



## FastGene® Blood and Tissue Kit gDNA

Cat. No.	Product	Content
FG-70#	FastGene® Blood abd Tissue Kit gDNA	1 x Proteinase K
		1 x Proteinase K reconstitution buffer
		1 x Lysis buffer (BTL)
		1 x Elution buffer (BTEB)
		1 x Tissue lysis buffer (T)
		1 x Wash buffer 1 (BTW1)
		1 x Wash buffer 2 (BTW2)

### 1. Identity of the substance and the manufacturer

#### 1.1. Name of the substance or preparation

FastGene® Blood abd Tissue Kit gDNA

#### 1.2. Recommended use of the chemical and restrictions on use

Laboratory research use only.

#### 1.3. Name and address of the manufacturer

NIPPON Genetics EUROPE GmbH:  
Mariaweilerstraße 28-30, Düren, 52349  
Germany

#### 1.4. Emergency telephone contact

+49 2421/554960

### 2. Hazards identification

#### 2.1. Classification of the substance or mixture

##### 2.1.1. Proteinase K



GHS07



GHS08

Signal word: danger



Hazard class	Category
Skin allergy	1
Respiratory hypersensitivity	1
Serious eye damage/eye irritation	2A
Specific target organ toxicity - single exposure	3

Physical hazard statements:

- H317 May cause skin allergic reaction.
- H319 Causes serious eye irritation.
- H334 May cause allergies or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.

Precautionary statements:

Precautions

- P261 Avoid inhalation of dust/smoke/gas/fume/vapour/spray.
- P264 Wash skin thoroughly after operation
- P271 Can only be used outdoors or in a well ventilated place.
- P272 Contaminated work clothes shall not be taken out of the work site.
- P280 Wear protective gloves/goggles/masks.
- P284 [In case of inadequate ventilation] wear respiratory protection.

Response

- P302 + P352 IF ON SKIN: Wash with plenty of water.
- P304 + P340+P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. If you feel unwell, call the emergency center/doctor.
- P305 + P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P333 + P313 If skin irritation or rash: seek medical treatment/consultation.
- P337 + P313 If eye irritation persists: Get medical advice/attention.
- P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage

- None



#### Disposal

- P501 Dispose of contents/container to an approved waste treatment plant for disposal.

Other hazards: no data available.

### 2.1.2. Proteinase K reconstitution buffer

This mixture is not classified as dangerous in the sense of the Regulation (EC) No. 1272/2008 (REACH).

### 2.1.3. Lysis buffer (BTL)



Signal word: warning

GHS07

Hazard class	Category
Skin corrosion/irritation	2
Serious eye damage/eye irritation	2
Acute toxicity, oral	4
Acute toxicity, inhalation	4

#### Physical hazard statements:

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

#### Precautionary statements:

##### Precautions

- P280 Wear protective gloves/goggles/masks.

##### Response

- P302 + P352 IF ON SKIN: Wash with plenty of water.
- P305 + P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 If eye irritation persists: Get medical advice/attention.



Other hazards: no data available.

### 2.2.4. Elution buffer (BTEB)

This mixture is not classified as dangerous in the sense of the Regulation (EC) No. 1907/2006 (REACH).

### 2.2.5. Tissue lysis buffer (T)



Signal word: danger

GHS05

Hazard class	Category
Corrosive to Metals	1
Skin corrosion/irritation	1B
Serious eye damage/eye irritation	1

Physical hazard statements:

- H290 May be corrosive to metals.
- H314 Causes severe skin burns and eye damage.
- H318 Causes serious eye damage.

Precautionary statements:

Precautions

- P260 Do not breathe dust/fume/gas/mist/vapor/aerosol.
- P280 Wear protective gloves/goggles/masks.
- P284 [In case of inadequate ventilation] wear respiratory protection.

Response

- P303 + P361 + P353 IF ON SKIN (or hair): Remove all contaminated clothing immediately. Wash skin with water or take shower.
- P305 + P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Call poison center/physician immediately.

Other hazards: no data available.



### 2.2.6. Wash buffer 1 (BTW1)



Signal word: warning

GHS07

Hazard class	Category
Skin corrosion/irritation	2
Serious eye damage/eye irritation	2A
Acute toxicity, oral	4
Acute toxicity, inhalation	4

Physical hazard statements:

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

Precautionary statements:

Precautions

- P280 Wear protective gloves/goggles/masks.

Response

- P302 + P352 IF ON SKIN: Wash with plenty of water.
- P305 + P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 If eye irritation persists: Get medical advice/attention.

Other hazards: no data available.

### 2.2.7. Wash buffer 2 (BTW2)

This mixture is not classified as dangerous in the sense of the Regulation (EC) No. 1272/2008 (REACH).



## 3. Composition/information about the components

### 3.1. Substance/mixture

#### 3.1.1. Proteinase K

	Concentration	CAS No.	EC No.
Proteinase K	< = 100 %	39450-01-6	3.4.21.64

#### 3.1.2. Proteinase K reconstitution buffer

	Concentration	CAS No.	EC No.
Proteinase K buffer pH 4.5	-	-	-

#### 3.1.3. Lysis buffer (BTL)

	Concentration	CAS No.	EC No.
Guanidinium chloride; guanadine hydrochloride	30 - < 35 %	50-01-1	200-002-3
Polyoxyethylene sorbitan monolaurate	15 - < 20 %	9005-64-5	500-018-3

#### 3.1.4. Elution buffer (BTEB)

	Concentration	CAS No.	EC No.
Elution buffer	-	-	-

#### 3.1.5. Tissue lysis buffer (T)

	Concentration	CAS No.	EC No.
EDTA	1 - < 5 %	60-00-4	-
Sodium hydroxide	1 - < 5 %	1310-73-2	215-185-5
Sodium dodecyl sulfate	1 - < 5 %	151-21-3	205-788-1



### 3.1.6. Wash buffer 1 (BTW1)

	Concentration	CAS No.	EC No.
Guanidinium chloride; guanadine hydrochloride	35 - < 40 %	50-01-1	200-002-3

### 3.1.7. Wash buffer 2 (BTW2)

	Concentration	CAS No.	EC No.
Wash buffer 2 (BTW2)	-	-	-

---

## 4. First-aid measures

### 4.1. Description of necessary first-aid measures

#### 4.1.1. General information

##### 4.1.1.1. Proteinase K

Medical attention is required. Consult a doctor. Show this material safety data sheet (MSDS) to the doctor in attendance.

##### 4.1.1.2. Proteinase K reconstitution buffer

No data available.

##### 4.1.1.3. Lysis buffer (BTL)

No data available.

##### 4.1.1.4. Elution buffer (BTEB)

No data available.

##### 4.1.1.5. Tissue lysis buffer (T)

No data available.



#### **4.1.1.6. Wash buffer 1 (BTW1)**

No data available.

#### **4.1.1.7. Wash buffer 2 (BTW2)**

No data available.

### **4.1.2. Inhalation**

#### **4.1.2.1. Proteinase K**

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### **4.1.2.2. Proteinase K reconstitution buffer**

Make sure there is fresh air.

#### **4.1.2.3. Lysis buffer (BTL)**

Make sure there is fresh air. Call a doctor if you feel unwell.

#### **4.1.2.4. Elution buffer (BTEB)**

Make sure there is fresh air.

#### **4.1.2.5. Tissue lysis buffer (T)**

Make sure there is fresh air. Call a doctor if you feel unwell.

#### **4.1.2.6. Wash buffer 1 (BTW1)**

Make sure there is fresh air. Call a doctor if you feel unwell.

#### **4.1.2.7. Wash buffer 2 (BTW2)**

Make sure there is fresh air.





### 4.1.3. Skin contact

#### 4.1.3.1. Proteinase K

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

#### 4.1.3.2. Proteinase K reconstitution buffer

Wash off immediately with water and remove all contaminated clothing and wash it before wash before wearing again.

#### 4.1.3.3. Lysis buffer (BTL)

Wash off immediately with water and remove all contaminated clothing and wash it before wearing again. In case of skin irritation, consult a doctor.

#### 4.1.3.4. Elution buffer (BTEB)

Wash off immediately with water and remove all contaminated clothing and wash it before wearing again.

#### 4.1.3.5. Tissue lysis buffer (T)

Wash off immediately with water and remove all contaminated clothing and wash it before wearing again. Call a doctor immediately.

#### 4.1.3.6. Wash buffer 1 (BTW1)

Wash off immediately with water and remove all contaminated clothing and wash it before wearing again. In case of skin irritation, consult a doctor.

#### 4.1.3.7. Wash buffer 2 (BTW2)

Wash off immediately with water and remove all contaminated clothing and wash it before wearing again.

### 4.1.4. Eye contact

#### 4.1.4.1. Proteinase K

Rinse with pure water for at least 15 minutes. Consult a doctor.



#### **4.1.4.2. Proteinase K reconstitution buffer**

Immediately rinse carefully and thoroughly with eye wash or water.

#### **4.1.4.3. Lysis buffer (BTL)**

Immediately rinse carefully and thoroughly with eye wash or water. In case of eye irritation, consult an ophthalmologist.

#### **4.1.4.4. Elution buffer (BTEB)**

Immediately rinse carefully and thoroughly with eye wash or water. Remove any contact lenses if possible. Continue rinsing.

#### **4.1.4.5. Tissue lysis buffer (T)**

In case of eye contact, rinse the eyes with water for a sufficiently long time with the eyelids open. Then consult an ophthalmologist immediately. Remove contact lenses if possible. Continue rinsing.

#### **4.1.4.6. Wash buffer 1 (BTW1)**

Immediately rinse carefully and thoroughly with eye wash or water. Remove any contact lenses if possible. Continue rinsing. Consult an ophthalmologist in case of eye irritation.

#### **4.1.4.7. Wash buffer 2 (BTW2)**

Immediately rinse carefully and thoroughly with eye wash or water. Remove any contact lenses if possible. Continue rinsing.

### **4.1.5. Ingestion**

#### **4.1.5.1. Proteinase K**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

#### **4.1.5.2. Proteinase K reconstitution buffer**

Rinse out mouth immediately and drink plenty of water. Call a doctor if you feel unwell.



#### **4.1.5.3. Lysis buffer (BTL)**

Rinse out mouth immediately and drink plenty of water. Call a doctor immediately.

#### **4.1.5.4. Elution buffer (BTEB)**

Rinse out mouth immediately and drink plenty of water. Call a doctor if you feel unwell.

#### **4.1.5.5. Tissue lysis buffer (T)**

Rinse out mouth immediately and drink plenty of water. Call a doctor immediately.

#### **4.1.5.6. Wash buffer 1 (BTW1)**

Rinse out mouth immediately and drink plenty of water. Call a doctor immediately.

#### **4.1.5.7. Wash buffer 2 (BTW2)**

Rinse out mouth immediately and drink plenty of water. Call a doctor if you feel unwell.

## **4.2. Most important symptoms and health effects**

### **4.2.1. Proteinase K**

- May cause skin allergic reaction.
- Causes serious eye irritation.
- May cause allergies or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.

### **4.2.2. Proteinase K reconstitution buffer**

- Gastrointestinal complaints.
- Cyanosis (blue colouring of the blood).

### **4.2.3. Lysis buffer (BTL)**

No data available.

### **4.2.4. Elution buffer (BTEB)**

No data available.



#### **4.2.5. Tissue lysis buffer (T)**

No data available.

#### **4.2.6. Wash buffer 1 (BTW1)**

No data available.

#### **4.2.7. Wash buffer 2 (BTW2)**

No data available.

### **4.3. Indications for immediate medical help or special treatment**

#### **4.3.1. Proteinase K**

No data available.

#### **4.3.2. Proteinase K reconstitution buffer**

No data available.

#### **4.3.3. Lysis buffer (BTL)**

No data available.

#### **4.3.4. Elution buffer (BTEB)**

No data available.

#### **4.3.5. Tissue lysis buffer (T)**

No data available.

#### **4.3.6. Wash buffer 1 (BTW1)**

No data available.

#### **4.3.7. Wash buffer 2 (BTW2)**

No data available.



---

## 5. In case of fire

### 5.1. Conditions of flammability

#### 5.1.1. Proteinase K

Not flammable or combustible.

#### 5.1.2. Proteinase K reconstitution buffer

No data available.

#### 5.1.3. Lysis buffer (BTL)

No data available.

#### 5.1.4. Elution buffer (BTEB)

No data available.

#### 5.1.5. Tissue lysis buffer (T)

No data available.

#### 5.1.6. Wash buffer 1 (BTW1)

No data available.

#### 5.1.7. Wash buffer 2 (BTW2)

No data available.

### 5.2. Suitable extinguishing agents

#### 5.2.1. Proteinase K

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### 5.2.2. Proteinase K reconstitution buffer

Adapt extinguishing measures to the surroundings.



### **5.2.3. Lysis buffer (BTL)**

Adapt extinguishing measures to the surroundings.

### **5.2.4. Elution buffer (BTEB)**

Adapt extinguishing measures to the surroundings.

### **5.2.5. Tissue lysis buffer (T)**

Adapt extinguishing measures to the surroundings.

### **5.2.6. Wash buffer 1 (BTW1)**

Adapt extinguishing measures to the surroundings.

### **5.2.7. Wash buffer 2 (BTW2)**

Adapt extinguishing measures to the surroundings.

## **5.3. Not suitable extinguishing agents**

### **5.3.1. Proteinase K**

No data available.

### **5.3.2. Proteinase K reconstitution buffer**

No restriction.

### **5.3.3. Lysis buffer (BTL)**

No restriction.

### **5.3.4. Elution buffer (BTEB)**

No restriction.

### **5.3.5. Tissue lysis buffer (T)**

No restriction.

### **5.3.6. Wash buffer 1 (BTW1)**

No restriction.



### **5.3.7. Wash buffer 2 (BTW2)**

No restriction.

## **5.4. Special exposure hazards from decomposition products**

### **5.4.1. Proteinase K**

Hazardous decomposition products formed under fire conditions. nature of decomposition products not known.

### **5.4.2. Proteinase K reconstitution buffer**

Hazardous decomposition products formed under fire conditions. acrolein.

### **5.4.3. Lysis buffer (BTL)**

Non-flammable liquids.

### **5.4.4. Elution buffer (BTEB)**

Non-flammable liquids.

### **5.4.5. Tissue lysis buffer (T)**

Non-flammable liquids.

### **5.4.6. Wash buffer 1 (BTW1)**

Non-flammable liquids.

### **5.4.7. Wash buffer 2 (BTW2)**

Non-flammable liquids.

## **5.5. Protective equipment for firefighters**

### **5.5.1. Proteinase K**

Wear self contained breathing apparatus for fire fighting if necessary.

### **5.5.2. Proteinase K reconstitution buffer**

- Wear self-contained breathing apparatus.



- Use water spray to protect persons and to cool containers in the danger area.
- Use water spray in the danger zone.
- Collect contaminated extinguishing water separately.
- Do not allow to enter drains or watercourses.

#### **5.5.3. Lysis buffer (BTL)**

- Wear self-contained breathing apparatus.
- Use water spray to protect persons and to cool containers in the danger zone.
- Use water spray in the danger zone.
- Collect contaminated extinguishing water separately.
- Do not allow to enter sewage system or water.

#### **5.5.4. Elution buffer (BTEB)**

- Wear self-contained breathing apparatus.
- To protect persons and to cool containers in the danger zone.
- Use water spray in the danger zone.

#### **5.5.5. Tissue lysis buffer (T)**

- Wear self-contained breathing apparatus.
- Use water spray to protect persons and to cool containers in the danger zone.
- Use water spray in the danger zone.
- Collect contaminated extinguishing water separately.
- Do not allow to enter drains or watercourses.

#### **5.5.6. Wash buffer 1 (BTW1)**

- Wear self-contained breathing apparatus.
- Use water spray to protect persons and to cool containers in the danger zone.
- Use water spray in the danger zone.
- Collect contaminated extinguishing water separately.
- Do not allow to enter drains or watercourses.

#### **5.5.7. Wash buffer 2 (BTW2)**

- To protect persons and to cool containers in the danger zone.
- Use water spray in the danger zone.





## 6. In case of spillage

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

#### 6.1.1. Proteinase K

- Avoid dust formation.
- Avoid breathing vapours, mist or gas.

#### 6.1.2. Proteinase K reconstitution buffer

- Ensure adequate ventilation.
- Use personal protective equipment.
- Avoid contact with skin, eyes and clothing..
- Move people to safety.
- Call in experts.
- Do not breathe dust/fume/gas/mist/vapour/aerosol.
- Personal protective equipment: see section 8.

#### 6.1.3. Lysis buffer (BTL)

- Ensure adequate ventilation.
- Use personal protective equipment.
- Avoid contact with skin, eyes and clothing..
- Move people to safety.
- Call in experts.
- Do not breathe dust/fume/gas/mist/vapour/aerosol.
- Personal protective equipment: see section 8.

#### 6.1.4. Elution buffer (BTEB)

- Ensure adequate ventilation.
- Use personal protective equipment.
- Avoid contact with skin, eyes and clothing..
- Move people to safety.
- Call in experts.
- Do not breathe dust/fume/gas/mist/vapour/aerosol.
- Personal protective equipment: see section 8.

#### 6.1.5. Tissue lysis buffer (T)

- Ensure adequate ventilation.
- Use personal protective equipment.



- Avoid contact with skin, eyes and clothing..
- Move people to safety.
- Call in experts.
- Do not breathe dust/fume/gas/mist/vapour/aerosol.
- Personal protective equipment: see section 8.

#### **6.1.6. Wash buffer 1 (BTW1)**

- Do not inhale vapour/aerosol.
- Ensure adequate ventilation.
- Use personal protective equipment.
- Avoid contact with skin, eyes and clothing..
- Move people to safety.
- Call in experts.
- Do not breathe dust/fume/gas/mist/vapour/aerosol.
- Personal protective equipment: see section 8.

#### **6.1.7. Wash buffer 2 (BTW2)**

- Ensure adequate ventilation.
- Use personal protective equipment.
- Avoid contact with skin, eyes and clothing..
- Move people to safety.
- Call in experts.
- Do not breathe dust/fume/gas/mist/vapour/aerosol.
- Personal protective equipment: see section 8.

## **6.2. Environmental precautions**

### **6.2.1. Proteinase K**

Do not allow to enter drains or watercourses.

### **6.2.2. Proteinase K reconstitution buffer**

Do not allow to enter drains or watercourses.

### **6.2.3. Lysis buffer (BTL)**

Do not allow to enter drains or watercourses.



#### **6.2.4. Elution buffer (BTEB)**

Do not allow to enter drains or watercourses.

#### **6.2.5. Tissue lysis buffer (T)**

Do not allow to enter drains or watercourses.

#### **6.2.6. Wash buffer 1 (BTW1)**

Do not allow to enter drains or watercourses.

#### **6.2.7. Wash buffer 2 (BTW2)**

Do not allow to enter drains or watercourses.

### **6.3. Methods for cleaning up**

#### **6.3.1. Proteinase K**

- Sweep up and shovel.
- Keep in suitable, closed containers for disposal.

#### **6.3.2. Proteinase K reconstitution buffer**

- Cover the sewage system.
- Prevent expansion over a wide area (e.g. by damming or oil booms).
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
- Collect in suitable, closed containers and take for disposal.
- Thoroughly clean soiled objects and floors. Clean in accordance with environmental regulations.

#### **6.3.3. Lysis buffer (BTL)**

- Cover the sewage system.
- Prevent expansion over a wide area (e.g. by damming or oil booms).
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
- Collect in suitable, closed containers and take for disposal.
- Thoroughly clean soiled objects and floors. Clean in accordance with environmental regulations.



#### **6.3.4. Elution buffer (BTEB)**

- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
- Wipe up with absorbent material (e.g. cloth, fleece).
- Thoroughly clean soiled objects and floors. Clean in accordance with environmental regulations.

#### **6.3.5. Tissue lysis buffer (T)**

- Cover the sewage system.
- Prevent expansion over a wide area (e.g. by damming or oil booms).
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
- Collect in suitable, closed containers and take for disposal.
- Thoroughly clean soiled objects and floors. Clean in accordance with environmental regulations.

#### **6.3.6. Wash buffer 1 (BTW1)**

- Cover the sewage system.
- Prevent expansion over a wide area (e.g. by damming or oil booms).
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
- Collect in suitable, closed containers and take for disposal.
- Thoroughly clean soiled objects and floors. Clean in accordance with environmental regulations.

#### **6.3.7. Wash buffer 2 (BTW2)**

- Wipe up with absorbent material (e.g. cloth, fleece).
- Thoroughly clean soiled objects and floors. Clean in accordance with environmental regulations.

---

## **7. Handling and storage**

### **7.1. Handling**

#### **7.1.1. Proteinase K**

Provide appropriate exhaust ventilation at places where dust is formed.



### **7.1.2. Proteinase K reconstitution buffer**

- Open and handle container with care.
- Keep container tightly closed.
- Do not inhale vapour/aerosol.
- Avoid contact with skin, eyes and clothing.
- Wash contaminated clothing before wearing it again.
- Wash hands before breaks and at the end of work.

### **7.1.3. Lysis buffer (BTL)**

- Open and handle container with care.
- Keep container tightly closed.
- Do not inhale vapour/aerosol.
- Avoid contact with skin, eyes and clothing.
- Wash contaminated clothing before wearing it again.
- Wash hands before breaks and at the end of work.

### **7.1.4. Elution buffer (BTEB)**

- Open and handle container with care.
- Keep container tightly closed.
- Do not inhale vapour/aerosol.
- Avoid contact with skin, eyes and clothing.
- Wash contaminated clothing before wearing it again.
- Wash hands before breaks and at the end of work.

### **7.1.5. Tissue lysis buffer (T)**

- Open and handle container with care.
- Keep container tightly closed.
- Do not inhale vapour/aerosol.
- Avoid contact with skin, eyes and clothing.
- Wash contaminated clothing before wearing it again.
- Wash hands before breaks and at the end of work.

### **7.1.6. Wash buffer 1 (BTW1)**

- Open and handle container with care.
- Keep container tightly closed.
- Do not inhale vapour/aerosol.
- Avoid contact with skin, eyes and clothing.
- Wash contaminated clothing before wearing it again.
- Wash hands before breaks and at the end of work.



### 7.1.7. Wash buffer 2 (BTW2)

- Open and handle container with care.
- Keep container tightly closed.
- Do not inhale vapour/aerosol.
- Avoid contact with skin, eyes and clothing.
- Wash contaminated clothing before wearing it again.
- Wash hands before breaks and at the end of work.

## 7.2. Storage

### 7.2.1. Proteinase K

- Keep container tightly closed in a dry and well-ventilated place.
- Recommended storage temperature: -25~-15°C (long term) or 2-8°C (short term).

### 7.2.2. Proteinase K reconstitution buffer

- Keep container tightly closed.
- Store in a dry place.

### 7.2.3. Lysis buffer (BTL)

- Keep container tightly closed.
- Store in a dry place.

### 7.2.4. Elution buffer (BTEB)

- Keep container tightly closed.
- Store in a dry place.

### 7.2.5. Tissue lysis buffer (T)

- Keep container tightly closed.
- Store in a dry place.

### 7.2.6. Wash buffer 1 (BTW1)

- Keep container tightly closed.
- Store in a dry place.



### 7.2.7. Wash buffer 2 (BTW2)

- Keep container tightly closed.
- Store in a dry place.

## 8. Exposure controls/personal protection

### 8.1. Parameters to be monitored

#### 8.1.1. Proteinase K

No data available.

#### 8.1.2. Proteinase K reconstitution buffer

##### 8.1.2.1. Occupational limit values (TRGS 900)

CAS No.	Designation	ppm	mg/m <sup>3</sup>	F/m <sup>3</sup>	Peak amount
56-81-5	Glycerin		200 E		2 (l)

##### 8.1.2.2. DNEL/DMEL values

CAS No.	Designation	DNEL type	Exposure	Effect	Value
56-81-5	Glycerin	Worker DNEL, long-term	Inhalation	Local	56 mg/m <sup>3</sup>
		Consumer DNEL, long-term	Inhalation	Local	33 mg/m <sup>3</sup>
		Consumer DNEL, long-term	Oral	Systemic	229 mg/kg KG/d

##### 8.1.2.3. PNEC values

CAS No.	Designation	Environmental compartment	Value
56-81-5	Glycerin	Sweet water	0,885 mg/l
		Sweet water (intermittent release)	8,85 mg/l
		Sea water	0,088 mg/l
		Sweet water sediment	3,3 mg/kg
		Sea water sediment	0,33 mg/kg
		Microorganisms in sewage treatment plants	1000 mg/l
		Soil	0,141 mg/kg



### 8.1.3. Lysis buffer (BTL)

#### 8.1.3.1. DNEL/DMEL values

CAS No.	Designation	DNEL type	Exposure	Effect	Value
50-01-1	Guanidini- umchlorid; Guanadinhy- drochlorid	Worker DNEL, long-term	Inhalation	Systemic	3,5 mg/m <sup>3</sup>
		Worker DNEL, acute	Inhalation	Systemic	10,5 mg/m <sup>3</sup>
		Worker DNEL, long-term	Dermal	Systemic	1 mg/kg KG/d
		Consumer DNEL, long-term	Inhalation	Systemic	0,87 mg/m <sup>3</sup>
		Consumer DNEL, long-term	Dermal	Systemic	0,5 mg/kg KG/d
		Consumer DNEL, long-term	Oral	Systemic	0,5 mg/kg KG/d

### 8.1.4. Elution buffer (BTEB)

No data available.

### 8.1.5. Tissue lysis buffer (T)

#### 8.1.5.1. DNEL/DMEL values

CAS No.	Designation	DNEL type	Exposure	Effect	Value
60-00-4	EDTA	Worker DNEL, long-term	Inhalation	Local	1,5 mg/m <sup>3</sup>
		Worker DNEL, acute	Inhalation	Local	3 mg/m <sup>3</sup>
		Consumer DNEL, long-term	Inhalation	Local	0,6 mg/m <sup>3</sup>
		Consumer DNEL, acute	Inhalation	Local	1,2 mg/m <sup>3</sup>
		Consumer DNEL, long-term	Oral	Systemic	25 mg/kg KG/d
1310- 73-2	Sodium hydroxide	Worker DNEL, long-term	Inhalation	Local	1 mg/m <sup>3</sup>
		Consumer DNEL, long-term	Inhalation	Local	1 mg/m <sup>3</sup>





CAS No.	Designation	DNEL type	Exposure	Effect	Value
60-00-4	EDTA	Worker DNEL, long-term	Inhalation	Local	1,5 mg/m <sup>3</sup>
151-21-3	Sodium dodecyl sulphate	Worker DNEL, long-term	Inhalation	Systemic	285 mg/m <sup>3</sup>
		Worker DNEL, long-term	Dermal	Systemic	4060 mg/kg KG/d
		Consumer DNEL, long-term	Inhalation	Systemic	85 mg/m <sup>3</sup>
		Consumer DNEL, long-term	Dermal	Systemic	2440 mg/kg KG/d
		Consumer DNEL, long-term	Oral	Systemic	24 mg/kg KG/d

### 8.1.5.2. PNEC values

CAS No.	Designation	Environmental compartment	Value
60-00-4	EDTA	Sweet water	2,2 mg/l
		Sweet water (intermittent release)	1,2 mg/l
		Sea water	0,22 mg/l
		Microorganisms in sewage treatment plants	43 mg/l
		Soil	0,72 mg/kg
151-21-3	Sodium dodecyl sulphate	Sweet water	0,176 mg/l
		Sweet water (intermittent release)	0,055 mg/l
		Sea water	0,018 mg/l
		Sweet water sediment	6,97 mg/kg
		Sea water sediment	0,697 mg/kg
		Microorganisms in sewage treatment plants	1,35 mg/l
		Soil	1,29 mg/kg

### 8.1.6. Wash buffer 1 (BTW1)

#### 8.1.6.1. DNEL/DMEL values

CAS No.	Designation	DNEL type	Exposure	Effect	Value
50-01-1	Guanidini-umchlorid; Guanadinhydrochlorid	Worker DNEL, long-term	Inhalation	Systemic	3,5 mg/m <sup>3</sup>
		Worker DNEL, acute	Inhalation	Systemic	10,5 mg/m <sup>3</sup>



CAS No.	Designation	DNEL type	Exposure	Effect	Value
50-01-1	Guanidini- umchlorid; Guanadinhy- drochlorid	Worker DNEL, long-term	Dermal	Systemic	1 mg/kg KG/d
		Consumer DNEL, long-term	Inhalation	Systemic	0,87 mg/m <sup>3</sup>
		Consumer DNEL, long-term	Dermal	Systemic	0,5 mg/kg KG/d
		Consumer DNEL, long-term	Oral	Systemic	0,5 mg/kg KG/d

## 8.1.7. Wash buffer 2 (BTW2)

### 8.1.7.1. DNEL/DMEL values

CAS No.	Designation	DNEL type	Exposure	Effect	Value
7647- 14-5	Sodium chloride	Worker DNEL, long-term	Inhalation	Systemic	2068,62 mg/m <sup>3</sup>
		Worker DNEL, acute	Inhalation	Systemic	2068,62 mg/m <sup>3</sup>
		Worker DNEL, acute	Dermal	Systemic	295,52 mg/kg KG/d
		Consumer DNEL, long-term	Dermal	Systemic	126,65 mg/kg KG/d
		Consumer DNEL, acute	Dermal	Systemic	126,65 mg/kg KG/d
		Consumer DNEL, long-term	Oral	Systemic	126,65 mg/kg KG/d
		Consumer DNEL, acute	Oral	Systemic	126,65 mg/kg KG/d
		Consumer DNEL, long-term	Inhalation	Systemic	443,28 mg/m <sup>3</sup>
		Consumer DNEL, acute	Inhalation	Systemic	443,28 mg/m <sup>3</sup>



### 8.1.7.2. PNEC values

CAS No.	Designation	Environmental compartment	Value
7647-14-5	Sodium chloride	Sweet water	5 mg/l
		Microorganisms in sewage treatment plants	500 mg/l
		Soil	4,86 mg/kg

## 8.2. Exposure controls and monitoring

### 8.2.1. Proteinase K

No data available.

### 8.2.2. Proteinase K reconstitution buffer

Technical measures and the use of appropriate work procedures have priority over the use of personal protective equipment.

### 8.2.3. Lysis buffer (BTL)

Technical measures and the use of appropriate work procedures have priority over the use of personal protective equipment.

### 8.2.4. Elution buffer (BTEB)

Technical measures and the use of appropriate work procedures have priority over the use of personal protective equipment.

### 8.2.5. Tissue lysis buffer (T)

Technical measures and the use of appropriate work procedures have priority over the use of personal protective equipment.

### 8.2.6. Wash buffer 1 (BTW1)

Technical measures and the use of appropriate work procedures have priority over the use of personal protective equipment.

### 8.2.7. Wash buffer 2 (BTW2)

Technical measures and the use of appropriate work procedures have priority over the use of personal protective equipment.



## 8.3. Personal protection

### 8.3.1. Proteinase K

#### 8.3.1.1. Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### 8.3.1.2. Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### 8.3.1.3. Eye protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### 8.3.1.4. Skin and body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### 8.3.1.5. Hygiene measures

General industrial hygiene practice.

#### 8.3.1.6. Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

### 8.3.2. Proteinase K reconstitution buffer

#### 8.3.2.1. Respiratory protection

Respiratory protection is required in case of aerosol or mist formation.



#### 8.3.2.2. Hand protection

When handling chemical substances, only chemical protective gloves with a CE mark including a four-digit four-digit test number may be worn. The design of chemical protective gloves depends on the concentration and quantity of the hazardous specific to the workplace. It is recommended that the chemical resistance of the above-mentioned protective gloves for specific to the glove manufacturer for special applications.

For example, protective gloves from KCL GmbH are suitable, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (tested according to EN374).

For frequent hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with permanent contact > 480 min.

For short-term hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with occasional contact (splashes): > 480 min.

The above-mentioned breakthrough times were measured with material samples of the recommended glove types in laboratory measurements by KCL according to EN374. determined. This recommendation only applies to the product name in the safety data sheet, which is supplied by us, and the intended use stated by us. When dissolving in or mixing with other substances and under conditions deviating from the EN374, you must contact the supplier of CE-approved gloves. supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### 8.3.2.3. Eye protection

Basket glasses.

#### 8.3.2.4. Skin and body protection

Wear suitable protective clothing when working. Wash hands before breaks and at the end of work.

#### 8.3.2.5. Thermal hazards

No data available.



### **8.3.2.6. Limitation and monitoring of environmental exposure**

Do not allow to enter drains or water courses.

## **8.3.3. Lysis buffer (BTL)**

### **8.3.3.1. Respiratory protection**

Respiratory protection is required in case of aerosol or mist formation.

### **8.3.3.2. Hand protection**

For example, protective gloves from KCL GmbH are suitable, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (tested according to EN374).

For frequent hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with permanent contact > 480 min.

For short-term hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with occasional contact (splashes): > 480 min.

The above-mentioned breakthrough times were measured with material samples of the recommended glove types in laboratory measurements by KCL according to EN374. determined. This recommendation only applies to the product name in the safety data sheet, which is supplied by us, and the intended use stated by us. When dissolving in or mixing with other substances and under conditions deviating from the EN374, you must contact the supplier of CE-approved gloves. supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

### **8.3.3.3. Eye protection**

Basket glasses.

### **8.3.3.4. Skin and body protection**

Wear suitable protective clothing when working. Wash hands before breaks and at the end of work.



#### **8.3.3.5. Thermal hazards**

No data available.

#### **8.3.3.6. Limitation and monitoring of environmental exposure**

Do not allow to enter drains or water courses.

### **8.3.4. Elution buffer (BTEB)**

#### **8.3.4.1. Respiratory protection**

Respiratory protection is required in case of aerosol or mist formation.

#### **8.3.4.2. Hand protection**

For example, protective gloves from KCL GmbH are suitable, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (tested according to EN374).

For frequent hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with permanent contact > 480 min.

For short-term hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with occasional contact (splashes): > 480 min.

The above-mentioned breakthrough times were measured with material samples of the recommended glove types in laboratory measurements by KCL according to EN374. determined. This recommendation only applies to the product name in the safety data sheet, which is supplied by us, and the intended use stated by us. When dissolving in or mixing with other substances and under conditions deviating from the EN374, you must contact the supplier of CE-approved gloves. supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### **8.3.4.3. Eye protection**

Basket glasses.

#### **8.3.4.4. Skin and body protection**

Wear suitable protective clothing when working.



#### **8.3.4.5. Thermal hazards**

No data available.

#### **8.3.4.6. Limitation and monitoring of environmental exposure**

Entry into the environment must be avoided.

### **8.3.5. Tissue lysis buffer (T)**

#### **8.3.5.1. Respiratory protection**

Respiratory protection is required in case of aerosol or mist formation.

#### **8.3.5.2. Hand protection**

For example, protective gloves from KCL GmbH are suitable, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (tested according to EN374).

For frequent hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with permanent contact > 480 min.

For short-term hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with occasional contact (splashes): > 480 min.

The above-mentioned breakthrough times were measured with material samples of the recommended glove types in laboratory measurements by KCL according to EN374. determined. This recommendation only applies to the product name in the safety data sheet, which is supplied by us, and the intended use stated by us. When dissolving in or mixing with other substances and under conditions deviating from the EN374, you must contact the supplier of CE-approved gloves. supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### **8.3.5.3. Eye protection**

Basket glasses.

#### **8.3.5.4. Skin and body protection**

Wear suitable protective clothing when working. Wash hands before breaks and at the end of work.





#### **8.3.5.5. Thermal hazards**

No data available.

#### **8.3.5.6. Limitation and monitoring of environmental exposure**

Do not allow to enter drains or water courses.

### **8.3.6. Wash buffer 1 (BTW1)**

#### **8.3.6.1. Respiratory protection**

Respiratory protection is required in case of aerosol or mist formation.

#### **8.3.6.2. Hand protection**

For example, protective gloves from KCL GmbH are suitable, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (tested according to EN374).

For frequent hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with permanent contact > 480 min.

For short-term hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with occasional contact (splashes): > 480 min.

The above-mentioned breakthrough times were measured with material samples of the recommended glove types in laboratory measurements by KCL according to EN374. determined. This recommendation only applies to the product name in the safety data sheet, which is supplied by us, and the intended use stated by us. When dissolving in or mixing with other substances and under conditions deviating from the EN374, you must contact the supplier of CE-approved gloves. supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### **8.3.6.3. Eye protection**

Basket glasses.

#### **8.3.6.4. Skin and body protection**

Wear suitable protective clothing when working. Wash hands before breaks and at the end of work.



#### **8.3.6.5. Thermal hazards**

No data available.

#### **8.3.6.6. Limitation and monitoring of environmental exposure**

Do not allow to enter drains.

### **8.3.7. Wash buffer 2 (BTW2)**

#### **8.3.7.1. Respiratory protection**

Respiratory protection is required in case of aerosol or mist formation.

#### **8.3.7.2. Hand protection**

For example, protective gloves from KCL GmbH are suitable, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (tested according to EN374).

For frequent hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with permanent contact > 480 min.

For short-term hand contact Trade name/designation: KCL 741 Dermatril® L  
recommended material: NBR (nitrile rubber) 0.11 mm wearing time with occasional contact (splashes): > 480 min.

The above-mentioned breakthrough times were measured with material samples of the recommended glove types in laboratory measurements by KCL according to EN374. determined. This recommendation only applies to the product name in the safety data sheet, which is supplied by us, and the intended use stated by us. When dissolving in or mixing with other substances and under conditions deviating from the EN374, you must contact the supplier of CE-approved gloves. supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### **8.3.7.3. Eye protection**

Basket glasses.

#### **8.3.7.4. Skin and body protection**

Wear suitable protective clothing when working. Wash hands before breaks and at the end of work.



#### 8.3.7.5. Thermal hazards

No data available.

#### 8.3.7.6. Limitation and monitoring of environmental exposure

Entry into the environment must be avoided.

## 9. Physical and chemical properties

### 9.1. Proteinase K

Appearance	Amorphous powder
Colour	White to off-white
Odour	No data available
Odour Threshold	No data available
pH (at 25°C)	No data available
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)	No data available
High/low flammability or explosive limit	No data available
Vapor Pressure	No data available
Vapor density	No data available
Density/relative density	No data available
Water solubility	No data available
Partition coefficient of n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic viscosity	No data available
Dynamic viscosity	No data available
Explosive characteristics	No data available
Oxidizing	No data available



## 9.2. Proteinase K reconstitution buffer

Appearance	Liquid
Colour	Colourless
Odour	Odourless
Odour threshold	No data available
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flammability	No data available
Explosion limit	
Upper explosion limit	No data available
Flash point	No data available
Ignition temperature	No data available
Decomposition temperature	No data available
pH value (at 25°C)	4,5
Kinematics	No data available
Viscosity	
Water solubility	No data available
Solubility in other solvents	No data available
Dissolution rate	No data available
Partition coefficient	No data available
n-octanol/water	No data available
Dispersion stability	No data available
Steam pressure	No data available
Vapour pressure	No data available
Density	1,1333 g/cm <sup>3</sup>
Relative density	No data available
Bulk density	No data available
Relative vapour density	No data available
Particle properties	No data available

## 9.3. Lysis buffer (BTL)

Appearance	Liquid
Colour	Light yellow
Odour	Odourless
Odour threshold	No data available
Melting point/freezing point	No data available



<b>Initial boiling point and boiling range</b>	No data available
<b>Flammability</b>	No data available
<b>Explosion limit</b>	
Upper explosion limit	No data available
<b>Flash point</b>	No data available
<b>Ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>pH value (at 25°C)</b>	4,6
<b>Kinematics</b>	No data available
<b>Viscosity</b>	
Water solubility	No data available
Solubility in other solvents	No data available
<b>Dissolution rate</b>	No data available
<b>Partition coefficient</b>	No data available
<b>n-octanol/water</b>	No data available
<b>Dispersion stability</b>	No data available
<b>Steam pressure</b>	No data available
<b>Vapour pressure</b>	No data available
<b>Density</b>	1,1215 g/cm <sup>3</sup>
<b>Relative density</b>	No data available
<b>Bulk density</b>	No data available
<b>Relative vapour density</b>	No data available
<b>Particle properties</b>	No data available

#### 9.4. Elution buffer (BTEB)

<b>Appearance</b>	Liquid
<b>Colour</b>	Colourless
<b>Odour</b>	Odourless
<b>Odour threshold</b>	No data available
<b>Melting point/freezing point</b>	No data available
<b>Initial boiling point and boiling range</b>	No data available
<b>Flammability</b>	No data available
<b>Explosion limit</b>	
Upper explosion limit	No data available
<b>Flash point</b>	No data available
<b>Ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available



pH value (at 25°C)	8,0
Kinematics	No data available
Viscosity	
Water solubility	No data available
Solubility in other solvents	No data available
Dissolution rate	No data available
Partition coefficient	No data available
n-octanol/water	No data available
Dispersion stability	No data available
Steam pressure	No data available
Vapour pressure	No data available
Density	0,9985 g/cm <sup>3</sup>
Relative density	No data available
Bulk density	No data available
Relative vapour density	No data available
Particle properties	No data available

## 9.5. Tissue lysis buffer (T)

Appearance	Liquid
Colour	Colourless
Odour	Odourless
Odour threshold	No data available
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flammability	No data available
Explosion limit	
Upper explosion limit	No data available
Flash point	No data available
Ignition temperature	No data available
Decomposition temperature	No data available
pH value (at 25°C)	13
Kinematics	No data available
Viscosity	
Water solubility	No data available
Solubility in other solvents	No data available
Dissolution rate	No data available
Partition coefficient	No data available



n-octanol/water	No data available
Dispersion stability	No data available
Steam pressure	No data available
Vapour pressure	No data available
Density	No data available
Relative density	No data available
Bulk density	No data available
Relative vapour density	No data available
Particle properties	No data available

## 9.6. Wash buffer 1 (BTW1)

Appearance	Liquid
Colour	Colourless
Odour	Odourless
Odour threshold	No data available
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flammability	No data available
Explosion limit	
Upper explosion limit	No data available
Flash point	No data available
Ignition temperature	No data available
Decomposition temperature	No data available
pH value (at 25°C)	7,0
Kinematics	No data available
Viscosity	
Water solubility	No data available
Solubility in other solvents	No data available
Dissolution rate	No data available
Partition coefficient	No data available
n-octanol/water	No data available
Dispersion stability	No data available
Steam pressure	No data available
Vapour pressure	No data available
Density	1,1333 g/cm <sup>3</sup>
Relative density	No data available
Bulk density	No data available



Relative vapour density	No data available
Particle properties	No data available

## 9.7. Wash buffer 2 (BTW2)

Appearance	Liquid
Colour	Colourless
Odour	Odourless
Odour threshold	No data available
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flammability	No data available
Explosion limit	
Upper explosion limit	No data available
Flash point	No data available
Ignition temperature	No data available
Decomposition temperature	No data available
pH value (at 25°C)	7,4
Kinematics	No data available
Viscosity	
Water solubility	No data available
Solubility in other solvents	No data available
Dissolution rate	No data available
Partition coefficient	No data available
n-octanol/water	No data available
Dispersion stability	No data available
Steam pressure	No data available
Vapour pressure	No data available
Density	1,0032 g/cm <sup>3</sup>
Relative density	No data available
Bulk density	No data available
Relative vapour density	No data available
Particle properties	No data available





---

## 10. Stability and reactivity

### 10.1. Reactivity

#### 10.1.1. Proteinase K

No data available.

#### 10.1.2. Proteinase K reconstitution buffer

No data available.

#### 10.1.3. Lysis buffer (BTL)

No data available.

#### 10.1.4. Elution buffer (BTEB)

No data available.

#### 10.1.5. Tissue lysis buffer (T)

No data available.

#### 10.1.6. Wash buffer 1 (BTW1)

No data available.

#### 10.1.7. Wash buffer 2 (BTW2)

No data available.

### 10.2. Chemical stability

#### 10.2.1. Proteinase K

Stable under recommended storage conditions.

#### 10.2.2. Proteinase K reconstitution buffer

No data available.



### **10.2.3. Lysis buffer (BTL)**

No data available.

### **10.2.4. Elution buffer (BTEB)**

No data available.

### **10.2.5. Tissue lysis buffer (T)**

No data available.

### **10.2.6. Wash buffer 1 (BTW1)**

No data available.

### **10.2.7. Wash buffer 2 (BTW2)**

No data available.

## **10.3. Possibility of hazardous reactions**

### **10.3.1. Proteinase K**

No data available.

### **10.3.2. Proteinase K reconstitution buffer**

Oxidising agent.

### **10.3.3. Lysis buffer (BTL)**

No data available.

### **10.3.4. Elution buffer (BTEB)**

No data available.

### **10.3.5. Tissue lysis buffer (T)**

No data available.



#### **10.3.6. Wash buffer 1 (BTW1)**

No data available.

#### **10.3.7. Wash buffer 2 (BTW2)**

No data available.

### **10.4. Conditions to avoid**

#### **10.4.1. Proteinase K**

No data available.

#### **10.4.2. Proteinase K reconstitution buffer**

Heat.

#### **10.4.3. Lysis buffer (BTL)**

No data available.

#### **10.4.4. Elution buffer (BTEB)**

No data available.

#### **10.4.5. Tissue lysis buffer (T)**

No data available.

#### **10.4.6. Wash buffer 1 (BTW1)**

No data available.

#### **10.4.7. Wash buffer 2 (BTW2)**

No data available.

### **10.5. Materials to avoid**

#### **10.5.1. Proteinase K**

Strong oxidizing agents.



#### **10.5.2. Proteinase K reconstitution buffer**

No data available.

#### **10.5.3. Lysis buffer (BTL)**

No data available.

#### **10.5.4. Elution buffer (BTEB)**

No data available.

#### **10.5.5. Tissue lysis buffer (T)**

No data available.

#### **10.5.6. Wash buffer 1 (BTW1)**

No data available.

#### **10.5.7. Wash buffer 2 (BTW2)**

No data available.

### **10.6. Hazardous decomposition products**

#### **10.6.1. Proteinase K**

Hazardous decomposition products formed under fire conditions - nature of decomposition products not known.

Other decomposition products - no data available.

#### **10.6.2. Proteinase K reconstitution buffer**

No data available.

#### **10.6.3. Lysis buffer (BTL)**

No data available.

#### **10.6.4. Elution buffer (BTEB)**

No data available.



#### **10.6.5. Tissue lysis buffer (T)**

No data available.

#### **10.6.6. Wash buffer 1 (BTW1)**

No data available.

#### **10.6.7. Wash buffer 2 (BTW2)**

No data available.

---

## **11. Toxicological information**

### **11.1. Acute toxicity**

#### **11.1.1. Proteinase K**

No data available.

#### **11.1.2. Proteinase K reconstitution buffer**

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

#### **11.1.3. Lysis buffer (BTL)**

Harmful if swallowed.

Harmful by inhalation.

#### **11.1.4. Elution buffer (BTEB)**

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

#### **11.1.5. Tissue lysis buffer (T)**

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

#### **11.1.6. Wash buffer 1 (BTW1)**

Harmful if swallowed.

Harmful by inhalation.



### 11.1.7. Wash buffer 2 (BTW2)

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

## 11.2. ATE mix calculated

### 11.2.1. Proteinase K

No data available.

### 11.2.2. Proteinase K reconstitution buffer

ATE (oral) > 2000 mg/kg;

ATE (dermal) > 2000 mg/kg;

ATE (inhalation vapour) > 20 mg/l;

ATE (inhalation dust/mist) > 5 mg/l

### 11.2.3. Lysis buffer (BTL)

ATE (oral) 1748 mg/kg;

ATE (dermal) > 2000 mg/kg;

ATE (inhalation vapour) 34.56 mg/l;

ATE (inhalation dust/mist) 4.713 mg/l

CAS No.	Designation	Exposure route	Dosege	Species	Source	Method
50-01-1	Guanidini- umchlorid; Guanadinhy- drochlorid	Oral	LD50 556,5 mg/kg	Rat	Study report (1985)	other: EPA TS- 792 acute exposure, oral
		Dermal	LD50 > 2000 mg/kg	Rabbit	Study report (1989)	other: EPA TS-792 acute exposure, dermal
		Inhalation vapour	ATE 11 mg/l	-	-	-
		Inhalation (4h) dust/mist	LC50 > 0,853 mg/l	Rat	Study report (1989)	OECD Guideline 403



#### 11.2.4. Elution buffer (BTEB)

ATE (oral) > 2000 mg/kg;  
ATE (dermal) > 2000 mg/kg;  
ATE (inhalation vapour) > 20 mg/l;  
ATE (inhalation dust/mist) > 5 mg/l

#### 11.2.5. Tissue lysis buffer (T)

ATE (oral) 120000 mg/kg;  
ATE (dermal) > 2000 mg/kg;  
ATE (inhalativ Dampf) 1100 mg/l;  
ATE (inhalativ Staub/Nebel) 150,0 mg/l

#### 11.2.6. Wash buffer 1 (BTW1)

ATE (oral) 1537 mg/kg;  
ATE (dermal) > 2000 mg/kg;  
ATE (inhalation vapour) 30.39 mg/l;  
ATE (inhalation dust/mist) 4.144 mg/l

CAS No.	Designation	Exposure route	Dosege	Species	Source	Method
50-01-1	Guanidini- umchlorid; Guanadinhy- drochlorid	Oral	LD50 556,5 mg/kg	Rat	Study report (1985)	other: EPA TS- 792 acute exposure, oral
		Dermal	LD50 > 2000 mg/kg	Rabbit	Study report (1989)	other: EPA TS-792 acute exposure, dermal
		Inhalation vapour	ATE 11 mg/l	-	-	-
		Inhalation (4h) dust/mist	LC50 > 0,853 mg/l	Rat	Study report (1989)	OECD Guideline 403



### 11.2.7. Wash buffer 2 (BTW2)

ATE (oral) > 2000 mg/kg;  
ATE (dermal) > 2000 mg/kg;  
ATE (inhalation vapour) > 20 mg/l;  
ATE (inhalation dust/mist) > 5 mg/l

CAS No.	Designation	Exposure route	Dosege	Species	Source	Method
7647-14-5	Sodium chloride	Oral	LD50 3550 mg/kg	Rat	Study report	The study methodology followed
		Dermal	LD50 > 10000 mg/kg	Rabbit	Study report (1989)	The study methodology followed

## 11.3. Skin corrosion/irritation

### 11.3.1. Proteinase K

No data available.

### 11.3.2. Proteinase K reconstitution buffer

No data available.

### 11.3.3. Lysis buffer (BTL)

Causes skin irritation.

### 11.3.4. Elution buffer (BTEB)

No data available.

### 11.3.5. Tissue lysis buffer (T)

Causes severe skin burns.

### 11.3.6. Wash buffer 1 (BTW1)

Causes skin irritation.

### 11.3.7. Wash buffer 2 (BTW2)

No data available.





## 11.4. Eye damage/eye irritation

### 11.4.1. Proteinase K

No data available.

### 11.4.2. Proteinase K reconstitution buffer

No data available.

### 11.4.3. Lysis buffer (BTL)

Causes severe eye irritation.

### 11.4.4. Elution buffer (BTEB)

No data available.

### 11.4.5. Tissue lysis buffer (T)

Causes severe eye damage.

### 11.4.6. Wash buffer 1 (BTW1)

Causes severe eye irritation.

### 11.4.7. Wash buffer 2 (BTW2)

No data available.

## 11.5. Respiratory or skin sensitisation

### 11.5.1. Proteinase K

No data available.

### 11.5.2. Proteinase K reconstitution buffer

No data available.

### 11.5.3. Lysis buffer (BTL)

No data available.



#### **11.5.4. Elution buffer (BTEB)**

No data available.

#### **11.5.5. Tissue lysis buffer (T)**

No data available.

#### **11.5.6. Wash buffer 1 (BTW1)**

No data available.

#### **11.5.7. Wash buffer 2 (BTW2)**

No data available.

### **11.6. Germ cell mutagenicity**

#### **11.6.1. Proteinase K**

No data available.

#### **11.6.2. Proteinase K reconstitution buffer**

No data available.

#### **11.6.3. Lysis buffer (BTL)**

No data available.

#### **11.6.4. Elution buffer (BTEB)**

No data available.

#### **11.6.5. Tissue lysis buffer (T)**

No data available.

#### **11.6.6. Wash buffer 1 (BTW1)**

No data available.

#### **11.6.7. Wash buffer 2 (BTW2)**

No data available.



## 11.7. Germ cell mutagenicity

### 11.7.1. Proteinase K

No data available.

### 11.7.2. Proteinase K reconstitution buffer

No data available.

### 11.7.3. Lysis buffer (BTL)

No data available.

### 11.7.4. Elution buffer (BTEB)

No data available.

### 11.7.5. Tissue lysis buffer (T)

No data available.

### 11.7.6. Wash buffer 1 (BTW1)

No data available.

### 11.7.7. Wash buffer 2 (BTW2)

No data available.

## 11.8. Carcinogenicity

### 11.8.1. Proteinase K

No data available.

### 11.8.2. Proteinase K reconstitution buffer

No data available.

### 11.8.3. Lysis buffer (BTL)

No data available.



#### **11.8.4. Elution buffer (BTEB)**

No data available.

#### **11.8.5. Tissue lysis buffer (T)**

No data available.

#### **11.8.6. Wash buffer 1 (BTW1)**

No data available.

#### **11.8.7. Wash buffer 2 (BTW2)**

No data available.

### **11.9. Reproductive toxicity**

#### **11.9.1. Proteinase K**

No data available.

#### **11.9.2. Proteinase K reconstitution buffer**

No data available.

#### **11.9.3. Lysis buffer (BTL)**

No data available.

#### **11.9.4. Elution buffer (BTEB)**

No data available.

#### **11.9.5. Tissue lysis buffer (T)**

No data available.

#### **11.9.6. Wash buffer 1 (BTW1)**

No data available.

#### **11.9.7. Wash buffer 2 (BTW2)**

No data available.



## 11.10. Specific target organ toxicity - single exposure

### 11.10.1. Proteinase K

No data available.

### 11.10.2. Proteinase K reconstitution buffer

No data available.

### 11.10.3. Lysis buffer (BTL)

No data available.

### 11.10.4. Elution buffer (BTEB)

No data available.

### 11.10.5. Tissue lysis buffer (T)

No data available.

### 11.10.6. Wash buffer 1 (BTW1)

No data available.

### 11.10.7. Wash buffer 2 (BTW2)

No data available.

## 11.11. Specific target organ toxicity - repeated exposure

### 11.11.1. Proteinase K

No data available.

### 11.11.2. Proteinase K reconstitution buffer

No data available.

### 11.11.3. Lysis buffer (BTL)

No data available.



**11.11.4. Elution buffer (BTEB)**

No data available.

**11.11.5. Tissue lysis buffer (T)**

No data available.

**11.11.6. Wash buffer 1 (BTW1)**

No data available.

**11.11.7. Wash buffer 2 (BTW2)**

No data available.

**11.12. Aspiration hazard**

**11.12.1. Proteinase K**

No data available.

**11.12.2. Proteinase K reconstitution buffer**

No data available.

**11.12.3. Lysis buffer (BTL)**

No data available.

**11.12.4. Elution buffer (BTEB)**

No data available.

**11.12.5. Tissue lysis buffer (T)**

No data available.

**11.12.6. Wash buffer 1 (BTW1)**

No data available.

**11.12.7. Wash buffer 2 (BTW2)**

No data available.



## 12. Ecological information

### 12.1. Ecotoxicity

#### 12.1.1. Proteinase K

No data available.

#### 12.1.2. Proteinase K reconstitution buffer

No data available.

#### 12.1.3. Lysis buffer (BTL)

No data available for the mixture.

CAS No.	Designation	Aquatic toxicity	Dosege	Time	Species	Source	Method
50-01-1	Guanidini- umchlorid; Guanadinhy- drochlorid	Acute fish toxicity	LC50 1850 mg/l	96 h	Ictalurus punctatus, Pimephales promelas	Review article or handbook (1985)	Guideline not cited
		Acute algal toxicity	ErC50 11,8 mg/l	72 h	Raphidocelis subcapitata	REACH Registrati- on Dossier	EU Method C.3
		Acute crustace- an toxicity	EC50 70,2 mg/l	48 h	Daphnia magna	REACH Registrati- on Dossier	OECD Guideline 202
		Fish toxicity	NOEC >= 181 mg/l	35 d	Pimephales promelas	REACH Registrati- on Dossier	OECD Guideline 210
		Crustace- an toxicity	NOEC 2,9 mg/l	21 d	Daphnia magna	REACH Registrati- on Dossier	OECD Guideline 211

#### 12.1.4. Elution buffer (BTEB)

No data available for the mixture.



### 12.1.5. Tissue lysis buffer (T)

No data available for the mixture.

CAS No.	Designation	Aquatic toxicity	Dosege	Time	Species	Source	Method
60-00-4	EDTA	Acute fische toxicity	LC50 121 mg/l	96 h	Lepomis macrochirus	Bull. Environm. Contam. Toxicol. 24: 543	The static water acute toxicity tests
		Acute algal toxicity	ErC50 > 100 mg/l	72 h	Pseudo-kirchneriella subcapitata	Study report (2001)	OECD Guideline 201
		Acute crustacean toxicity	EC50 140 mg/l	48 h	Daphnia magna	Study report (1989)	other: DIN 38412, part 11
		Fish toxicity	NOEC >= 25,7 mg/l	35 d	Danio rerio	Study report (2001)	OECD Guideline 210
		Crustacean toxicity	NOEC 25 mg/l	21 d	Daphnia magna	Study report (1998)	other: EEC Guideline XI/681/86, Draft 4
1310-73-2	Sodium hydroxide	Acute crustacean toxicity	EC50 40,4 mg/l	48 h	Ceriodaphnia sp.	Ecotoxicology and Environmental Safety,4	other: acute 48-h immobilization test
151-21-3	Sodium dodecyl sulphate	Acute fische toxicity	LC50 29 mg/l	96 h	Pimephales promelas	Study report (2004)	OECD Guideline 203
		Acute algal toxicity	ErC50 > 120 mg/l	72 h	Desmodesmus subspicatus	Study report (1994)	other: DIN 38412, part 9
		Acute crustacean toxicity	EC50 3,15 mg/l	48 h	Artemia salina	Journal of the Water Pollution Control F	Static mortality test on Artemia nauplii





CAS No.	Designation	Aquatic toxicity	Dosege	Time	Species	Source	Method
151-21-3	Sodium dodecyl sulphate	Fish toxicity	NOEC ≥ 1,357 mg/l	42 d	Pimephales promelas	Bulletin of Environmental Contamination	42 day exposure of fish
		Crustacean toxicity	NOEC 0,88 mg/l	7 d	Ceriodaphnia dubia	Environmental Toxicology and Water Quality	other: EPA-600/489/001: Short term method
		Acute bacterial toxicity	EC50 135 mg/l	3 h	Activated sludge of a predominantly domestic sewage	Water Research 17(10): 1363-1368 (1983)	other: OECD Environment directorate

### 12.1.6. Wash buffer 1 (BTW1)

No data available for the mixture.

CAS No.	Designation	Aquatic toxicity	Dosege	Time	Species	Source	Method
50-01-1	Guanidini-umchlorid; Guanadinhydrochlorid	Acute fish toxicity	LC50 1850 mg/l	96 h	Ictalurus punctatus, Pimephales promelas	Review article or handbook (1985)	Guideline not cited
		Acute algal toxicity	ErC50 11,8 mg/l	72 h	Raphidocelis subcapitata	REACH Registration Dossier	EU Method C.3
		Acute crustacean toxicity	EC50 70,2 mg/l	48 h	Daphnia magna	REACH Registration Dossier	OECD Guideline 202
		Fish toxicity	NOEC ≥ 181 mg/l	35 d	Pimephales promelas	REACH Registration Dossier	OECD Guideline 210



CAS No.	Designation	Aquatic toxicity	Dosege	Time	Species	Source	Method
50-01-1	Guanidini-umchlorid; Guanadinhydrochlorid	Crustacean toxicity	NOEC 2,9 mg/l	21 d	Daphnia magna	Study report (1989)	OECD Guideline 211

### 12.1.7. Wash buffer 2 (BTW2)

No data available for the mixture.

CAS No.	Designation	Aquatic toxicity	Dosege	Time	Species	Source	Method
7647-14-5	Sodium chloride	Acute fische toxicity	LC50 5840 mg/	96 h	Lepomis macrochirus	Study report (1985)	other: ASTM E729
		Acute crustacean toxicity	EC50 4136 mg/l	48 h	Daphnia magna	J. fish. Res. Bd. Canada, 29: 1691-700.	OECD Guideline 202
		Fish toxicity	NOEC 252 mg/l	33 d	Pimephales promelas	Study report (1985)	OECD Guideline 210
		Crustacean toxicity	NOEC 314 mg/l	21 d	Daphnia pulex	Memorandum of agreement No. 5429, Kentuc	OECD Guideline 211

## 12.2. Persistence and degradability

### 12.2.1. Proteinase K

No data available.

### 12.2.2. Proteinase K reconstitution buffer

No data available for the mixture.



### 12.1.3. Lysis buffer (BTL)

No data available for the mixture.

### 12.1.4. Elution buffer (BTEB)

No data available for the mixture.

### 12.2.5. Tissue lysis buffer (T)

No data available for the mixture.

### 12.1.6. Wash buffer 1 (BTW1)

No data available for the mixture.

### 12.1.7. Wash buffer 2 (BTW2)

No data available for the mixture.

## 12.3. Bioaccumulative potential

### 12.3.1. Proteinase K

No data available.

### 12.3.2. Proteinase K reconstitution buffer

No data available for the mixture.

### 12.3.3. Lysis buffer (BTL)

No data available for the mixture.

#### Partition coefficient n-octanol/water

CAS No.	Designation	Log Pow
50-01-1	Guanidiniumchlorid; Guanadinhydrochlorid	< 0,02

#### BCF

CAS No.	Designation	BCF	Species	Method
50-01-1	Guanidiniumchlorid; Guanadinhydrochlorid	3,162		REACH Registration D



#### 12.3.4. Elution buffer (BTEB)

No data available for the mixture.

#### 12.3.5. Tissue lysis buffer (T)

No data available for the mixture.

#### Partition coefficient n-octanol/water

CAS No.	Designation	Log Pow
60-00-4	EDTA	0,13
151-21-3	Sodium dodecyl sulphate	0

#### BCF

CAS No.	Designation	BCF	Species	Method
60-00-4	EDTA	ca. 1,8	Lepomis macrochirus	Proc. 3rd. Ann. Symp
151-21-3	Sodium dodecyl sulphate	ca. 4	Cyprinus carpio	Chemosphere 11, 917

#### 12.3.6. Wash buffer 1 (BTW1)

No data available for the mixture.

#### Partition coefficient n-octanol/water

CAS No.	Designation	Log Pow
50-01-1	Guanidiniumchlorid; Guanadinhydrochlorid	< 0,02

#### BCF

CAS No.	Designation	BCF	Species	Method
50-01-1	Guanidiniumchlorid; Guanadinhydrochlorid	3,162		REACH Registration D

#### 12.3.7. Wash buffer 2 (BTW2)

No data available for the mixture.



## 12.4. Mobility in soil

### 12.4.1. Proteinase K

No data available.

### 12.4.2. Proteinase K reconstitution buffer

No data available for the mixture.

### 12.4.3. Lysis buffer (BTL)

No data available for the mixture.

### 12.4.4. Elution buffer (BTEB)

No data available for the mixture.

### 12.4.5. Tissue lysis buffer (T)

No data available for the mixture.

### 12.4.6. Wash buffer 1 (BTW1)

No data available for the mixture.

### 12.4.7. Wash buffer 2 (BTW2)

No data available for the mixture.

## 12.5. PBT and vPvB assessment

### 12.5.1. Proteinase K

No data available.

### 12.5.2. Proteinase K reconstitution buffer

The substances in the mixture do not fulfill the PBT/vPvB criteria according to REACH, Annex XIII.

### 12.5.3. Lysis buffer (BTL)

The substances in the mixture do not fulfill the PBT/vPvB criteria according to REACH, Annex XIII.



#### **12.5.4. Elution buffer (BTEB)**

The substances in the mixture do not fulfill the PBT/vPvB criteria according to REACH, Annex XIII.

#### **12.5.5. Tissue lysis buffer (T)**

The substances in the mixture do not fulfill the PBT/vPvB criteria according to REACH, Annex XIII.

#### **12.5.6. Wash buffer 1 (BTW1)**

The substances in the mixture do not fulfill the PBT/vPvB criteria according to REACH, Annex XIII.

#### **12.5.7. Wash buffer 2 (BTW2)**

The substances in the mixture do not fulfill the PBT/vPvB criteria according to REACH, Annex XIII.

### **12.6. Endocrine disrupting properties**

#### **12.6.1. Proteinase K**

No data available.

#### **12.6.2. Proteinase K reconstitution buffer**

This product does not contain any substance that has endocrine disrupting properties towards non-target organisms, as none of the ingredient meets the criteria.

#### **12.6.3. Lysis buffer (BTL)**

This product does not contain any substance that has endocrine disrupting properties towards non-target organisms, as none of the ingredient meets the criteria.

#### **12.6.4. Elution buffer (BTEB)**

This product does not contain any substance that has endocrine disrupting properties towards non-target organisms, as none of the ingredient meets the criteria.

#### **12.6.5. Tissue lysis buffer (T)**

This product does not contain any substance that has endocrine disrupting properties towards non-target organisms, as none of the ingredient meets the criteria.



## **12.6.6. Wash buffer 1 (BTW1)**

This product does not contain any substance that has endocrine disrupting properties towards non-target organisms, as none of the ingredient meets the criteria.

## **12.6.7. Wash buffer 2 (BTW2)**

This product does not contain any substance that has endocrine disrupting properties towards non-target organisms, as none of the ingredient meets the criteria.

## **12.7. Other adverse effects**

### **12.7.1. Proteinase K**

No data available.

### **12.7.2. Proteinase K reconstitution buffer**

No data available for the mixture.

### **12.7.3. Lysis buffer (BTL)**

No data available for the mixture.

### **12.7.4. Elution buffer (BTEB)**

No data available for the mixture.

### **12.7.5. Tissue lysis buffer (T)**

No data available for the mixture.

### **12.7.6. Wash buffer 1 (BTW1)**

No data available for the mixture.

### **12.7.7. Wash buffer 2 (BTW2)**

No data available for the mixture.



---

## 13. Disposal considerations

### 13.1. Recommendations for disposal

#### 13.1.1. Proteinase K

Offer surplus and non-recyclable solutions to a licensed disposal company.

#### 13.1.2. Proteinase K reconstitution buffer

Disposal in accordance with Directive 2008/98/EC on waste and hazardous waste. Do not empty into drains or water courses.

#### 13.1.3. Lysis buffer (BTL)

Disposal in accordance with Directive 2008/98/EC on waste and hazardous waste. Do not empty into drains or water courses.

#### 13.1.4. Elution buffer (BTEB)

Disposal in accordance with Directive 2008/98/EC on waste and hazardous waste.

#### 13.1.5. Tissue lysis buffer (T)

Disposal in accordance with Directive 2008/98/EC on waste and hazardous waste. Do not empty into drains or water courses.

#### 13.1.6. Wash buffer 1 (BTW1)

Disposal in accordance with Directive 2008/98/EC on waste and hazardous waste. Do not empty into drains.

#### 13.1.7. Wash buffer 2 (BTW2)

Disposal in accordance with Directive 2008/98/EC on waste and hazardous waste.

### 13.2. Recommendations for disposal

#### 13.2.1. Proteinase K

Dispose of as unused product.





### **13.2.2. Proteinase K reconstitution buffer**

The allocation of waste code numbers/waste designations shall be carried out in accordance with the EWC on a sector- and process-specific basis.

### **13.2.3. Lysis buffer (BTL)**

The allocation of waste code numbers/waste designations shall be carried out in accordance with the EWC on a sector- and process-specific basis.

### **13.2.4. Elution buffer (BTEB)**

The allocation of waste code numbers/waste designations shall be carried out in accordance with the EWC on a sector- and process-specific basis.

### **13.2.5. Tissue lysis buffer (T)**

The allocation of waste code numbers/waste designations shall be carried out in accordance with the EWC on a sector- and process-specific basis.

### **13.2.6. Wash buffer 1 (BTW1)**

The allocation of waste code numbers/waste designations shall be carried out in accordance with the EWC on a sector- and process-specific basis.

### **13.2.7. Wash buffer 2 (BTW2)**

The allocation of waste code numbers/waste designations shall be carried out in accordance with the EWC on a sector- and process-specific basis.

---

## **14. Transport information**

### **14.1. Land transport (ADR/RID)**

#### **14.1.1. Proteinase K**

Not a dangerous good in the sense of these transport regulations.



#### 14.1.2. Proteinase K reconstitution buffer

Not a dangerous good in the sense of these transport regulations.

#### 14.1.3. Lysis buffer (BTL)

Not a dangerous good in the sense of these transport regulations.

#### 14.1.4. Elution buffer (BTEB)

Not a dangerous good in the sense of these transport regulations.

#### 14.1.5. Tissue lysis buffer (T)

##### 14.1.5.1. UN number or ID number

UN 1824

##### 14.1.5.2. Proper UN shipping name

SODIUM HYDROXIDE SOLUTION

##### 14.1.5.3. Transport hazard class

8

##### 14.1.5.4. Packaging group

Hazard label	8
Classification code	C5
Limited quantity (LQ)	5 L
Excepted quantity	E1
Transport category	3
Hazard number	80
Tunnel restriction code	E



#### **14.1.6. Wash buffer 1 (BTW1)**

Not a dangerous good in the sense of these transport regulations.

#### **14.1.7. Wash buffer 2 (BTW2)**

Not a dangerous good in the sense of these transport regulations.

### **14.2. Inland waterway transport (ADN)**

#### **14.2.1. Proteinase K**

Not a dangerous good in the sense of these transport regulations.

#### **14.2.2. Proteinase K reconstitution buffer**

Not a dangerous good in the sense of these transport regulations.

#### **14.2.3. Lysis buffer (BTL)**

Not a dangerous good in the sense of these transport regulations.

#### **14.2.4. Elution buffer (BTEB)**

Not a dangerous good in the sense of these transport regulations.

#### **14.2.5. Tissue lysis buffer (T)**

##### **14.2.5.1. UN number or ID number**

UN 1824

##### **14.2.5.2. Proper UN shipping name**

SODIUM HYDROXIDE SOLUTION

##### **14.2.5.3. Transport hazard class**

8



#### 14.1.5.4. Packaging group

Hazard label	8
Classification code	C5
Limited quantity (LQ)	5 L
Excepted quantity	E1

#### 14.2.6. Wash buffer 1 (BTW1)

Not a dangerous good in the sense of these transport regulations.

#### 14.2.7. Wash buffer 2 (BTW2)

Not a dangerous good in the sense of these transport regulations.

### 14.3. Sea transport (IMDG)

#### 14.3.1. Proteinase K

Not a dangerous good in the sense of these transport regulations.

#### 14.3.2. Proteinase K reconstitution buffer

Not a dangerous good in the sense of these transport regulations.

#### 14.3.3. Lysis buffer (BTL)

Not a dangerous good in the sense of these transport regulations.

#### 14.3.4. Elution buffer (BTEB)

Not a dangerous good in the sense of these transport regulations.

#### 14.3.5. Tissue lysis buffer (T)

##### 14.3.5.1. UN number or ID number

UN 1824

##### 14.3.5.2. Proper UN shipping name

SODIUM HYDROXIDE SOLUTION



#### 14.3.5.3. Transport hazard class

8

#### 14.3.5.4. Packaging group

Hazard label	8
Special regulations	223
Limited quantity (LQ)	5 L
Excepted quantity	E1
EmS	F-A, S-B
Separation group	18 - alkaline

#### 14.3.6. Wash buffer 1 (BTW1)

Not a dangerous good in the sense of these transport regulations.

#### 14.3.7. Wash buffer 2 (BTW2)

Not a dangerous good in the sense of these transport regulations.

### 14.4. Air transport (ICAO-TI/IATA-DGR)

#### 14.4.1. Proteinase K

Not a dangerous good in the sense of these transport regulations.

#### 14.4.2. Proteinase K reconstitution buffer

Not a dangerous good in the sense of these transport regulations.

#### 14.4.3. Lysis buffer (BTL)

Not a dangerous good in the sense of these transport regulations.

#### 14.4.4. Elution buffer (BTEB)

Not a dangerous good in the sense of these transport regulations.



### 14.4.5. Tissue lysis buffer (T)

#### 14.4.5.1. UN number or ID number

UN 1824

#### 14.4.5.2. Proper UN shipping name

SODIUM HYDROXIDE SOLUTION

#### 14.4.5.3. Transport hazard class

8

#### 14.4.5.4. Packaging group

Hazard label	8
Special regulations	A3 A803
Limited quantity (LQ)	1 L
Passenger LQ	Y841
Excepted quantity	E1
IATA packing instruction	852
IATA Maximum Quantity - Passenger	5 L
IATA Packing Instructions - Cargo	856
IATA Maximum Quantity - Cargo	60 L

#### 14.4.6. Wash buffer 1 (BTW1)

Not a dangerous good in the sense of these transport regulations.

#### 14.4.7. Wash buffer 2 (BTW2)

Not a dangerous good in the sense of these transport regulations.

## 14.5. Environmental hazards

#### 14.5.1. Proteinase K

No.



#### **14.5.2. Proteinase K reconstitution buffer**

No.

#### **14.5.3. Lysis buffer (BTL)**

No.

#### **14.5.4. Elution buffer (BTEB)**

No.

#### **14.5.5. Tissue lysis buffer (T)**

No.

#### **14.5.6. Wash buffer 1 (BTW1)**

No.

#### **14.5.7. Wash buffer 2 (BTW2)**

No.

### **14.6. Carriage in bulk by sea in accordance with IMO instruments**

#### **14.6.1. Proteinase K**

Not a dangerous good in the sense of these transport regulations.

#### **14.6.2. Proteinase K reconstitution buffer**

Not a dangerous good in the sense of these transport regulations.

#### **14.6.3. Lysis buffer (BTL)**

Not a dangerous good in the sense of these transport regulations.

#### **14.6.4. Elution buffer (BTEB)**

Not a dangerous good in the sense of these transport regulations.



#### 14.6.5. Tissue lysis buffer (T)

Not a dangerous good in the sense of these transport regulations.

#### 14.6.6. Wash buffer 1 (BTW1)

Not a dangerous good in the sense of these transport regulations.

#### 14.6.7. Wash buffer 2 (BTW2)

Not a dangerous good in the sense of these transport regulations.

---

## 15. Regulatory information

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

#### 15.1.1. Proteinase K

No special information collection was conducted.

#### 15.1.2. Proteinase K reconstitution buffer

No special information collection was conducted.

##### 15.1.2.1. National regulations

Water hazard class	1 - slightly hazardous to water
Status	Classification of mixtures according to Annex 1, No. 5 AwSV

##### 15.1.2.2. Additional hints

No data available.

#### 15.1.3. Lysis buffer (BTL)

##### 15.1.3.1. EU regulations

Restrictions of use (REACH, Annex XVII): Entry 3





### 15.1.3.2. National regulations

Water hazard class	1 - slightly hazardous to water
Status	Classification of mixtures according to Annex 1, No. 5 AwSV

### 15.1.3.3. Additional hints

No data available.

## 15.1.4. Elution buffer (BTEB)

### 15.1.4.1. National regulations

Water hazard class	Not hazardous to water
Status	Classification of mixtures according to Annex 1, No. 5 AwSV

### 15.1.2.2. Additional hints

No data available.

## 15.1.5. Tissue lysis buffer (T)

### 15.1.5.1. EU regulations

Restrictions of use (REACH, Annex XVII): Entry 3, Entry 40, Entry 75

### 15.1.5.2. National regulations

Water hazard class	1 - slightly hazardous to water
Status	Classification of mixtures according to Annex 1, No. 5 AwSV

### 15.1.5.3. Additional hints

No data available.



### 15.1.6. Wash buffer 1 (BTW1)

#### 15.1.6.1. EU regulations

Restrictions of use (REACH, Annex XVII): Entry 3

#### 15.1.6.2. National regulations

Water hazard class	1 - slightly hazardous to water
Status	Classification of mixtures according to Annex 1, No. 5 AwSV

#### 15.1.6.3. Additional hints

No data available.

### 15.1.7. Wash buffer 2 (BTW2)

#### 15.1.7.1. National regulations

Water hazard class	Not hazardous to water
Status	Classification of mixtures according to Annex 1, No. 5 AwSV

#### 15.1.7.2. Additional hints

No data available.

---

## 16. Other information

This information is based on our present knowledge. Its objective is to describe the product from the point of view of safety, and no warranty is made other than its characteristics. This information does not absolve the user in any circumstances from observing other Legislative, Regulatory and Administrative requirements applying to the product, and to safety, hygiene and the well-being of the people in the workplace.





**NIPPON GENETICS EUROPE GmbH**

Mariaweilerstraße 28-30, 52349 Düren

Amtsgericht Düren HRB 4672,

Bank data UFJ bank Limited: Identification code: 30130700

Account number: 610762

Managing Director: Dr. Jürgen Lünzer, Tatsuji Hata, Kazuo Yamazaki

Value Tax ID: DE 239977252