

# SAFETY DATA SHEET



RecoverEase DNA Isolation Kit, Part Number 720203

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

### 1.1 Product identifier

**Product name** : RecoverEase DNA Isolation Kit, Part Number 720203  
**Part No. (Kit)** : 720203  
**Part No.** : RecoverEase Lysis Buffer 720203-61  
RecoverEase Digestion Buffer 720203-62  
RecoverEase Proteinase K Solution 720203-32  
RecoverEase RNase-It Ribonuclease Cocktail 720203-31

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

Identified uses	
Analytical reagent.	
RecoverEase Lysis Buffer	150 ml
RecoverEase Digestion Buffer	1.5 ml
RecoverEase Proteinase K Solution	2 mg / ml 1.5 ml
RecoverEase RNase-It Ribonuclease Cocktail	0.05 ml

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

Agilent Technologies Manufacturing GmbH & Co. KG  
Hewlett-Packard-Str. 8  
76337 Waldbronn  
Germany  
0800 603 1000

**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +(44)-870-8200418

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : RecoverEase Lysis Buffer Mixture  
RecoverEase Digestion Buffer Mixture  
RecoverEase Proteinase K Solution Mixture  
RecoverEase RNase-It Ribonuclease Cocktail Mixture

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

##### RecoverEase Lysis Buffer

H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

##### RecoverEase Proteinase K Solution

H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

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**SECTION 2: Hazards identification**

<b>Ingredients of unknown toxicity</b>	: RecoverEase Lysis Buffer	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
	RecoverEase Proteinase K Solution	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
		Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%

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

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

**2.2 Label elements**

**Hazard pictograms** : RecoverEase Lysis Buffer



RecoverEase Proteinase K Solution



**Signal word** : RecoverEase Lysis Buffer Warning

RecoverEase Digestion Buffer No signal word.

RecoverEase Proteinase K Solution Warning

RecoverEase RNace-It Ribonuclease Cocktail No signal word.

**Hazard statements** : RecoverEase Lysis Buffer H319 - Causes serious eye irritation.

RecoverEase Digestion Buffer No known significant effects or critical hazards.

RecoverEase Proteinase K Solution H319 - Causes serious eye irritation.

RecoverEase RNace-It Ribonuclease Cocktail No known significant effects or critical hazards.

**Precautionary statements**

**Prevention** : RecoverEase Lysis Buffer P280 - Wear eye or face protection.

RecoverEase Digestion Buffer P264 - Wash hands thoroughly after handling. Not applicable.

RecoverEase Proteinase K Solution P280 - Wear eye or face protection.

RecoverEase RNace-It Ribonuclease Cocktail P264 - Wash hands thoroughly after handling. Not applicable.

**Response** : RecoverEase Lysis Buffer P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

RecoverEase Digestion Buffer Not applicable.

RecoverEase Proteinase K Solution P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

RecoverEase RNace-It Ribonuclease Cocktail Not applicable.

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**SECTION 2: Hazards identification**

<b>Storage</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	Not applicable. Not applicable. Not applicable. Not applicable.
<b>Disposal</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	Not applicable. Not applicable. Not applicable. Not applicable.
<b>Hazardous ingredients</b>	: RecoverEase Lysis Buffer RecoverEase Proteinase K Solution	Not applicable. Not applicable.
<b>Supplemental label elements</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	Not applicable. Not applicable. Contains proteases. May produce an allergic reaction. Contains Nuclease, ribo-. May produce an allergic reaction. Safety data sheet available on request.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	Not applicable. Not applicable. Not applicable. Not applicable.
<b><u>Special packaging requirements</u></b>		
<b>Tactile warning of danger</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	Not applicable. Not applicable. Not applicable. Not applicable.
<b>2.3 Other hazards</b>		
<b>Other hazards which do not result in classification</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	None known. None known. None known. None known.

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## SECTION 3: Composition/information on ingredients

<b>3.1 Substances</b>	: RecoverEase Lysis Buffer	Mixture
	RecoverEase Digestion Buffer	Mixture
	RecoverEase Proteinase K Solution	Mixture
	RecoverEase RNase-It Ribonuclease Cocktail	Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
<b>RecoverEase Lysis Buffer</b> Sucrose	EC: 200-334-9 CAS: 57-50-1	≥10 - ≤25	Not classified.	[2]
Polyoxyethylene octyl phenyl ether	CAS: 9002-93-1	<2.5	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411	[1] [5]
<b>RecoverEase Proteinase K Solution</b> Edetic acid	EC: 200-449-4 CAS: 60-00-4 Index: 607-429-00-8	≤5	Eye Irrit. 2, H319	[1]
Sodium dodecyl sulphate	EC: 205-788-1 CAS: 151-21-3	≤2.9	Flam. Sol. 2, H228 Acute Tox. 4, H302 Acute Tox. 3, H311 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 3, H412	[1]
Proteinase, Tritirachium album serine	EC: 254-457-8 CAS: 39450-01-6 Index: 647-014-00-9	≤0.3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 STOT SE 3, H335  <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

### Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

<b>Eye contact</b>	: RecoverEase Lysis Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	RecoverEase Digestion Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	RecoverEase Proteinase K Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	RecoverEase RNase-It	Immediately flush eyes with plenty of water, occasionally

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**Inhalation**

Ribonuclease Cocktail lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

: RecoverEase Lysis Buffer Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

RecoverEase Digestion Buffer Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

RecoverEase Proteinase K Solution Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

RecoverEase RNace-It Ribonuclease Cocktail Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

**Skin contact**

: RecoverEase Lysis Buffer Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

RecoverEase Digestion Buffer Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

RecoverEase Proteinase K Solution Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

RecoverEase RNace-It Ribonuclease Cocktail Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Ingestion**

: RecoverEase Lysis Buffer Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

RecoverEase Digestion Buffer Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not

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RecoverEase Proteinase K Solution	induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
RecoverEase RNase-It Ribonuclease Cocktail	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
<b>Protection of first-aiders</b> : RecoverEase Lysis Buffer	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
RecoverEase Digestion Buffer	No action shall be taken involving any personal risk or without suitable training.
RecoverEase Proteinase K Solution	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
RecoverEase RNase-It Ribonuclease Cocktail	No action shall be taken involving any personal risk or without suitable training.

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

Potential acute health effects

<b>Eye contact</b>	: RecoverEase Lysis Buffer	Causes serious eye irritation.
	RecoverEase Digestion Buffer	No known significant effects or critical hazards.
	RecoverEase Proteinase K Solution	Causes serious eye irritation.
	RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards.
<b>Inhalation</b>	: RecoverEase Lysis Buffer	No known significant effects or critical hazards.
	RecoverEase Digestion Buffer	No known significant effects or critical hazards.
	RecoverEase Proteinase K Solution	No known significant effects or critical hazards.
	RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards.
<b>Skin contact</b>	: RecoverEase Lysis Buffer	No known significant effects or critical hazards.
	RecoverEase Digestion Buffer	No known significant effects or critical hazards.
	RecoverEase Proteinase K Solution	No known significant effects or critical hazards.
	RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards.

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<b>Ingestion</b>	:	RecoverEase Lysis Buffer	No known significant effects or critical hazards.
		RecoverEase Digestion Buffer	No known significant effects or critical hazards.
		RecoverEase Proteinase K Solution	No known significant effects or critical hazards.
		RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

<b>Eye contact</b>	:	RecoverEase Lysis Buffer	Adverse symptoms may include the following:  pain or irritation watering redness
		RecoverEase Digestion Buffer	No specific data.
		RecoverEase Proteinase K Solution	Adverse symptoms may include the following:  pain or irritation watering redness
		RecoverEase RNase-It Ribonuclease Cocktail	No specific data.

<b>Inhalation</b>	:	RecoverEase Lysis Buffer	No specific data.
		RecoverEase Digestion Buffer	No specific data.
		RecoverEase Proteinase K Solution	No specific data.
		RecoverEase RNase-It Ribonuclease Cocktail	No specific data.

<b>Skin contact</b>	:	RecoverEase Lysis Buffer	No specific data.
		RecoverEase Digestion Buffer	No specific data.
		RecoverEase Proteinase K Solution	No specific data.
		RecoverEase RNase-It Ribonuclease Cocktail	No specific data.

<b>Ingestion</b>	:	RecoverEase Lysis Buffer	No specific data.
		RecoverEase Digestion Buffer	No specific data.
		RecoverEase Proteinase K Solution	No specific data.
		RecoverEase RNase-It Ribonuclease Cocktail	No specific data.

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

<b>Notes to physician</b>	:	RecoverEase Lysis Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		RecoverEase Digestion Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		RecoverEase Proteinase K Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		RecoverEase RNase-It Ribonuclease Cocktail	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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<b>Specific treatments</b>	: RecoverEase Lysis Buffer	No specific treatment.
	RecoverEase Digestion Buffer	No specific treatment.
	RecoverEase Proteinase K Solution	No specific treatment.
	RecoverEase RNace-It Ribonuclease Cocktail	No specific treatment.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

<b>Suitable extinguishing media</b>	: RecoverEase Lysis Buffer	Use an extinguishing agent suitable for the surrounding fire.
	RecoverEase Digestion Buffer	Use an extinguishing agent suitable for the surrounding fire.
	RecoverEase Proteinase K Solution	Use an extinguishing agent suitable for the surrounding fire.
	RecoverEase RNace-It Ribonuclease Cocktail	Use an extinguishing agent suitable for the surrounding fire.

<b>Unsuitable extinguishing media</b>	: RecoverEase Lysis Buffer	None known.
	RecoverEase Digestion Buffer	None known.
	RecoverEase Proteinase K Solution	None known.
	RecoverEase RNace-It Ribonuclease Cocktail	None known.

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

<b>Hazards from the substance or mixture</b>	: RecoverEase Lysis Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	RecoverEase Digestion Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	RecoverEase Proteinase K Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	RecoverEase RNace-It Ribonuclease Cocktail	In a fire or if heated, a pressure increase will occur and the container may burst.

<b>Hazardous combustion products</b>	: RecoverEase Lysis Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	RecoverEase Digestion Buffer	No specific data.
	RecoverEase Proteinase K Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
	RecoverEase RNace-It Ribonuclease Cocktail	No specific data.

**5.3 Advice for firefighters**



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**SECTION 5: Firefighting measures**

<b>Special precautions for fire-fighters</b>	: RecoverEase Lysis Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	RecoverEase Digestion Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	RecoverEase Proteinase K Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	RecoverEase RNace-It Ribonuclease Cocktail	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
<b>Special protective equipment for fire-fighters</b>	: RecoverEase Lysis Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	RecoverEase Digestion Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	RecoverEase Proteinase K Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	RecoverEase RNace-It Ribonuclease Cocktail	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

**SECTION 6: Accidental release measures**

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

<b>For non-emergency personnel</b>	: RecoverEase Lysis Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	RecoverEase Digestion Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	RecoverEase Proteinase K Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	RecoverEase RNace-It Ribonuclease Cocktail	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

## SECTION 6: Accidental release measures

<b>For emergency responders</b>	: RecoverEase Lysis Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	RecoverEase Digestion Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	RecoverEase Proteinase K Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	RecoverEase RNace-It Ribonuclease Cocktail	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
<b>6.2 Environmental precautions</b>	: RecoverEase Lysis Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	RecoverEase Digestion Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	RecoverEase Proteinase K Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	RecoverEase RNace-It Ribonuclease Cocktail	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
<b>6.3 Methods and material for containment and cleaning up</b>	<b>Methods for cleaning up</b> : RecoverEase Lysis Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	RecoverEase Digestion Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	RecoverEase Proteinase K Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	RecoverEase RNace-It Ribonuclease Cocktail	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
<b>6.4 Reference to other sections</b>	: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.	

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: RecoverEase Lysis Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	RecoverEase Digestion Buffer	Put on appropriate personal protective equipment (see Section 8).
	RecoverEase Proteinase K Solution	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Advice on general occupational hygiene</b>	RecoverEase RNace-It Ribonuclease Cocktail	Put on appropriate personal protective equipment (see Section 8).
	: RecoverEase Lysis Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	RecoverEase Digestion Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	RecoverEase Proteinase K Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	RecoverEase RNace-It Ribonuclease Cocktail	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

<b>Storage</b>	: RecoverEase Lysis Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
	RecoverEase Digestion Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

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RecoverEase Proteinase K Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
RecoverEase RNace-It Ribonuclease Cocktail	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

**7.3 Specific end use(s)**

<b>Recommendations</b>	: RecoverEase Lysis Buffer	Industrial applications, Professional applications.
	: RecoverEase Digestion Buffer	Industrial applications, Professional applications.
	: RecoverEase Proteinase K Solution	Industrial applications, Professional applications.
	: RecoverEase RNace-It Ribonuclease Cocktail	Industrial applications, Professional applications.
	<b>Industrial sector specific solutions</b>	: RecoverEase Lysis Buffer
	: RecoverEase Digestion Buffer	Not applicable.
	: RecoverEase Proteinase K Solution	Not applicable.
	: RecoverEase RNace-It Ribonuclease Cocktail	Not applicable.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational exposure limits**

Product/ingredient name	Exposure limit values
RecoverEase Lysis Buffer Sucrose	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> STEL: 20 mg/m <sup>3</sup> 15 minutes. TWA: 10 mg/m <sup>3</sup> 8 hours.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**DNELs/DMELs**

No DNELs/DMELs available.

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## SECTION 8: Exposure controls/personal protection

### PNECs

No PNECs available

### 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: RecoverEase Lysis Buffer	Liquid.
	: RecoverEase Digestion Buffer	Liquid.
	: RecoverEase Proteinase K Solution	Liquid.
	: RecoverEase RNase-It Ribonuclease Cocktail	Liquid.
	: RecoverEase Lysis Buffer	Not available.
<b>Colour</b>	: RecoverEase Digestion Buffer	Not available.
	: RecoverEase Proteinase K Solution	Not available.
	: RecoverEase RNase-It Ribonuclease Cocktail	Not available.
	: RecoverEase Lysis Buffer	Not available.
	: RecoverEase Digestion Buffer	Not available.

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## SECTION 9: Physical and chemical properties

<b>Odour</b>	: RecoverEase Lysis Buffer	Not available.
	: RecoverEase Digestion Buffer	Not available.
	: RecoverEase Proteinase K Solution	Not available.
	: RecoverEase RNase-It Ribonuclease Cocktail	Not available.
	: RecoverEase Lysis Buffer	Not available.
<b>Odour threshold</b>	: RecoverEase Digestion Buffer	Not available.
	: RecoverEase Proteinase K Solution	Not available.
	: RecoverEase RNase-It Ribonuclease Cocktail	Not available.
	: RecoverEase Lysis Buffer	8.3
	: RecoverEase Digestion Buffer	8
<b>pH</b>	: RecoverEase Proteinase K Solution	Not available.
	: RecoverEase RNase-It Ribonuclease Cocktail	7.5
	: RecoverEase Lysis Buffer	Not available.
	: RecoverEase Digestion Buffer	0°C
	: RecoverEase Proteinase K Solution	0°C
<b>Melting point/freezing point</b>	: RecoverEase RNase-It Ribonuclease Cocktail	0°C
	: RecoverEase Lysis Buffer	Not available.
	: RecoverEase Digestion Buffer	100°C
	: RecoverEase Proteinase K Solution	100°C
	: RecoverEase RNase-It Ribonuclease Cocktail	100°C
<b>Initial boiling point and boiling range</b>	: RecoverEase Lysis Buffer	Not available.
	: RecoverEase Digestion Buffer	100°C
	: RecoverEase Proteinase K Solution	100°C
	: RecoverEase RNase-It Ribonuclease Cocktail	100°C
	: RecoverEase Lysis Buffer	Not available.
<b>Flash point</b>	: RecoverEase Digestion Buffer	Not available.
	: RecoverEase Proteinase K Solution	Not available.
	: RecoverEase RNase-It Ribonuclease Cocktail	Not available.
	: RecoverEase Lysis Buffer	Not available.
	: RecoverEase Digestion Buffer	Not available.
<b>Evaporation rate</b>	: RecoverEase Proteinase K Solution	Not available.
	: RecoverEase RNase-It Ribonuclease Cocktail	Not available.
	: RecoverEase Lysis Buffer	Not available.
	: RecoverEase Digestion Buffer	Not available.
	: RecoverEase Proteinase K Solution	Not available.

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## SECTION 9: Physical and chemical properties

<b>Flammability (solid, gas)</b>	: RecoverEase Lysis Buffer	Not applicable.
	RecoverEase Digestion Buffer	Not applicable.
	RecoverEase Proteinase K Solution	Not applicable.
	RecoverEase RNace-It Ribonuclease Cocktail	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNace-It Ribonuclease Cocktail	Not available.
<b>Vapour pressure</b>	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNace-It Ribonuclease Cocktail	Not available.
<b>Vapour density</b>	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNace-It Ribonuclease Cocktail	Not available.
<b>Relative density</b>	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNace-It Ribonuclease Cocktail	Not available.
<b>Solubility(ies)</b>	: RecoverEase Lysis Buffer	Easily soluble in the following materials: cold water and hot water.
	RecoverEase Digestion Buffer	Easily soluble in the following materials: cold water and hot water.
	RecoverEase Proteinase K Solution	Easily soluble in the following materials: cold water and hot water.
	RecoverEase RNace-It Ribonuclease Cocktail	Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNace-It Ribonuclease Cocktail	Not available.

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## SECTION 9: Physical and chemical properties

<b>Auto-ignition temperature</b>	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNace-It Ribonuclease Cocktail	Not available.
<b>Decomposition temperature</b>	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNace-It Ribonuclease Cocktail	Not available.
<b>Viscosity</b>	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNace-It Ribonuclease Cocktail	Not available.
<b>Explosive properties</b>	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNace-It Ribonuclease Cocktail	Not available.
<b>Oxidising properties</b>	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNace-It Ribonuclease Cocktail	Not available.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: RecoverEase Lysis Buffer	No specific test data related to reactivity available for this product or its ingredients.
	RecoverEase Digestion Buffer	No specific test data related to reactivity available for this product or its ingredients.
	RecoverEase Proteinase K Solution	No specific test data related to reactivity available for this product or its ingredients.
	RecoverEase RNace-It Ribonuclease Cocktail	No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: RecoverEase Lysis Buffer	The product is stable.
	RecoverEase Digestion Buffer	The product is stable.
	RecoverEase Proteinase K Solution	The product is stable.
	RecoverEase RNace-It Ribonuclease Cocktail	The product is stable.



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## SECTION 10: Stability and reactivity

Ribonuclease Cocktail

<b>10.3 Possibility of hazardous reactions</b>	:	RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	:	RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	No specific data. No specific data. No specific data. No specific data.
<b>10.5 Incompatible materials</b>	:	RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.
<b>10.6 Hazardous decomposition products</b>	:	RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>RecoverEase Lysis Buffer</b> Polyoxyethylene octyl phenyl ether	LD50 Oral	Rat	1800 mg/kg	-
<b>RecoverEase Proteinase K Solution</b> Sodium dodecyl sulphate	LD50 Dermal LD50 Oral	Rabbit Rat	580 mg/kg 1288 mg/kg	- -

#### Acute toxicity estimates

Route	ATE value
<b>RecoverEase Lysis Buffer</b> Oral	180000 mg/kg
<b>RecoverEase Proteinase K Solution</b> Oral Dermal	64400 mg/kg 29000 mg/kg

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## SECTION 11: Toxicological information

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>RecoverEase Lysis Buffer</b> Polyoxyethylene octyl phenyl ether	Eyes - Moderate irritant	Rabbit	-	24 hours 10 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
<b>RecoverEase Proteinase K Solution</b> Sodium dodecyl sulphate	Eyes - Mild irritant	Rabbit	-	250 Micrograms	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Guinea pig	-	24 hours 25 milligrams	-
	Skin - Moderate irritant	Mouse	-	24 hours 25 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 50 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 25 milligrams	-

### Sensitiser

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
<b>RecoverEase Proteinase K Solution</b> Sodium dodecyl sulphate	Category 3	Not applicable.	Respiratory tract irritation
Proteinase, Tritirachium album serine	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on likely routes of exposure

: RecoverEase Lysis Buffer Routes of entry anticipated: Oral, Dermal, Inhalation.  
 RecoverEase Digestion Buffer Not available.  
 RecoverEase Proteinase K Solution Routes of entry anticipated: Oral, Dermal, Inhalation.  
 RecoverEase RNace-It Ribonuclease Cocktail Not available.

### Potential acute health effects

**Inhalation** : RecoverEase Lysis Buffer No known significant effects or critical hazards.  
 RecoverEase Digestion Buffer No known significant effects or critical hazards.  
 RecoverEase Proteinase K Solution No known significant effects or critical hazards.  
 RecoverEase RNace-It Ribonuclease Cocktail No known significant effects or critical hazards.

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## SECTION 11: Toxicological information

<b>Ingestion</b>	: RecoverEase Lysis Buffer	No known significant effects or critical hazards.
	: RecoverEase Digestion Buffer	No known significant effects or critical hazards.
	: RecoverEase Proteinase K Solution	No known significant effects or critical hazards.
	: RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards.
	: RecoverEase Lysis Buffer	No known significant effects or critical hazards.
<b>Skin contact</b>	: RecoverEase Digestion Buffer	No known significant effects or critical hazards.
	: RecoverEase Proteinase K Solution	No known significant effects or critical hazards.
	: RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards.
	: RecoverEase Lysis Buffer	Causes serious eye irritation.
	: RecoverEase Digestion Buffer	No known significant effects or critical hazards.
<b>Eye contact</b>	: RecoverEase Proteinase K Solution	Causes serious eye irritation.
	: RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Inhalation</b>	: RecoverEase Lysis Buffer	No specific data.
	: RecoverEase Digestion Buffer	No specific data.
	: RecoverEase Proteinase K Solution	No specific data.
	: RecoverEase RNase-It Ribonuclease Cocktail	No specific data.
	: RecoverEase Lysis Buffer	No specific data.
<b>Ingestion</b>	: RecoverEase Digestion Buffer	No specific data.
	: RecoverEase Proteinase K Solution	No specific data.
	: RecoverEase RNase-It Ribonuclease Cocktail	No specific data.
	: RecoverEase Lysis Buffer	No specific data.
	: RecoverEase Digestion Buffer	No specific data.
<b>Skin contact</b>	: RecoverEase Proteinase K Solution	No specific data.
	: RecoverEase RNase-It Ribonuclease Cocktail	No specific data.
	: RecoverEase Lysis Buffer	No specific data.
	: RecoverEase Digestion Buffer	No specific data.
	: RecoverEase Proteinase K Solution	No specific data.
<b>Eye contact</b>	: RecoverEase Lysis Buffer	Adverse symptoms may include the following: pain or irritation watering redness
	: RecoverEase Digestion Buffer	No specific data.
	: RecoverEase Proteinase K Solution	Adverse symptoms may include the following: pain or irritation watering redness
	: RecoverEase RNase-It Ribonuclease Cocktail	No specific data.

## SECTION 11: Toxicological information

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

<b>General</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Developmental effects</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Fertility effects</b>	: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>RecoverEase Lysis Buffer</b> Polyoxyethylene octyl phenyl ether	Acute LC50 5.85 mg/l Fresh water	Crustaceans - Ceriodaphnia rigaudi - Neonate	48 hours
	Acute LC50 11.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4500 µg/l Fresh water	Fish - Pimephales promelas	96 hours
<b>RecoverEase Proteinase K Solution</b> Edetic acid  Sodium dodecyl sulphate	Acute EC50 113000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 59.8 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 1200 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute LC50 900 µg/l Marine water	Crustaceans - Artemia salina - Adult	48 hours
	Acute LC50 1400 µg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 590 µg/l Fresh water	Fish - Cirrhinus mrigala - Larvae	96 hours
	Chronic NOEC 1.25 mg/l Marine water	Algae - Ulva fasciata - Zoea	96 hours
	Chronic NOEC 1 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	21 days
	Chronic NOEC 3.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC >1357 µg/l Fresh water	Fish - Pimephales promelas	42 days

### 12.2 Persistence and degradability

Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<b>RecoverEase Lysis Buffer</b> Polyoxyethylene octyl phenyl ether	-	-	Readily
<b>RecoverEase Proteinase K Solution</b> Edetic acid	-	-	Not readily
Sodium dodecyl sulphate	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>RecoverEase Lysis Buffer</b> Polyoxyethylene octyl phenyl ether	4.86	-	high
<b>RecoverEase Proteinase K Solution</b> Edetic acid	-3.86	1.8	low
Sodium dodecyl sulphate	-2.03	-	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**Date of issue/Date of revision** : 15/05/2017

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## SECTION 12: Ecological information

**PBT** : Not applicable.  
**vPvB** : Not applicable.

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

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

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

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

#### Packaging

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

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

## SECTION 14: Transport information

**ADR/RID / IMDG / IATA** : Not regulated.

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

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** : Not available.

## SECTION 15: Regulatory information

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

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

##### Annex XIV - List of substances subject to authorisation

#### Annex XIV

None of the components are listed.

#### Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
<b>RecoverEase Lysis Buffer</b> Polyoxyethylene octyl phenyl ether	Substance of equivalent concern for environment	Recommended	ED/169/2012	2/10/2014

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : RecoverEase Lysis Buffer Not applicable.  
RecoverEase Digestion Buffer Not applicable.  
RecoverEase Proteinase K Solution Not applicable.  
RecoverEase RNase-It Ribonuclease Cocktail Not applicable.

**Date of issue/Date of revision** : 15/05/2017

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## SECTION 15: Regulatory information

### Other EU regulations

#### Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

#### Seveso Directive

This product is not controlled under the Seveso Directive.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: All components are listed or exempted.
<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (ENCS)</b> : Not determined. <b>Japan inventory (ISHL)</b> : Not determined.
<b>Malaysia</b>	: Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: Not determined.

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

## SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number

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

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## SECTION 16: Other information

Classification	Justification
<b>RecoverEase Lysis Buffer</b> Eye Irrit. 2, H319	Calculation method
<b>RecoverEase Proteinase K Solution</b> Eye Irrit. 2, H319	Calculation method

### Full text of abbreviated H statements

<b>RecoverEase Lysis Buffer</b> H302 H315 H318 H319 H411	Harmful if swallowed. Causes skin irritation. Causes serious eye damage. Causes serious eye irritation. Toxic to aquatic life with long lasting effects.
<b>RecoverEase Proteinase K Solution</b> H228 H302 H311 H315 H318 H319 H334  H335 H400 H412	Flammable solid. Harmful if swallowed. Toxic in contact with skin. Causes skin irritation. Causes serious eye damage. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

### Full text of classifications [CLP/GHS]

<b>RecoverEase Lysis Buffer</b> Acute Tox. 4, H302 Aquatic Chronic 2, H411 Eye Dam. 1, H318 Eye Irrit. 2, H319 Skin Irrit. 2, H315	ACUTE TOXICITY (oral) - Category 4 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2
<b>RecoverEase Proteinase K Solution</b> Acute Tox. 3, H311 Acute Tox. 4, H302 Aquatic Acute 1, H400 Aquatic Chronic 3, H412 Eye Dam. 1, H318 Eye Irrit. 2, H319 Flam. Sol. 2, H228 Resp. Sens. 1, H334 Skin Irrit. 2, H315 STOT SE 3, H335	ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (oral) - Category 4 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE SOLIDS - Category 2 RESPIRATORY SENSITISATION - Category 1 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

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