mixture.

### Classification (67/548/EEC, 1999/45/EC)

Not a hazardous substance or mixture.

### Hazardous components

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Remarks : No hazardous ingredients

### ***Wash Buffer I / Inhibitor Removal Buffer***

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

Acute toxicity, Category 4

H302: Harmful if swallowed.

Acute toxicity, Category 4

H332: Harmful if inhaled.

Skin irritation, Category 2

H315: Causes skin irritation.

Eye irritation, Category 2

H319: Causes serious eye irritation.

#### **Classification (67/548/EEC, 1999/45/EC)**

Harmful

R22: Harmful if swallowed.

Irritant

R36/38: Irritating to eyes and skin.

#### **Hazardous components**

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
guanidinium chloride	50-01-1 200-002-3	Xn; R22 Xi; R36/38	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 50 - < 70

For explanation of abbreviations see section 16.

### ***Elution Buffer (EB)***

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

Not a hazardous substance or mixture.

#### **Classification (67/548/EEC, 1999/45/EC)**

Not a hazardous substance or mixture.

#### **Hazardous components**

Remarks : No hazardous ingredients

## **SECTION 4: First aid measures**

### **4.1 Description of first aid measures**

General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.

If inhaled : Call a physician or poison control centre immediately.

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- Move to fresh air.  
If unconscious place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.  
Keep respiratory tract clear.  
Do NOT induce vomiting.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.

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

- Symptoms : No information available.

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

- Treatment : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet

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

- Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.

### 5.3 Advice for firefighters

- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : Collect contaminated fire extinguishing water separately. This

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must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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### SECTION 6: Accidental release measures

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

Personal precautions : Use personal protective equipment.  
Ensure adequate ventilation.  
Refer to protective measures listed in sections 7 and 8.

#### 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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

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

#### 6.4 Reference to other sections

Treat recovered material as described in the section "Disposal considerations".

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Dispose of rinse water in accordance with local and national regulations.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
To prevent leaks or spillages from spreading, provide a suitable liquid retention system.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not smoke.  
Wash hands before breaks and at the end of workday.

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

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : See label, package insert or internal guidelines

Storage class (TRGS 510) : 12, Non Combustible Liquids

Other data : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : Laboratory chemicals

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### ***Lysis/Binding Buffer/DNA PBB***

Contains no substances with occupational exposure limit values.

#### ***Poly (A),lyophylized***

Contains no substances with occupational exposure limit values.

#### ***Proteinase K, PCR grade***

Contains no substances with occupational exposure limit values.

#### ***Wash Buffer***

Contains no substances with occupational exposure limit values.

#### ***Wash Buffer I / Inhibitor Removal Buffer***

Contains no substances with occupational exposure limit values.

#### ***Elution Buffer (EB)***

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### **Personal protective equipment**

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Hand protection

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Material	: Protective gloves
Remarks	: The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. This recommendation is only valid for the product mentioned in the safety data sheet and provided by us and for the application specified by us. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Skin and body protection	: impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection	: In the case of vapour formation use a respirator with an approved filter.

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### *Lysis/Binding Buffer/DNA PBB*

Appearance	: liquid
Colour	: colourless
Odour	: none
Odour Threshold	: No data available
pH	: 4,4
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: No data available
Evaporation rate	: No data available
Flammability (solid, gas)	: The product is not flammable., Does not sustain combustion.
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: No data available
Density	: No data available
Solubility(ies)	
Water solubility	: completely miscible



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Partition coefficient: n-octanol/water : No data available  
Ignition temperature : No data available  
Auto-ignition temperature : No data available  
Decomposition temperature : No data available  
Viscosity : No data available  
Explosive properties : No data available  
Oxidizing properties : The substance or mixture is not classified as oxidizing.

### ***Poly (A), lyophilized***

Appearance : solid  
Colour : white  
Odour : none  
Odour Threshold : No data available  
pH : No data available  
Melting point/range : No data available  
Boiling point/boiling range : No data available  
Flash point : does not flash  
Evaporation rate : No data available  
Flammability (solid, gas) : No data available  
Upper explosion limit : No data available  
Lower explosion limit : No data available  
Vapour pressure : No data available  
Relative vapour density : No data available  
Relative density : No data available  
Density : No data available  
Solubility(ies)  
Water solubility : soluble  
Partition coefficient: n-octanol/water : No data available  
Ignition temperature : No data available  
Auto-ignition temperature : No data available  
Decomposition temperature : No data available  
Viscosity : No data available  
Explosive properties : No data available  
Oxidizing properties : The substance or mixture is not classified as oxidizing.

### ***Proteinase K, PCR grade***

Appearance : solid

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Colour : white

Odour : very faint

Odour Threshold : No data available  
pH : 6,5 (as aqueous solution)

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : does not flash

Evaporation rate : No data available  
Flammability (solid, gas) : No data available  
Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : No data available  
Relative vapour density : No data available  
Relative density : No data available  
Density : No data available  
Solubility(ies)  
Water solubility : completely soluble

Partition coefficient: n-octanol/water : No data available  
Ignition temperature : No data available

Auto-ignition temperature : No data available  
Decomposition temperature : No data available

Viscosity : No data available  
Explosive properties : No data available  
Oxidizing properties : The substance or mixture is not classified as oxidizing.

### **Wash Buffer**

Appearance : liquid

Colour : colourless

Odour : none

Odour Threshold : No data available  
pH : 7,5

Melting point/freezing point : No data available  
Initial boiling point and boiling range : No data available  
Flash point : No data available

Evaporation rate : No data available  
Flammability (solid, gas) : The product is not flammable., Does not sustain combustion.

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Upper explosion limit : No data available  
Lower explosion limit : No data available  
Vapour pressure : No data available  
Relative vapour density : No data available  
Relative density : No data available  
Density : No data available  
Solubility(ies)  
Water solubility : completely miscible  
Partition coefficient: n-octanol/water : No data available  
Ignition temperature : No data available  
Auto-ignition temperature : No data available  
Decomposition temperature : No data available  
Viscosity : No data available  
Explosive properties : No data available  
Oxidizing properties : The substance or mixture is not classified as oxidizing.

### ***Wash Buffer I / Inhibitor Removal Buffer***

Appearance : liquid  
Colour : colourless  
Odour : none  
Odour Threshold : No data available  
pH : 6,6  
Melting point/freezing point : No data available  
Initial boiling point and boiling range : No data available  
Flash point : No data available  
Evaporation rate : No data available  
Flammability (solid, gas) : The product is not flammable., Does not sustain combustion.  
Upper explosion limit : No data available  
Lower explosion limit : No data available  
Vapour pressure : No data available  
Relative vapour density : No data available  
Relative density : No data available  
Density : No data available  
Solubility(ies)  
Water solubility : completely miscible  
Partition coefficient: n-octanol/water : No data available  
Ignition temperature : No data available

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Auto-ignition temperature : No data available  
Decomposition temperature : No data available  
Viscosity : No data available  
Explosive properties : No data available  
Oxidizing properties : The substance or mixture is not classified as oxidizing.

### ***Elution Buffer (EB)***

Appearance : liquid  
Colour : colourless  
Odour : none  
Odour Threshold : No data available  
pH : No data available  
Melting point/freezing point : No data available  
Boiling point/boiling range : 100 °C  
Flash point : No data available  
Evaporation rate : No data available  
Flammability (solid, gas) : No data available  
Upper explosion limit : No data available  
Lower explosion limit : No data available  
Vapour pressure : 23 hPa (20 °C)  
Relative vapour density : No data available  
Relative density : No data available  
Density : 1 g/cm<sup>3</sup> (20 °C)

Solubility(ies)  
Water solubility : completely miscible

Partition coefficient: n-  
octanol/water : No data available  
Ignition temperature : No data available

Auto-ignition temperature : No data available  
Decomposition temperature : No data available

Viscosity : No data available  
Explosive properties : No data available  
Oxidizing properties : The substance or mixture is not classified as oxidizing.

### 9.2 Other information

#### ***Lysis/Binding Buffer/DNA PBB***

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No data available

### ***Poly (A), lyophilized***

No data available

### ***Proteinase K, PCR grade***

No data available

### ***Wash Buffer***

No data available

### ***Wash Buffer I / Inhibitor Removal Buffer***

No data available

### ***Elution Buffer (EB)***

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts with the following substances:  
Oxidizing agents  
Keep away from heat and sources of ignition.

No decomposition if stored and applied as directed.

### 10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

### 10.5 Incompatible materials

Materials to avoid : Strong acids and oxidizing agents  
Bases

### 10.6 Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke), Nitrogen oxides (NOx), Ammonia, Gaseous hydrogen chloride (HCl).

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### *Lysis/Binding Buffer/DNA PBB*

###### Acute toxicity

Harmful if swallowed.

###### Components:

###### **guanidinium chloride:**

Acute oral toxicity : LD50 Oral (Rat): 475 mg/kg  
LD50 Oral (Mouse): 571 mg/kg  
LD50 Oral (Rat): 1.120 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 3,2 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

LC50 (Rat, male and female): 5,3 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

LC50 (Rat, male): 7,7 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2.001 mg/kg

###### **Triton X-100:**

Acute oral toxicity : LD50 Oral (Rat): 1.900 - 5.000 mg/kg

Acute toxicity estimate: 500 mg/kg  
Method: Expert judgement

Acute dermal toxicity : LD50 Dermal (Rabbit): > 3.000 mg/kg

###### **Skin corrosion/irritation**

Causes skin irritation.

###### Components:

###### **guanidinium chloride:**

Species: Rabbit  
Result: Irritating to skin.

###### **Serious eye damage/eye irritation**

Causes serious eye damage.

###### Components:

###### **guanidinium chloride:**

Species: Rabbit  
Result: Irritating to eyes.

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### **Triton X-100:**

Result: Risk of serious damage to eyes.

Remarks: May cause irreversible eye damage.

### **Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

### **Components:**

#### **guanidinium chloride:**

Assessment: Did not cause sensitisation on laboratory animals.

### **Germ cell mutagenicity**

Not classified based on available information.

### **Components:**

#### **guanidinium chloride:**

Germ cell mutagenicity- Assessment : Not mutagenic in Ames Test

### **Carcinogenicity**

Not classified based on available information.

### **Reproductive toxicity**

Not classified based on available information.

### **STOT - single exposure**

Not classified based on available information.

### **STOT - repeated exposure**

Not classified based on available information.

### **Aspiration toxicity**

Not classified based on available information.

### ***Poly (A),lyophilized***

### **Acute toxicity**

Not classified based on available information.

### **Skin corrosion/irritation**

Not classified based on available information.

### **Serious eye damage/eye irritation**

Not classified based on available information.

### **Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

### **Germ cell mutagenicity**

Not classified based on available information.

### **Carcinogenicity**

Not classified based on available information.

### **Reproductive toxicity**

Not classified based on available information.

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### **STOT - single exposure**

Not classified based on available information.

### **STOT - repeated exposure**

Not classified based on available information.

### **Aspiration toxicity**

Not classified based on available information.

### **Proteinase K, PCR grade**

### **Acute toxicity**

Not classified based on available information.

### **Skin corrosion/irritation**

Causes skin irritation.

### **Components:**

#### **Proteinase, Tritirachium album serine:**

Result: Irritating to skin.

Remarks: May cause skin irritation and/or dermatitis.

### **Serious eye damage/eye irritation**

Causes serious eye irritation.

### **Components:**

#### **Proteinase, Tritirachium album serine:**

Result: Irritating to eyes.

Remarks: May cause irreversible eye damage.

### **Respiratory or skin sensitisation**

Skin sensitisation: May cause an allergic skin reaction.

Respiratory sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### **Components:**

#### **Proteinase, Tritirachium album serine:**

Assessment: May cause sensitisation by skin contact.

Remarks: Causes sensitisation.

Assessment: May cause sensitisation by inhalation.

### **Germ cell mutagenicity**

Not classified based on available information.

### **Carcinogenicity**

Not classified based on available information.

### **Reproductive toxicity**

Not classified based on available information.

### **STOT - single exposure**

May cause respiratory irritation.

### **Components:**

#### **Proteinase, Tritirachium album serine:**

Assessment: May cause respiratory irritation.



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### **STOT - repeated exposure**

Not classified based on available information.

#### **Components:**

##### **Proteinase, Tritirachium album serine:**

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### **Aspiration toxicity**

Not classified based on available information.

#### **Components:**

##### **Proteinase, Tritirachium album serine:**

No data available

### ***Wash Buffer***

#### **Acute toxicity**

Not classified based on available information.

#### **Skin corrosion/irritation**

Not classified based on available information.

#### **Serious eye damage/eye irritation**

Not classified based on available information.

#### **Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

#### **Germ cell mutagenicity**

Not classified based on available information.

#### **Carcinogenicity**

Not classified based on available information.

#### **Reproductive toxicity**

Not classified based on available information.

### **STOT - single exposure**

Not classified based on available information.

### **STOT - repeated exposure**

Not classified based on available information.

### **Aspiration toxicity**

Not classified based on available information.

### ***Wash Buffer I / Inhibitor Removal Buffer***

#### **Acute toxicity**

Harmful if swallowed or if inhaled

#### **Components:**

##### **guanidinium chloride:**

Acute oral toxicity : LD50 Oral (Rat): 475 mg/kg

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LD50 Oral (Mouse): 571 mg/kg  
LD50 Oral (Rat): 1.120 mg/kg  
Acute inhalation toxicity : LC50 (Rat, female): 3,2 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
LC50 (Rat, male and female): 5,3 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
LC50 (Rat, male): 7,7 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Acute dermal toxicity : LD50 Dermal (Rabbit): > 2.001 mg/kg

### **Skin corrosion/irritation**

Causes skin irritation.

#### **Components:**

##### **guanidinium chloride:**

Species: Rabbit

Result: Irritating to skin.

### **Serious eye damage/eye irritation**

Causes serious eye irritation.

#### **Components:**

##### **guanidinium chloride:**

Species: Rabbit

Result: Irritating to eyes.

### **Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

#### **Components:**

##### **guanidinium chloride:**

Assessment: Did not cause sensitisation on laboratory animals.

### **Germ cell mutagenicity**

Not classified based on available information.

#### **Components:**

##### **guanidinium chloride:**

Germ cell mutagenicity- Assessment : Not mutagenic in Ames Test

### **Carcinogenicity**

Not classified based on available information.

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### **Reproductive toxicity**

Not classified based on available information.

### **STOT - single exposure**

Not classified based on available information.

### **STOT - repeated exposure**

Not classified based on available information.

### **Aspiration toxicity**

Not classified based on available information.

### ***Elution Buffer (EB)***

### **Acute toxicity**

Not classified based on available information.

### **Skin corrosion/irritation**

Not classified based on available information.

### **Serious eye damage/eye irritation**

Not classified based on available information.

### **Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

### **Germ cell mutagenicity**

Not classified based on available information.

### **Carcinogenicity**

Not classified based on available information.

### **Reproductive toxicity**

Not classified based on available information.

### **STOT - single exposure**

Not classified based on available information.

### **STOT - repeated exposure**

Not classified based on available information.

### **Aspiration toxicity**

Not classified based on available information.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### ***Lysis/Binding Buffer/DNA PBB***

#### **Components:**

#### **guanidinium chloride:**

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 1.759 mg/l  
Exposure time: 48 h

Toxicity to bacteria : EC50 (Pseudomonas putida): 89 mg/l  
Exposure time: 18 h

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Ecotoxicology Assessment  
Acute aquatic toxicity : This product has no known ecotoxicological effects.  
Chronic aquatic toxicity : This product has no known ecotoxicological effects.  
Toxicity Data on Soil : Not expected to adsorb on soil.  
Other organisms relevant to the environment : No data available

### **Triton X-100:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 4 - 8,9 mg/l  
Exposure time: 96 h  
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 18 - 26 mg/l  
Exposure time: 48 h

Ecotoxicology Assessment  
Acute aquatic toxicity : This product has no known ecotoxicological effects.  
Chronic aquatic toxicity : This product has no known ecotoxicological effects.  
Toxicity Data on Soil : Not expected to adsorb on soil.  
Other organisms relevant to the environment : No data available

### ***Poly (A), lyophilized***

No data available

### ***Proteinase K, PCR grade***

#### **Components:**

##### **Proteinase, Tritirachium album serine:**

Ecotoxicology Assessment  
Toxicity Data on Soil : Not expected to adsorb on soil.  
Other organisms relevant to the environment : No data available

### ***Wash Buffer***

No data available

### ***Wash Buffer I / Inhibitor Removal Buffer***

#### **Components:**

##### **guanidinium chloride:**

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 1.759 mg/l  
Exposure time: 48 h  
Toxicity to bacteria : EC50 (Pseudomonas putida): 89 mg/l  
Exposure time: 18 h

Ecotoxicology Assessment  
Acute aquatic toxicity : This product has no known ecotoxicological effects.

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- Chronic aquatic toxicity : This product has no known ecotoxicological effects.
- Toxicity Data on Soil : Not expected to adsorb on soil.
- Other organisms relevant to the environment : No data available

### ***Elution Buffer (EB)***

No data available

## 12.2 Persistence and degradability

### ***Lysis/Binding Buffer/DNA PBB***

#### **Components:**

##### **guanidinium chloride:**

Biodegradability : Biodegradation: < 70 %  
Remarks: According to the results of tests of biodegradability this product is not readily biodegradable.

Impact on Sewage Treatment : Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

##### **Triton X-100:**

Biodegradability : Biodegradation: > 60 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

### ***Poly (A), lyophilized***

No data available

### ***Proteinase K, PCR grade***

No data available

### ***Wash Buffer***

No data available

### ***Wash Buffer I / Inhibitor Removal Buffer***

#### **Components:**

##### **guanidinium chloride:**

Biodegradability : Biodegradation: < 70 %  
Remarks: According to the results of tests of biodegradability this product is not readily biodegradable.

Impact on Sewage Treatment : Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

### ***Elution Buffer (EB)***

No data available

## 12.3 Bioaccumulative potential

### ***Lysis/Binding Buffer/DNA PBB***

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### Components:

#### **guanidinium chloride:**

Partition coefficient: n-  
octanol/water : log Pow: ca. -1,7 (20 °C)

#### **Triton X-100:**

Bioaccumulation : Remarks: No bioaccumulation is to be expected (log Pow <= 4).

#### ***Poly (A),lyophylized***

No data available

#### ***Proteinase K, PCR grade***

No data available

#### ***Wash Buffer***

No data available

#### ***Wash Buffer I / Inhibitor Removal Buffer***

### Components:

#### **guanidinium chloride:**

Partition coefficient: n-  
octanol/water : log Pow: ca. -1,7 (20 °C)

#### ***Elution Buffer (EB)***

No data available

### 12.4 Mobility in soil

#### ***Lysis/Binding Buffer/DNA PBB***

No data available

#### ***Poly (A),lyophylized***

No data available

#### ***Proteinase K, PCR grade***

No data available

#### ***Wash Buffer***

No data available

#### ***Wash Buffer I / Inhibitor Removal Buffer***

No data available

#### ***Elution Buffer (EB)***

No data available

### 12.5 Results of PBT and vPvB assessment

#### ***Lysis/Binding Buffer/DNA PBB***

Not relevant

#### ***Poly (A),lyophylized***

Not relevant

#### ***Proteinase K, PCR grade***

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Not relevant

### **Wash Buffer**

Not relevant

### **Wash Buffer I / Inhibitor Removal Buffer**

Not relevant

### **Elution Buffer (EB)**

Not relevant

#### 12.6 Other adverse effects

##### **Lysis/Binding Buffer/DNA PBB**

No data available

##### **Poly (A), lyophilized**

No data available

##### **Proteinase K, PCR grade**

No data available

##### **Wash Buffer**

No data available

##### **Wash Buffer I / Inhibitor Removal Buffer**

No data available

##### **Elution Buffer (EB)**

No data available

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.

### SECTION 14: Transport information

#### 14.1 UN number

Not regulated as a dangerous good

#### 14.2 UN proper shipping name

Not regulated as a dangerous good

#### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

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### 14.4 Packing group

Not regulated as a dangerous good

### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Remarks : Not dangerous goods in the meaning of ADR/RID, ADNR, IMDG-Code, ICAO/IATA-DGR

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks : Not applicable

## SECTION 15: Regulatory information

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

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances  
Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
Not applicable

Water contaminating class (Germany) : WGK 2 water endangering

### Lysis/Binding Buffer/DNA PBB

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :  

Signal word : Danger

Hazard statements : H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.

Precautionary statements : **Prevention:**  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear eye protection/ face protection.  
P280 Wear protective gloves.  
**Response:**  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a



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**Disposal:**  
P501

POISON CENTER or doctor/ physician.

Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

50-01-1                      guanidinium chloride  
9002-93-1                   Triton X-100

### ***Poly (A), lyophilized***

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

Not a hazardous substance or mixture.

### ***Proteinase K, PCR grade***

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

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear eye protection/ face protection.  
P280 Wear protective gloves.  
P284 Wear respiratory protection.  
**Response:**  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.

Hazardous components which must be listed on the label:

39450-01-6                      Proteinase, Tritirachium album serine

### ***Wash Buffer***

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### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### Wash Buffer I / Inhibitor Removal Buffer

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H302 + H332 Harmful if swallowed or if inhaled  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear eye protection/ face protection.  
P280 Wear protective gloves.  
**Response:**  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

50-01-1 guanidinium chloride

### Elution Buffer (EB)

#### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

## 15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

## SECTION 16: Other information

### Full text of R-Phrases

R22 : Harmful if swallowed.  
R36/37/38 : Irritating to eyes, respiratory system and skin.  
R36/38 : Irritating to eyes and skin.

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- R41 : Risk of serious damage to eyes.  
R42 : May cause sensitisation by inhalation.  
R43 : May cause sensitisation by skin contact.

### Full text of H-Statements

- H302 : Harmful if swallowed.  
H315 : Causes skin irritation.  
H317 : May cause an allergic skin reaction.  
H318 : Causes serious eye damage.  
H319 : Causes serious eye irritation.  
H332 : Harmful if inhaled.  
H334 : May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 : May cause respiratory irritation.

### Full text of other abbreviations

- Acute Tox. : Acute toxicity  
Eye Dam. : Serious eye damage  
Eye Irrit. : Eye irritation  
Resp. Sens. : Respiratory sensitisation  
Skin Irrit. : Skin irritation  
Skin Sens. : Skin sensitisation  
STOT SE : Specific target organ toxicity - single exposure

### Further information

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

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