



## 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

### 1.1 Product identifier

REF	515040
Product Name	oCheck® DNA Extraction Kit - Single Column Preparation
Component	1 x 20 ml BUF L1 1 x 12 ml BUF L2 1 x 3 ml REAG L3 1 x 30 ml BUF W1 1 x 14 ml BUF W2 conc. 1 x 15 ml BUF E 1 x 30 mg Proteinase K (Iyo) 1 x 1.8 ml Proteinase BUF PKB 1 x 0.3 mg Carrier RNA (Iyo)

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

The oCheck® DNA Extraction Kit is an in vitro diagnostic kit and is intended to be used for the preparation of DNA samples of human origin to be analysed by assays from the oCheck® product line.

Exposure Scenario Classification according REACH, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0

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

Company:	Greiner Bio-One GmbH
Adress:	Maybachstrasse 2 D-72636 Frickenhausen Germany
Phone:	+49 (0)7022 948-0,
E-mail:	alexander.ganser@gbo.com

### 1.4 Emergency telephone

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service.

DE: Poison information center Mainz; tel. +49 (0) 6131 1924

## 2 HAZARD IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### Classification according to regulation EC No 1272/2008

Buffer L2	CAS No. 50-01-01 guanidinium chloride solution, 50-66% acute toxicity oral (category 4) skin irritation (category 2) eye irritation (category 2)
Buffer W1	CAS No. 50-01-1, CAS No. 67-63-0 guanidinium chloride, 36-50%; 2-propanol, 20-50%, acute toxicity, oral (category 4) skin irritation (category 2) eye irritation (category 2) flammable liquids (category 3)
Proteinase K (Iyo.)	CAS No. 39450-01-6 eye irritation (category 2) specific target organ toxicity-single exposure (category 3) skin irritation (category 2) skin sensitization (category 1A/1B) respiratory sensitization (category 1A/1B)

## 2.2 Label elements

### Labeling according to regulation EC No 1272/2008:

Harmful mixtures classified under the following categories: acute toxicity, oral (category 4), skin irritation (category 2), eye irritation (category 2), flammable liquids (category 3), specific target organ toxicity-single exposure (category 3) have not to be labeled with H and P phrases until 125 ml. This applies to all components of the oCheck® DNA Extraction Kit except the component Proteinase K (Iyo.). According to EC No 1272/2008 inner packages must be only labelled with symbol(s) and product identifier.

### Hazard symbols

#### GHS Directive 1272/2008/EC

Contains Proteinase K (Iyo.), 30 mg, CAS No. 39450-01-6:



GHS07 GHS08

**Signalword** DANGER

#### Hazard statements

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.

#### Precautionary statements

P261 Avoid breathing dust.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P342+311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

#### Contains:

Buffer L2, 12 ml (guanidinium chloride, 50-66%, CAS No. 50-01-1)  
Buffer W1, 30 ml (guanidinium chloride, 36-50%, CAS No. 50-01-1; 2-propanol, 20-50%, CAS No. 67-63-0)



GHS07 GHS02

**Signalword** WARNING

## 2.3 Other hazards

### Possible hazards from physicochemical properties

In the case of pH values are less than 5 or higher than 9 then it is irritant (see section 9.1).

### Information pertaining to particular risks to human and possible symptoms

Proteinase K (Iyo.): Cause after inhalation of vapours/dust, skin contact, impairments of health when ingested in small quantities. May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### Information pertaining to particular risks to the environment

None

### Other hazards

Buffer W1: Flammable properties. Vapour forms explosive mixtures with air.

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Description of the components

Component	Chemical substance	Classification for pure chemical substance	Statements for pure chemical substance	Conc.
20 ml BUF L1	no declaration necessary	-	-	0,1-2%
12 ml BUF L2	guanidinium chloride CAS No.: 50-01-1 EC No.: 200-002-3	acute toxicity oral (category 4) skin irritation (category 2)	H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye	50-66%

		eye irritation (category 2)	irritation.	
3 ml REAG L3	polyoxyethylene sorbitan monolaureate (TWEEN® 20) CAS No.: 9005-64-5	not hazardous	-	10-100%
30 ml BUF W1	guanidinium chloride CAS No.: 50-01-1 EC No.: 200-002-3  2-propanol CAS No.: 67-63-0 EC No.: 200-661-7	acute toxicity oral (category 4) skin irritation (category 2) eye irritation (category 2)  flammable liquid (category 3) eye irritation (category 2) specific target organ toxicity-single exposure (category 3)	H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation.  H226 Flammable liquid and vapour. H319 Causes serious eye irritation. H 335 May cause respiratory irritation H336 May cause drowsiness and dizziness.	36-50%  20-50%
14 ml BUF W2 conc.	no declaration necessary	-	-	0,1-1%
15 ml BUF E	no declaration necessary	-	-	0,1-1%
30 mg Proteinase K (lyo)	Proteinase K ( <i>origin: tritirachium album</i> )  CAS No.: 39450-01-6 EC No.: 254-457-8	skin irritation (category 2) skin sensitization (category 1A/1B) eye irritation (category 2) respiratory sensitization (category 1A/1B) specific target organ toxicity-single exposure (category 3)	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.	10-100%
1.8 ml PKB	glycerol CAS No.: 56-81-5 EC-No.: 200-289-5	not hazardous	-	10-50%
0.3 mg Carrier RNA (lyo)	carrier RNA CAS No.: 26763-19-6	not hazardous	-	90-100%

## 4 FIRST AID MEASURES

### 4.1 Description of first aid measures

Consult a physician. Show this safety data sheet to the doctor in attendance. Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary.

#### After SKIN contact

Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

#### After EYE contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).

#### After INHALATION of vapours

After inhalation of foam or vapour fresh air should be inhaled. Keep airways free.

#### After ORAL intake

Rinse mouth with water. Consult a physician.

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



To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

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

After skin contact rinse with water for a long time. Apply glucocorticosteroids following inflammatory reactions. Inform patient respectively further measures and of the possibility of long-term damages.

## 5 FIRE-FIGHTING MEASURES

### 5.1 Suitable extinguishing media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.

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

Formation of hazardous and caustic vapour-air mixtures possible.  
Danger for environment **only in the event of a large-scale leakage** or formation of hazardous substances.

### 5.3 Advice for firefighters/protective equipment

No special protective equipment is required for this product. In the event of a large-scale formation of toxic substances protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary.

### 5.4 Additional information

Product package burns like paper or plastic. Spray any vapours released with water. Retent fire water. Use only acid-resistant safety equipment.

## 6 ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions

Do not breathe vapours. Wear suitable protective gloves (see 8.2). Wear eye protection. Regular staff training is necessary, indicating hazards and precautions on the basis of the operating instructions. Restrictions on activity must be observed.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.

### 6.3 Methods of cleaning-up

Bind any escaping liquid with universal binder and dispose in accordance to local regulations for the disposal of hazardous chemicals. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into drains.

## 7 HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

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

The original product package allows a safe storage at 10-30°C.  
Storage class (German chemical industry): see chapter 12.1. Keep original product packages tightly closed during handling and storage.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Component	Chemical substance	Control Parameter
20 ml BUF L1	< 2%, no declaration necessary	-
12 ml BUF L2	guanidinium chloride CAS No.: 50-01-1 EC No.: 200-002-3	-
3 ml REAG L3	polyoxyethylene sorbitan monolaureate (TWEEN® 20) CAS No.: 9005-64-5	-
30 ml BUF W1	guanidinium chloride CAS No.: 50-01-1 EC No.: 200-002-3	-



Initial boiling point and boiling range	no data	no data	no data	no data	no data	no data	no data	no data	no data
Flash point	no data	no data	no data	25°C	no data	no data	no data	no data	no data
Evaporation rate	no data	no data	no data	no data	no data	no data	no data	no data	no data
Flammability (solid, gas)	no data	no data	no data	no data	no data	no data	no data	no data	no data
Upper/lower flammability or explosive limits	no data	no data	no data	no data	no data	no data	no data	no data	no data
Vapour pressure	no data	no data	no data	no data	no data	no data	no data	no data	no data
Vapour density	no data	no data	no data	no data	no data	no data	no data	no data	no data
Relative density (g/cm <sup>3</sup> )	1.02	1.15	1.10	1.06	1.00	1.00	-	1.11	-
Partition coefficient: n octanol/water	no data	no data	no data	no data	no data	no data	no data	no data	no data
Water solubility	no data	no data	0-10%	no data	no data	no data	no data	no data	no data
Autoignition temperature	no data	no data	no data	no data	no data	no data	no data	no data	no data
Decomposition temperature	no data	no data	no data	no data	no data	no data	no data	no data	no data
Viscosity	no data	no data	no data	no data	no data	no data	no data	no data	no data
Explosive properties	no data	no data	no data	no data	no data	no data	no data	no data	no data
Oxidizing properties	no data	no data	no data	no data	no data	no data	no data	no data	no data

## 9.2 Other safety information

No data available

## 10 STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical Stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reaction

Can form very reactive substances with oxidizing agents.

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

Avoid contact with strong acids or alkalines.

### 10.6 Hazardous decomposition products

In the original package all parts/all reagents are safety and separately stored. Decompositions are not observed during the expiration period under recommended conditions.

## 11 TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Data on the toxicity of the mixtures in this product is not available. The following toxicological information is only valid for pure chemical substances. BUF L1 contains substance < 2% and BUF W2 conc. and BUF E contain substance < 1%, no declaration of the substance is necessary.

BUF L2	REAG L3	BUF W1	Proteinase K	PKB	Carrier RNA
guanidinium chloride	polyoxyethylene sorbitan monolaureate (TWEEN® 20)	guanidinium chloride 2-propanol	proteinase K	glycerole	carrier RNA
<b>Acute toxicity</b>					
LD50 <sub>orl rat</sub> : 475mg/kg LC50 <sub>ihl rat</sub> : 5.3 <sub>4h</sub> mg/m <sup>3</sup> LD50 <sub>drm rbt</sub> : >2000mg/kg	no data	<i>guanidinium chloride</i> LD50 <sub>orl rat</sub> : 475mg/kg LC50 <sub>ihl rat</sub> : 5.3 <sub>4h</sub> mg/m <sup>3</sup> LD50 <sub>drm rbt</sub> : >2000mg/kg <i>2-propanol</i> LD50 <sub>orl rat</sub> : 5045mg/kg LC <sub>Low</sub> <sub>orl hmn</sub> : 3570mg/kg LC50 <sub>ihl rat</sub> : 16g/m <sup>3</sup> /4h LD50 <sub>drm rbt</sub> : 12.8g/kg	no data	no data	no data
<b>Skin corrosion/irritation</b>					
no data					
<b>Serious eye damage/eye irritation</b>					
no data					
<b>Respiratory or skin sensitization</b>					
no data					
<b>Germ cell mutagenicity</b>					
no data					
<b>Carcinogenicity</b>					
no data					
<b>Reproductive toxicity</b>					
no data					
<b>Specific target organ toxicity - single exposure</b>					
no data					
<b>Specific target organ toxicity - repeated exposure</b>					
no data					
<b>Aspiration hazard</b>					
no data					

## 12 ECOLOGICAL INFORMATION

Quantitative data on the ecotoxicity of the mixtures in this product are not available. The following information is only valid for pure chemical substances. BUF L1 contains substance < 2% and BUF W2 conc. and BUF E contain substance < 1%, no declaration of the substance is necessary. There is no data available for Carrier RNA.

Toxicity				
BUF L2	REAG L3	BUF W1	Proteinase K	PKB
guanidine chloride	polyoxyethylene sorbitan monolaureate (TWEEN® 20)	guanidinium chloride 2-propanol	proteinase K	glycerole
LC50 <sub>leuciscus idus/96h</sub> : 1759 mg/L		<i>guanidinium chloride</i> LC50 <sub>leuciscus idus/96h</sub> : 1759mg/L <i>2-propanol</i> LC50 <sub>fish/96h</sub> : 1400mg/L EC50 <sub>daphnia/48h</sub> : 13.3g/L IC50 <sub>scenedesmus quadricauda/72h</sub> : >1000mg/L EC10 <sub>pseudomonas putida/16h</sub> : EC5: 1050 mg/L		LC50 <sub>fish/96h</sub> : >5000 <sub>24h</sub> mg/L EC50 <sub>daphnia/48h</sub> >10 <sub>24h</sub> g/L IC50 <sub>scenedesmus quadricauda/72h</sub> : IC5/7d>10g/L EC10 <sub>pseudomonas putida/16h</sub> : EC5/16d>10g/L
Persistence and degradability				
WGK (DE): 1 WGK No: 0788	WGK (DE) No:1	WGK (DE): 1 WGK (DE) No: 0788 WGK (DE): 1 WGK No: 0135	WGK (DE): 1	WGK (DE): 0
Bioaccumulative potential				
no data				
Mobility in soil				
no data				
Results of PBT and vPvB assessment				
no data				
Other adverse effects				
no data				

## 13 DISPOSAL CONSIDERATIONS

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06). Normally it is possible to empty small amounts (diluted!) into drains. Dispose of contents/container to regulated waste treatment.

## 14 TRANSPORT INFORMATION

BUF W1: Class 3 III, **excepted quantities** ( $\leq 30\text{ml}/\Sigma \leq 1\text{l}$ ) = ADR/IATA E1.

## 15 REGULATORY INFORMATION

This safety data sheet complies with the requirements of regulation EC No. 1907/2006.

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

No data available

### 15.2 Chemical safety assessment

No data available



## **16 OTHER INFORMATION**

### **16.1 Revision**

This is the second edition of the safety data sheet with revised content and layout.

### **16.2 Training Advice**

Regular safety training.

### **16.3 Recommended Restriction on Use**

Only for professional user.

### **16.4 Further Information**

You find our current versions of SDS in Internet: [http://www.gbo.com/bioscience/technical\\_information](http://www.gbo.com/bioscience/technical_information)

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