Conforms to Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals

SAFETY DATA SHEET

Agilent Technologies

DNA Extraction Kit, Part Number 930460

Section 1. Identification

Product identifier : DNA Extraction Kit, Part Number 930460

Part No. (Chemical Kit) : 930460

Part No. :

DNA Extraction RNase	200600-81
DNA Extraction Pronase	200600-82
DNA Extraction Solution 1	200600-13
DNA Extraction Solution 2	200600-14
DNA Extraction Solution 3	200600-15

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

Analytical reagent.

DNA Extraction RNase	1 ml (10 mg/ml)
DNA Extraction Pronase	2 ml (225 mg/ml)
DNA Extraction Solution 1	500 ml
DNA Extraction Solution 2	420 ml
DNA Extraction Solution 3	150 ml

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: (61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

DNA Extraction Pronase

H315	SKIN CORROSION/IRRITATION - Category 2
H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
H334	RESPIRATORY SENSITIZATION - Category 1
H335	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

DNA Extraction Solution 1

H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
H402	ACUTE AQUATIC HAZARD - Category 3
H412	LONG-TERM AQUATIC HAZARD - Category 3

DNA Extraction Solution 2

H402	ACUTE AQUATIC HAZARD - Category 3

DNA Extraction Solution 3

H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
H402	ACUTE AQUATIC HAZARD - Category 3

DNA Extraction RNase	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 1%
DNA Extraction Pronase	Not applicable.
DNA Extraction Solution 1	Not applicable.
DNA Extraction Solution 2	Not applicable.
DNA Extraction Solution 3	Not applicable.

Section 2. Hazard(s) identification

DNA Extraction RNase	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1%
DNA Extraction Pronase	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 22.5%
DNA Extraction Solution 1	Not applicable.
DNA Extraction Solution 2	Not applicable.
DNA Extraction Solution 3	Not applicable.

GHS label elements

Hazard pictograms :

Signal word :

DNA Extraction RNase	No signal word.
DNA Extraction Pronase	DANGER
DNA Extraction Solution 1	DANGER
DNA Extraction Solution 2	No signal word.
DNA Extraction Solution 3	WARNING

Hazard statements :

DNA Extraction RNase	No known significant effects or critical hazards.
DNA Extraction Pronase	H319 - Causes serious eye irritation. H315 - Causes skin irritation. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 - May cause respiratory irritation.
DNA Extraction Solution 1	H318 - Causes serious eye damage. H412 - Harmful to aquatic life with long lasting effects.
DNA Extraction Solution 2	H402 - Harmful to aquatic life.
DNA Extraction Solution 3	H319 - Causes serious eye irritation. H402 - Harmful to aquatic life.

Precautionary statements

Prevention :

DNA Extraction RNase	Not applicable.
DNA Extraction Pronase	P280 - Wear protective gloves. Wear eye or face protection. P285 - In case of inadequate ventilation wear respiratory protection. P271 - Use only outdoors or in a well-ventilated area. P261 - Avoid breathing vapour. P264 - Wash hands thoroughly after handling.
DNA Extraction Solution 1	P280 - Wear eye or face protection. P273 - Avoid release to the environment.
DNA Extraction Solution 2	P273 - Avoid release to the environment.
DNA Extraction Solution 3	P280 - Wear eye or face protection. P273 - Avoid release to the environment. P264 - Wash hands thoroughly after handling.

Response :

DNA Extraction RNase	Not applicable.
DNA Extraction Pronase	P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician. P302 + P352 + P362-2 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Section 2. Hazard(s) identification

		P337 + P313 - If eye irritation persists: Get medical attention.
	DNA Extraction Solution 1	P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
	DNA Extraction Solution 2	Not applicable.
	DNA Extraction Solution 3	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.
Storage :	DNA Extraction RNase	Not applicable.
	DNA Extraction Pronase	P405 - Store locked up.
	DNA Extraction Solution 1	Not applicable.
	DNA Extraction Solution 2	Not applicable.
	DNA Extraction Solution 3	Not applicable.
Disposal :	DNA Extraction RNase	Not applicable.
	DNA Extraction Pronase	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	DNA Extraction Solution 1	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	DNA Extraction Solution 2	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	DNA Extraction Solution 3	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements :	DNA Extraction RNase	Not applicable.
	DNA Extraction Pronase	Not applicable.
	DNA Extraction Solution 1	Not applicable.
	DNA Extraction Solution 2	Not applicable.
	DNA Extraction Solution 3	Not applicable.
Other hazards which do not result in classification :	DNA Extraction RNase	None known.
	DNA Extraction Pronase	None known.
	DNA Extraction Solution 1	None known.
	DNA Extraction Solution 2	None known.
	DNA Extraction Solution 3	None known.

Section 3. Composition and ingredient information

Substance/mixture :	DNA Extraction RNase	Mixture
	DNA Extraction Pronase	Mixture
	DNA Extraction Solution 1	Mixture
	DNA Extraction Solution 2	Mixture
	DNA Extraction Solution 3	Mixture

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
DNA Extraction Pronase		
Proteinase, Streptomyces griseus	≥10 - ≤30	9036-06-0
DNA Extraction Solution 1		
Sucrose	≥30 - ≤60	57-50-1
Polyoxyethylene octyl phenyl ether	≤5	9002-93-1
DNA Extraction Solution 2		

Section 3. Composition and ingredient information

Sodium dodecyl sulphate	<2.5	151-21-3
DNA Extraction Solution 3		
Sodium chloride	≥30 - ≤60	7647-14-5

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

Description of necessary first aid measures

Eye contact :

DNA Extraction RNase — 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.

DNA Extraction Pronase — 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.

DNA Extraction Solution 1 — Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

DNA Extraction Solution 2 — 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.

DNA Extraction Solution 3 — 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.

Inhalation :

DNA Extraction RNase — Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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.

DNA Extraction Pronase — 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.

DNA Extraction Solution 1 — Get medical attention immediately. Call a poison center or physician. 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-

Section 4. First aid measures

			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. 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.
		DNA Extraction Solution 2	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.
		DNA Extraction Solution 3	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.
Skin contact	:	DNA Extraction RNase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		DNA Extraction Pronase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		DNA Extraction Solution 1	Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		DNA Extraction Solution 2	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.
		DNA Extraction Solution 3	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.
Ingestion	:	DNA Extraction RNase	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.
		DNA Extraction Pronase	Wash out mouth with water. Remove dentures if any.

Section 4. First aid measures

	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.
DNA Extraction Solution 1	Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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.
DNA Extraction Solution 2	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.
DNA Extraction Solution 3	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,

Section 4. First aid measures

belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	DNA Extraction RNase	No known significant effects or critical hazards.
		DNA Extraction Pronase	Causes serious eye irritation.
		DNA Extraction Solution 1	Causes serious eye damage.
		DNA Extraction Solution 2	No known significant effects or critical hazards.
		DNA Extraction Solution 3	Causes serious eye irritation.
Inhalation	:	DNA Extraction RNase	No known significant effects or critical hazards.
		DNA Extraction Pronase	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
		DNA Extraction Solution 1	No known significant effects or critical hazards.
		DNA Extraction Solution 2	No known significant effects or critical hazards.
		DNA Extraction Solution 3	No known significant effects or critical hazards.
Skin contact	:	DNA Extraction RNase	No known significant effects or critical hazards.
		DNA Extraction Pronase	Causes skin irritation.
		DNA Extraction Solution 1	No known significant effects or critical hazards.
		DNA Extraction Solution 2	No known significant effects or critical hazards.
		DNA Extraction Solution 3	No known significant effects or critical hazards.
Ingestion	:	DNA Extraction RNase	No known significant effects or critical hazards.
		DNA Extraction Pronase	No known significant effects or critical hazards.
		DNA Extraction Solution 1	No known significant effects or critical hazards.
		DNA Extraction Solution 2	No known significant effects or critical hazards.
		DNA Extraction Solution 3	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	DNA Extraction RNase	No specific data.
		DNA Extraction Pronase	Adverse symptoms may include the following: pain or irritation watering redness
		DNA Extraction Solution 1	Adverse symptoms may include the following: pain watering redness
		DNA Extraction Solution 2	No specific data.
		DNA Extraction Solution 3	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	:	DNA Extraction RNase	No specific data.
		DNA Extraction Pronase	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma
		DNA Extraction Solution 1	No specific data.
		DNA Extraction Solution 2	No specific data.
		DNA Extraction Solution 3	No specific data.
Skin contact	:	DNA Extraction RNase	No specific data.
		DNA Extraction Pronase	Adverse symptoms may include the following: irritation redness
		DNA Extraction Solution 1	Adverse symptoms may include the following: pain or irritation redness blistering may occur
		DNA Extraction Solution 2	No specific data.
		DNA Extraction Solution 3	No specific data.

Section 4. First aid measures

Ingestion	:	DNA Extraction RNase	No specific data.
		DNA Extraction Pronase	No specific data.
		DNA Extraction Solution 1	Adverse symptoms may include the following: stomach pains
		DNA Extraction Solution 2	No specific data.
		DNA Extraction Solution 3	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	:	DNA Extraction RNase	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.
		DNA Extraction Pronase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		DNA Extraction Solution 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		DNA Extraction Solution 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		DNA Extraction Solution 3	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	DNA Extraction RNase	No specific treatment.
		DNA Extraction Pronase	No specific treatment.
		DNA Extraction Solution 1	No specific treatment.
		DNA Extraction Solution 2	No specific treatment.
		DNA Extraction Solution 3	No specific treatment.
Protection of first-aiders	:	DNA Extraction RNase	No action shall be taken involving any personal risk or without suitable training.
		DNA Extraction Pronase	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.
		DNA Extraction Solution 1	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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
		DNA Extraction Solution 2	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.
		DNA Extraction Solution 3	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.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media :	DNA Extraction RNase	Use an extinguishing agent suitable for the surrounding fire.
	DNA Extraction Pronase	Use an extinguishing agent suitable for the surrounding fire.
	DNA Extraction Solution 1	Use an extinguishing agent suitable for the surrounding fire.
	DNA Extraction Solution 2	Use an extinguishing agent suitable for the surrounding fire.
	DNA Extraction Solution 3	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media :	DNA Extraction RNase	None known.
	DNA Extraction Pronase	None known.
	DNA Extraction Solution 1	None known.
	DNA Extraction Solution 2	None known.
	DNA Extraction Solution 3	None known.
Specific hazards arising from the chemical :	DNA Extraction RNase	In a fire or if heated, a pressure increase will occur and the container may burst.
	DNA Extraction Pronase	In a fire or if heated, a pressure increase will occur and the container may burst.
	DNA Extraction Solution 1	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	DNA Extraction Solution 2	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	DNA Extraction Solution 3	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products :	DNA Extraction RNase	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
	DNA Extraction Pronase	No specific data.
	DNA Extraction Solution 1	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	DNA Extraction Solution 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides metal oxide/oxides
	DNA Extraction Solution 3	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides

Section 5. Firefighting measures

Special protective actions for fire-fighters :

DNA Extraction RNase	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.
DNA Extraction Pronase	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.
DNA Extraction Solution 1	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.
DNA Extraction Solution 2	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.
DNA Extraction Solution 3	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.

Special protective equipment for fire-fighters :

DNA Extraction RNase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
DNA Extraction Pronase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
DNA Extraction Solution 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
DNA Extraction Solution 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
DNA Extraction Solution 3	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

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel :

DNA Extraction RNase	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.
DNA Extraction Pronase	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.
DNA Extraction Solution 1	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. Do not breathe vapour or mist.

Section 6. Accidental release measures

		Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	DNA Extraction Solution 2	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.
	DNA Extraction Solution 3	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.
For emergency responders :	DNA Extraction RNase	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".
	DNA Extraction Pronase	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".
	DNA Extraction Solution 1	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".
	DNA Extraction Solution 2	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".
	DNA Extraction Solution 3	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".
Environmental precautions :	DNA Extraction RNase	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).
	DNA Extraction Pronase	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).
	DNA Extraction Solution 1	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). Water polluting material. May be harmful to the environment if released in large quantities.
	DNA Extraction Solution 2	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). Water polluting material. May be harmful to the environment if released in large quantities.
	DNA Extraction Solution 3	Avoid dispersal of spilt material and runoff and

Section 6. Accidental release measures

contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and material for containment and cleaning up

Methods for cleaning up :	DNA Extraction RNase	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.
	DNA Extraction Pronase	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.
	DNA Extraction Solution 1	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.
	DNA Extraction Solution 2	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.
	DNA Extraction Solution 3	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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures :	DNA Extraction RNase	Put on appropriate personal protective equipment (see Section 8).
	DNA Extraction Pronase	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 vapour 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.
	DNA Extraction Solution 1	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container

Section 7. Handling and storage

			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.
		DNA Extraction Solution 2	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. 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.
		DNA Extraction Solution 3	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. 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	:	DNA Extraction RNase	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.
		DNA Extraction Pronase	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.
		DNA Extraction Solution 1	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.
		DNA Extraction Solution 2	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.
		DNA Extraction Solution 3	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

Conditions for safe storage, including any incompatibilities :

DNA Extraction RNase	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.
DNA Extraction Pronase	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. Store locked up. 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.
DNA Extraction Solution 1	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. Store locked up. 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.
DNA Extraction Solution 2	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.
DNA Extraction Solution 3	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.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
DNA Extraction Solution 1 Sucrose	**Safe Work Australia (Australia, 1/2014).** TWA: 10 mg/m³ 8 hours.

Section 8. Exposure controls and personal protection

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour 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. Contaminated work clothing should not be allowed out of the workplace. 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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.

Section 9. Physical and chemical properties

Appearance

Physical state :

DNA Extraction RNase	Liquid.
DNA Extraction Pronase	Liquid.
DNA Extraction Solution 1	Liquid.
DNA Extraction Solution 2	Liquid.
DNA Extraction Solution 3	Liquid.

Colour :

DNA Extraction RNase	Not available.
DNA Extraction Pronase	Not available.
DNA Extraction Solution 1	Not available.
DNA Extraction Solution 2	Not available.
DNA Extraction Solution 3	Not available.

Odour :

DNA Extraction RNase	Not available.
DNA Extraction Pronase	Not available.
DNA Extraction Solution 1	Not available.
DNA Extraction Solution 2	Not available.
DNA Extraction Solution 3	Not available.

Section 9. Physical and chemical properties

Odour threshold	:	DNA Extraction RNase	Not available.
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Not available.
		DNA Extraction Solution 3	Not available.
pH	:	DNA Extraction RNase	7.5
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	7.6
		DNA Extraction Solution 2	8
		DNA Extraction Solution 3	Not available.
Melting point	:	DNA Extraction RNase	0°C (32°F)
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	0°C (32°F)
		DNA Extraction Solution 3	Not available.
Boiling point	:	DNA Extraction RNase	100°C (212°F)
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	100°C (212°F)
		DNA Extraction Solution 3	Not available.
Flash point	:	DNA Extraction RNase	Not available.
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Not available.
		DNA Extraction Solution 3	Not available.
Evaporation rate	:	DNA Extraction RNase	Not available.
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Not available.
		DNA Extraction Solution 3	Not available.
Flammability (solid, gas)	:	DNA Extraction RNase	Not applicable.
		DNA Extraction Pronase	Not applicable.
		DNA Extraction Solution 1	Not applicable.
		DNA Extraction Solution 2	Not applicable.
		DNA Extraction Solution 3	Not applicable.
Lower and upper explosive (flammable) limits	:	DNA Extraction RNase	Not available.
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Not available.
		DNA Extraction Solution 3	Not available.
Vapour pressure	:	DNA Extraction RNase	Not available.
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Not available.
		DNA Extraction Solution 3	Not available.
Vapour density	:	DNA Extraction RNase	Not available.
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Not available.
		DNA Extraction Solution 3	Not available.
Relative density	:	DNA Extraction RNase	Not available.
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Not available.
		DNA Extraction Solution 3	Not available.

Section 9. Physical and chemical properties

Solubility	:	DNA Extraction RNase	Easily soluble in the following materials: cold water and hot water.
		DNA Extraction Pronase	Soluble in the following materials: cold water and hot water.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Easily soluble in the following materials: cold water and hot water.
		DNA Extraction Solution 3	Not available.
Partition coefficient: n-octanol/water	:	DNA Extraction RNase	Not available.
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Not available.
		DNA Extraction Solution 3	Not available.
Auto-ignition temperature	:	DNA Extraction RNase	Not available.
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Not available.
		DNA Extraction Solution 3	Not available.
Decomposition temperature	:	DNA Extraction RNase	Not available.
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Not available.
		DNA Extraction Solution 3	Not available.
Viscosity	:	DNA Extraction RNase	Not available.
		DNA Extraction Pronase	Not available.
		DNA Extraction Solution 1	Not available.
		DNA Extraction Solution 2	Not available.
		DNA Extraction Solution 3	Not available.

Section 10. Stability and reactivity

Reactivity	:	DNA Extraction RNase	No specific test data related to reactivity available for this product or its ingredients.
		DNA Extraction Pronase	No specific test data related to reactivity available for this product or its ingredients.
		DNA Extraction Solution 1	No specific test data related to reactivity available for this product or its ingredients.
		DNA Extraction Solution 2	No specific test data related to reactivity available for this product or its ingredients.
		DNA Extraction Solution 3	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	DNA Extraction RNase	The product is stable.
		DNA Extraction Pronase	The product is stable.
		DNA Extraction Solution 1	The product is stable.
		DNA Extraction Solution 2	The product is stable.
		DNA Extraction Solution 3	The product is stable.
Possibility of hazardous reactions	:	DNA Extraction RNase	Under normal conditions of storage and use, hazardous reactions will not occur.
		DNA Extraction Pronase	Under normal conditions of storage and use, hazardous reactions will not occur.
		DNA Extraction Solution 1	Under normal conditions of storage and use, hazardous reactions will not occur.
		DNA Extraction Solution 2	Under normal conditions of storage and use, hazardous reactions will not occur.
		DNA Extraction Solution 3	Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

Conditions to avoid :

DNA Extraction RNase	No specific data.
DNA Extraction Pronase	No specific data.
DNA Extraction Solution 1	No specific data.
DNA Extraction Solution 2	No specific data.
DNA Extraction Solution 3	No specific data.

Incompatible materials :

DNA Extraction RNase	May react or be incompatible with oxidising materials.
DNA Extraction Pronase	May react or be incompatible with oxidising materials.
DNA Extraction Solution 1	May react or be incompatible with oxidising materials.
DNA Extraction Solution 2	May react or be incompatible with oxidising materials.
DNA Extraction Solution 3	May react or be incompatible with oxidising materials.

Hazardous decomposition products :

DNA Extraction RNase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
DNA Extraction Pronase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
DNA Extraction Solution 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
DNA Extraction Solution 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
DNA Extraction Solution 3	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
DNA Extraction Pronase				
Proteinase, Streptomyces griseus	LD50 Oral	Rat	3290 mg/kg	-
DNA Extraction Solution 1				
Sucrose	LD50 Oral	Rat	29700 mg/kg	-
DNA Extraction Solution 2				
Sodium dodecyl sulphate	LD50 Dermal	Rabbit	580 mg/kg	-
	LD50 Oral	Rat	1288 mg/kg	-
DNA Extraction Solution 3				
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
DNA Extraction Solution 1					
Polyoxyethylene octyl phenyl ether	Eyes - Moderate irritant	Rabbit	-	24 hours 10 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
DNA Extraction Solution 2					
Sodium dodecyl sulphate	Eyes - Mild irritant	Rabbit	-	250 Micrograms	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-

Section 11. Toxicological information

	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	-
DNA Extraction Solution 3					
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitisation

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
DNA Extraction Pronase			
Proteinase, Streptomyces griseus	Category 3	Not applicable.	Respiratory tract irritation
DNA Extraction Solution 2			
Sodium dodecyl sulphate	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 :

DNA Extraction RNase	Not available.
DNA Extraction Pronase	Routes of entry anticipated: Oral, Dermal, Inhalation.
DNA Extraction Solution 1	Routes of entry anticipated: Oral, Dermal, Inhalation.
DNA Extraction Solution 2	Routes of entry anticipated: Oral, Dermal, Inhalation.
DNA Extraction Solution 3	Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact :

DNA Extraction RNase	No known significant effects or critical hazards.
DNA Extraction Pronase	Causes serious eye irritation.
DNA Extraction Solution 1	Causes serious eye damage.
DNA Extraction Solution 2	No known significant effects or critical hazards.
DNA Extraction Solution 3	Causes serious eye irritation.

Section 11. Toxicological information

Inhalation	:	DNA Extraction RNase	No known significant effects or critical hazards.
		DNA Extraction Pronase	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
		DNA Extraction Solution 1	No known significant effects or critical hazards.
		DNA Extraction Solution 2	No known significant effects or critical hazards.
		DNA Extraction Solution 3	No known significant effects or critical hazards.
Skin contact	:	DNA Extraction RNase	No known significant effects or critical hazards.
		DNA Extraction Pronase	Causes skin irritation.
		DNA Extraction Solution 1	No known significant effects or critical hazards.
		DNA Extraction Solution 2	No known significant effects or critical hazards.
		DNA Extraction Solution 3	No known significant effects or critical hazards.
Ingestion	:	DNA Extraction RNase	No known significant effects or critical hazards.
		DNA Extraction Pronase	No known significant effects or critical hazards.
		DNA Extraction Solution 1	No known significant effects or critical hazards.
		DNA Extraction Solution 2	No known significant effects or critical hazards.
		DNA Extraction Solution 3	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	DNA Extraction RNase	No specific data.
		DNA Extraction Pronase	Adverse symptoms may include the following: pain or irritation watering redness
		DNA Extraction Solution 1	Adverse symptoms may include the following: pain watering redness
		DNA Extraction Solution 2	No specific data.
		DNA Extraction Solution 3	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	:	DNA Extraction RNase	No specific data.
		DNA Extraction Pronase	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma
		DNA Extraction Solution 1	No specific data.
		DNA Extraction Solution 2	No specific data.
		DNA Extraction Solution 3	No specific data.
Skin contact	:	DNA Extraction RNase	No specific data.
		DNA Extraction Pronase	Adverse symptoms may include the following: irritation redness
		DNA Extraction Solution 1	Adverse symptoms may include the following: pain or irritation redness blistering may occur
		DNA Extraction Solution 2	No specific data.
		DNA Extraction Solution 3	No specific data.
Ingestion	:	DNA Extraction RNase	No specific data.
		DNA Extraction Pronase	No specific data.
		DNA Extraction Solution 1	Adverse symptoms may include the following: stomach pains
		DNA Extraction Solution 2	No specific data.
		DNA Extraction Solution 3	No specific data.

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

Short term exposure

Section 11. Toxicological information

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

Not available.

General :	DNA Extraction RNase	No known significant effects or critical hazards.
	DNA Extraction Pronase	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
	DNA Extraction Solution 1	No known significant effects or critical hazards.
	DNA Extraction Solution 2	No known significant effects or critical hazards.
	DNA Extraction Solution 3	No known significant effects or critical hazards.
Carcinogenicity :	DNA Extraction RNase	No known significant effects or critical hazards.
	DNA Extraction Pronase	No known significant effects or critical hazards.
	DNA Extraction Solution 1	No known significant effects or critical hazards.
	DNA Extraction Solution 2	No known significant effects or critical hazards.
	DNA Extraction Solution 3	No known significant effects or critical hazards.
Mutagenicity :	DNA Extraction RNase	No known significant effects or critical hazards.
	DNA Extraction Pronase	No known significant effects or critical hazards.
	DNA Extraction Solution 1	No known significant effects or critical hazards.
	DNA Extraction Solution 2	No known significant effects or critical hazards.
	DNA Extraction Solution 3	No known significant effects or critical hazards.
Teratogenicity :	DNA Extraction RNase	No known significant effects or critical hazards.
	DNA Extraction Pronase	No known significant effects or critical hazards.
	DNA Extraction Solution 1	No known significant effects or critical hazards.
	DNA Extraction Solution 2	No known significant effects or critical hazards.
	DNA Extraction Solution 3	No known significant effects or critical hazards.
Developmental effects :	DNA Extraction RNase	No known significant effects or critical hazards.
	DNA Extraction Pronase	No known significant effects or critical hazards.
	DNA Extraction Solution 1	No known significant effects or critical hazards.
	DNA Extraction Solution 2	No known significant effects or critical hazards.
	DNA Extraction Solution 3	No known significant effects or critical hazards.
Fertility effects :	DNA Extraction RNase	No known significant effects or critical hazards.
	DNA Extraction Pronase	No known significant effects or critical hazards.
	DNA Extraction Solution 1	No known significant effects or critical hazards.
	DNA Extraction Solution 2	No known significant effects or critical hazards.
	DNA Extraction Solution 3	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
DNA Extraction Solution 1	
Oral	16666.7 mg/kg
DNA Extraction Solution 2	
Oral	64400 mg/kg
Dermal	29000 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
DNA Extraction Solution 1			
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
DNA Extraction Solution 2			
Sodium dodecyl sulphate	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
DNA Extraction Solution 3			
Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 28.85 mg/dm3 Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
DNA Extraction Solution 1			
Polyoxyethylene octyl phenyl ether	-	-	Readily
DNA Extraction Solution 2			
Sodium dodecyl sulphate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
DNA Extraction Solution 1			
Sucrose	-3.7	-	low
Polyoxyethylene octyl phenyl ether	4.86	-	high
DNA Extraction Solution 2			
Sodium dodecyl sulphate	-2.03	-	low

Section 12. Ecological information

Mobility in soil

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

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

Section 13. Disposal considerations

Disposal methods : 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. 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulatory information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

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

Standard Uniform Schedule of Medicine and Poisons

6, 5

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Australia inventory (AICS) : Not determined.

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 Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 15. Regulatory information

International lists

National inventory

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 : All components are listed or exempted.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : All components are listed or exempted.

Turkey : Not determined.

United States : All components are listed or exempted.

Section 16. Any other relevant information

History

Date of issue/Date of revision : 29/02/2016

Date of previous issue : 23/05/2014.

Version : 3

Key to abbreviations : ADG = Australian Dangerous Goods
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NOHSC = National Occupational Health and Safety Commission
SUSMP = Standard Uniform Schedule of Medicine and Poisons
UN = United Nations

Procedure used to derive the classification

Classification	Justification
DNA Extraction Pronase	
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2A, H319	Calculation method
Resp. Sens. 1, H334	Calculation method
STOT SE 3, H335	Calculation method
DNA Extraction Solution 1	
Eye Dam. 1, H318	Calculation method
Aquatic Acute 3, H402	Calculation method
Aquatic Chronic 3, H412	Calculation method
DNA Extraction Solution 2	
Aquatic Acute 3, H402	Calculation method
DNA Extraction Solution 3	
Eye Irrit. 2A, H319	Calculation method
Aquatic Acute 3, H402	Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

Section 16. Any other relevant information

Notice to reader

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