

SAFETY DATA SHEET



RecoverEase DNA Isolation Kit, Part Number 720203

Section 1. Identification

1.1 Product identifier

Product name : RecoverEase DNA Isolation Kit, Part Number 720203
Part No. (Chemical 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

Validation date : 5/15/2017

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

Material 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

Supplier/Manufacturer : Agilent Technologies, Inc.
 5301 Stevens Creek Blvd
 Santa Clara, CA 95051, USA
 800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status : RecoverEase Lysis Buffer This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
 RecoverEase Digestion Buffer While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
 RecoverEase Proteinase K Solution This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
 RecoverEase RNase-It Ribonuclease Cocktail This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

RecoverEase Lysis Buffer
 H319 EYE IRRITATION - Category 2A

RecoverEase Proteinase K Solution
 H319 EYE IRRITATION - Category 2A
 H334 RESPIRATORY SENSITIZATION - Category 1

Section 2. Hazards identification

**RecoverEase RNace-It
Ribonuclease Cocktail**
H334




RESPIRATORY SENSITIZATION - Category 1

Ingredients of unknown toxicity

: 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 dermal toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient (s) of unknown oral toxicity: 1 - 10%

2.2 GHS label elements

Hazard pictograms

: RecoverEase Lysis Buffer	
RecoverEase Proteinase K Solution	
RecoverEase RNace-It Ribonuclease Cocktail	

Signal word

: RecoverEase Lysis Buffer	Warning
RecoverEase Digestion Buffer	No signal word.
RecoverEase Proteinase K Solution	Danger
RecoverEase RNace-It Ribonuclease Cocktail	Danger

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

Precautionary statements

Prevention

: RecoverEase Lysis Buffer	P280 - Wear eye or face protection.
RecoverEase Digestion Buffer	P264 - Wash hands thoroughly after handling.
RecoverEase Proteinase K Solution	Not applicable.
	P280 - Wear eye or face protection.
RecoverEase RNace-It Ribonuclease Cocktail	P284 - Wear respiratory protection.
	P261 - Avoid breathing vapor.
	P264 - Wash hands thoroughly after handling.
	P284 - Wear respiratory protection.
	P261 - Avoid breathing vapor.

Section 2. Hazards identification

Response	<p>: RecoverEase Lysis Buffer</p> <p>RecoverEase Digestion Buffer RecoverEase Proteinase K Solution</p>	<p>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 attention. Not applicable. P304 + P341 (OSHA) - IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.</p>
	<p>RecoverEase RNace-It Ribonuclease Cocktail</p>	<p>P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician. 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 attention. P304 + P341 (OSHA) - IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician.</p>
Storage	<p>: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail</p>	<p>Not applicable. Not applicable. Not applicable. Not applicable.</p>
Disposal	<p>: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail</p>	<p>Not applicable. Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.</p>
Supplemental label elements	<p>: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail</p>	<p>None known. None known. None known. None known.</p>
2.3 Other hazards Hazards not otherwise classified	<p>: RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail</p>	<p>None known. None known. None known. None known.</p>

Section 3. Composition/information on ingredients

Substance/mixture	:	RecoverEase Lysis Buffer	Mixture
		RecoverEase Digestion Buffer	Mixture
		RecoverEase Proteinase K Solution	Mixture
		RecoverEase RNace-It Ribonuclease Cocktail	Mixture

Ingredient name	%	CAS number
RecoverEase Lysis Buffer Polyoxyethylene octyl phenyl ether	<3	9002-93-1
RecoverEase Proteinase K Solution Edetic acid	≤5	60-00-4
Sodium dodecyl sulphate	≤2.9	151-21-3
Proteinase, Tritirachium album serine	≤0.3	39450-01-6
RecoverEase RNace-It Ribonuclease Cocktail Nuclease, ribo-	≤0.3	9001-99-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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.

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact	:	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 RNace-It Ribonuclease Cocktail	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 if irritation occurs.
Inhalation	:	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

Section 4. First aid measures

	RecoverEase Digestion Buffer	collar, tie, belt or waistband. 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 it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.
	RecoverEase RNase-It Ribonuclease Cocktail	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. 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 the event of any complaints or symptoms, avoid further exposure.
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 RNase-It Ribonuclease Cocktail	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.

Section 4. First aid measures

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 induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

RecoverEase Proteinase K Solution

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 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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

Eye contact	: 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 RNace-It Ribonuclease Cocktail	No known significant effects or critical hazards.
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	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	RecoverEase RNace-It Ribonuclease Cocktail	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	: 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.
Ingestion	: 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.

Over-exposure signs/symptoms

Eye contact	: 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 RNace-It Ribonuclease Cocktail	No specific data.
Inhalation	: RecoverEase Lysis Buffer	No specific data.
	RecoverEase Digestion Buffer	No specific data.
	RecoverEase Proteinase K Solution	Adverse symptoms may include the following: wheezing and breathing difficulties asthma
	RecoverEase RNace-It Ribonuclease Cocktail	Adverse symptoms may include the following: wheezing and breathing difficulties asthma
Skin contact	: RecoverEase Lysis Buffer	No specific data.
	RecoverEase Digestion Buffer	No specific data.
	RecoverEase Proteinase K Solution	No specific data.
	RecoverEase RNace-It Ribonuclease Cocktail	No specific data.

Section 4. First aid measures

Ingestion	: 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 immediate medical attention and special treatment needed, if necessary

Notes to physician	: 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.
Specific treatments	: RecoverEase Lysis Buffer	No specific treatment.
	RecoverEase Digestion Buffer	No specific treatment.
	RecoverEase Proteinase K Solution	No specific treatment.
	RecoverEase RNase-It Ribonuclease Cocktail	No specific treatment.
Protection of first-aiders	: 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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	RecoverEase RNase-It Ribonuclease Cocktail	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Section 5. Fire-fighting measures

Suitable extinguishing media	: 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.
Unsuitable extinguishing media	: 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

Specific hazards arising from the chemical	: 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.
Hazardous thermal decomposition products	: RecoverEase Lysis Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	RecoverEase Digestion Buffer RecoverEase Proteinase K Solution	No specific data. 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

Special protective actions for fire-fighters	: 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.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters	: 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.
	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.
	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.
	RecoverEase RNase-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.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: 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 spilled material. Avoid breathing vapor 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 spilled 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	RecoverEase RNase-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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

<p>For emergency responders :</p>	<p>RecoverEase Lysis Buffer</p>	<p>If specialized 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".</p>
	<p>RecoverEase Digestion Buffer</p>	<p>If specialized 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".</p>
	<p>RecoverEase Proteinase K Solution</p>	<p>If specialized 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".</p>
	<p>RecoverEase RNace-It Ribonuclease Cocktail</p>	<p>If specialized 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".</p>
<p>6.2 Environmental precautions</p>	<p>RecoverEase Lysis Buffer</p>	<p>Avoid dispersal of spilled 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).</p>
	<p>RecoverEase Digestion Buffer</p>	<p>Avoid dispersal of spilled 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).</p>
	<p>RecoverEase Proteinase K Solution</p>	<p>Avoid dispersal of spilled 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).</p>
	<p>RecoverEase RNace-It Ribonuclease Cocktail</p>	<p>Avoid dispersal of spilled 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).</p>
<p>6.3 Methods and materials for containment and cleaning up</p>	<p>Methods for cleaning up :</p>	<p>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.</p>
	<p>RecoverEase Lysis Buffer</p>	<p>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.</p>
	<p>RecoverEase Digestion Buffer</p>	<p>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.</p>
	<p>RecoverEase Proteinase K Solution</p>	<p>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.</p>
	<p>RecoverEase RNace-It</p>	<p>Stop leak if without risk. Move containers from spill</p>

Section 6. Accidental release measures

Ribonuclease Cocktail

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.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures

: RecoverEase Lysis Buffer

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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). Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

RecoverEase RNase-It Ribonuclease Cocktail

Put on appropriate personal protective equipment (see Section 8). Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: 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.

Section 7. Handling and storage

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 RNase-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

:  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 unlabeled 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

RecoverEase RNase-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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

[7.3 Specific end use\(s\)](#)

Section 7. Handling and storage

Recommendations	: <input checked="" type="checkbox"/> RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	: <input checked="" type="checkbox"/> RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail	Not applicable. Not applicable. Not applicable. Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
<input checked="" type="checkbox"/> RecoverEase Lysis Buffer Polyoxyethylene octyl phenyl ether	None.
RecoverEase Proteinase K Solution Edetic acid Sodium dodecyl sulphate Proteinase, Tritirachium album serine	None. None. None.
RecoverEase RNace-It Ribonuclease Cocktail Nuclease, ribo-	None.

8.2 Exposure controls

- Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- 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.

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: safety glasses with side-shields.

Skin protection

Section 8. Exposure controls/personal 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.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	<ul style="list-style-type: none"> RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail 	<ul style="list-style-type: none"> Liquid. Liquid. Liquid. Liquid.
Color	<ul style="list-style-type: none"> RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail 	<ul style="list-style-type: none"> Not available. Not available. Not available. Not available.
Odor	<ul style="list-style-type: none"> RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail 	<ul style="list-style-type: none"> Not available. Not available. Not available. Not available.
Odor threshold	<ul style="list-style-type: none"> RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail 	<ul style="list-style-type: none"> Not available. Not available. Not available. Not available.
pH	<ul style="list-style-type: none"> RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNase-It Ribonuclease Cocktail 	<ul style="list-style-type: none"> 8.3 8 Not available. 7.5

Section 9. Physical and chemical properties

Melting point	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	0°C (32°F)
	RecoverEase Proteinase K Solution	0°C (32°F)
	RecoverEase RNase-It	0°C (32°F)
	Ribonuclease Cocktail	
Boiling point	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	100°C (212°F)
	RecoverEase Proteinase K Solution	100°C (212°F)
	RecoverEase RNase-It	100°C (212°F)
	Ribonuclease Cocktail	
Flash point	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNase-It	Not available.
	Ribonuclease Cocktail	
Evaporation rate	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNase-It	Not available.
	Ribonuclease Cocktail	
Flammability (solid, gas)	: RecoverEase Lysis Buffer	Not applicable.
	RecoverEase Digestion Buffer	Not applicable.
	RecoverEase Proteinase K Solution	Not applicable.
	RecoverEase RNase-It	Not applicable.
	Ribonuclease Cocktail	
Lower and upper explosive (flammable) limits	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNase-It	Not available.
	Ribonuclease Cocktail	
Vapor pressure	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNase-It	Not available.
	Ribonuclease Cocktail	
Vapor density	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNase-It	Not available.
	Ribonuclease Cocktail	
Relative density	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNase-It	Not available.
	Ribonuclease Cocktail	

Section 9. Physical and chemical properties

Solubility	: 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 RNase-It Ribonuclease Cocktail	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNase-It Ribonuclease Cocktail	Not available.
Auto-ignition temperature	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNase-It Ribonuclease Cocktail	Not available.
Decomposition temperature	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNase-It Ribonuclease Cocktail	Not available.
Viscosity	: RecoverEase Lysis Buffer	Not available.
	RecoverEase Digestion Buffer	Not available.
	RecoverEase Proteinase K Solution	Not available.
	RecoverEase RNase-It Ribonuclease Cocktail	Not available.

Section 10. Stability and reactivity

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

Section 10. Stability and reactivity

10.3 Possibility of hazardous reactions	: RecoverEase Lysis Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	RecoverEase Digestion Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	RecoverEase Proteinase K Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	RecoverEase RNace-It Ribonuclease Cocktail	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: RecoverEase Lysis Buffer	No specific data.
	RecoverEase Digestion Buffer	No specific data.
	RecoverEase Proteinase K Solution	No specific data.
	RecoverEase RNace-It Ribonuclease Cocktail	No specific data.
10.5 Incompatible materials	: RecoverEase Lysis Buffer	May react or be incompatible with oxidizing materials.
	RecoverEase Digestion Buffer	May react or be incompatible with oxidizing materials.
	RecoverEase Proteinase K Solution	May react or be incompatible with oxidizing materials.
	RecoverEase RNace-It Ribonuclease Cocktail	May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	: RecoverEase Lysis Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	RecoverEase Digestion Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	RecoverEase Proteinase K Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	RecoverEase RNace-It Ribonuclease Cocktail	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
RecoverEase Lysis Buffer Polyoxyethylene octyl phenyl ether	LD50 Oral	Rat	1800 mg/kg	-
RecoverEase Proteinase K Solution Sodium dodecyl sulphate	LD50 Dermal LD50 Oral	Rabbit Rat	580 mg/kg 1288 mg/kg	- -

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
RecoverEase Lysis Buffer Polyoxyethylene octyl phenyl ether	Eyes - Moderate irritant	Rabbit	-	24 hours 10 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
RecoverEase Proteinase K Solution 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	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
RecoverEase Proteinase K Solution 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.

Section 11. Toxicological information

Information on the likely routes of exposure	<ul style="list-style-type: none"> : RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail 	<p>Routes of entry anticipated: Oral, Dermal, Inhalation.</p> <p>Not available.</p> <p>Routes of entry anticipated: Oral, Dermal, Inhalation.</p> <p>Not available.</p>
Potential acute health effects		
Eye contact	<ul style="list-style-type: none"> : RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail 	<p>Causes serious eye irritation.</p> <p>No known significant effects or critical hazards.</p> <p>Causes serious eye irritation.</p> <p>No known significant effects or critical hazards.</p>
Inhalation	<ul style="list-style-type: none"> : RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail 	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</p> <p>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</p>
Skin contact	<ul style="list-style-type: none"> : RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail 	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>
Ingestion	<ul style="list-style-type: none"> : RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail 	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	<ul style="list-style-type: none"> : RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail 	<p>Adverse symptoms may include the following:</p> <p>pain or irritation</p> <p>watering</p> <p>redness</p> <p>No specific data.</p> <p>Adverse symptoms may include the following:</p> <p>pain or irritation</p> <p>watering</p> <p>redness</p> <p>No specific data.</p>
Inhalation	<ul style="list-style-type: none"> : RecoverEase Lysis Buffer RecoverEase Digestion Buffer RecoverEase Proteinase K Solution RecoverEase RNace-It Ribonuclease Cocktail 	<p>No specific data.</p> <p>No specific data.</p> <p>Adverse symptoms may include the following:</p> <p>wheezing and breathing difficulties</p> <p>asthma</p> <p>Adverse symptoms may include the following:</p> <p>wheezing and breathing difficulties</p> <p>asthma</p>

Section 11. Toxicological information

Skin contact	: 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.
Ingestion	: 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.

Delayed and immediate effects and also 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

General	: RecoverEase Lysis Buffer	No known significant effects or critical hazards.
	RecoverEase Digestion Buffer	No known significant effects or critical hazards.
	RecoverEase Proteinase K Solution	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
	RecoverEase RNase-It Ribonuclease Cocktail	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	: 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.
Mutagenicity	: 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.
Teratogenicity	: 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.
Developmental effects	: 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.

Section 11. Toxicological information

Fertility effects	: 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	No known significant effects or critical hazards.
	Ribonuclease Cocktail	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

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

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
RecoverEase Lysis Buffer 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
RecoverEase Proteinase K Solution Edetic acid	Acute EC50 113000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
Sodium dodecyl sulphate	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

Section 12. Ecological information

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

12.3 Bioaccumulative potential

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

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

12.5 Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

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.

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

U.S. Federal regulations : **TSCA 8(a) PAIR:** Polyoxyethylene octyl phenyl ether
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
Clean Water Act (CWA) 311: Edetic acid; Disodium hydrogenorthophosphate

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
RecoverEase Lysis Buffer Sodium azide	≤0.1	Yes.	500	-	1000	-

SARA 304 RQ : 20000000 lbs / 9080000 kg

SARA 311/312

Classification :

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard

Section 15. Regulatory information

RecoverEase Lysis Buffer Polyoxyethylene octyl phenyl ether	<3	No.	No.	No.	Yes.	No.
RecoverEase Proteinase K Solution Edetic acid	≤5	No.	No.	No.	Yes.	No.
Sodium dodecyl sulphate	≤2.9	Yes.	No.	No.	Yes.	No.
Proteinase, Tritirachium album serine	≤0.3	No.	No.	No.	Yes.	No.
RecoverEase RNase-It Ribonuclease Cocktail Nuclease, ribo-	≤0.3	Yes.	No.	No.	Yes.	No.

State regulations

- Massachusetts** : The following components are listed: SUCROSE DUST
- New York** : None of the components are listed.
- New Jersey** : None of the components are listed.
- Pennsylvania** : The following components are listed: .ALPHA.-D-GLUCOPYRANOSIDE, .BETA.-D-FRUCTOFURANOSYL

California Prop. 65

Not available.

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

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

Section 15. Regulatory information

Viet Nam : Not determined.

Section 16. Other information

History

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Version : 4

Indicates information that has changed from previously issued version.

Notice to reader

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