

SAFETY DATA SHEET



DNA Isolation Kit, Part Number 5500-0051

Section 1. Identification

Product identifier	: DNA Isolation Kit, Part Number 5500-0051		
Part No. (Chemical Kit)	: 5500-0051		
Part No.	: Nucleic Acid Binding Buffer		5972-3631
	: High Salt Wash Buffer		5972-3633
	: Elution Buffer		400711-16
	: Proteinase K		5972-3635
	: Proteinase K Digestion Buffer		5972-3636

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

Analytical reagent.

<input checked="" type="checkbox"/> Nucleic Acid Binding Buffer	25 ml
High Salt Wash Buffer	24 ml
Elution Buffer	12 ml
Proteinase K	2 x 0.5 ml
Proteinase K Digestion Buffer	2 x 5 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

Nucleic Acid Binding Buffer

H302 ACUTE TOXICITY (oral) - Category 4

High Salt Wash Buffer

H302 ACUTE TOXICITY (oral) - Category 4
H332 ACUTE TOXICITY (inhalation) - Category 4
H412 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3




Proteinase K Digestion Buffer

H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A

<input checked="" type="checkbox"/> High Salt Wash Buffer	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%
Proteinase K	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
Proteinase K Digestion Buffer	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
<input checked="" type="checkbox"/> High Salt Wash Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.3%

GHS label elements

Section 2. Hazard(s) identification

Hazard pictograms	: Nucleic Acid Binding Buffer	
	High Salt Wash Buffer	
	Proteinase K Digestion Buffer	
Signal word	: Nucleic Acid Binding Buffer High Salt Wash Buffer Elution Buffer Proteinase K Proteinase K Digestion Buffer	WARNING WARNING No signal word. No signal word. WARNING
Hazard statements	: Nucleic Acid Binding Buffer High Salt Wash Buffer Elution Buffer Proteinase K Proteinase K Digestion Buffer	H302 - Harmful if swallowed. H302 + H332 - Harmful if swallowed or if inhaled. H412 - Harmful to aquatic life with long lasting effects. No known significant effects or critical hazards. No known significant effects or critical hazards. H319 - Causes serious eye irritation.
<u>Precautionary statements</u>		
Prevention	: Nucleic Acid Binding Buffer High Salt Wash Buffer Elution Buffer Proteinase K Proteinase K Digestion Buffer	P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P261 - Avoid breathing vapour. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling. Not applicable. Not applicable. P280 - Wear eye or face protection. P264 - Wash hands thoroughly after handling.
Response	: Nucleic Acid Binding Buffer High Salt Wash Buffer Elution Buffer Proteinase K Proteinase K Digestion Buffer	P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. 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. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. Not applicable. Not applicable. 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	: Nucleic Acid Binding Buffer High Salt Wash Buffer Elution Buffer Proteinase K Proteinase K Digestion Buffer	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

Section 2. Hazard(s) identification

Disposal	:	Nucleic Acid Binding Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		High Salt Wash Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		Elution Buffer	Not applicable.
		Proteinase K	Not applicable.
		Proteinase K Digestion Buffer	Not applicable.
Supplemental label elements			
Additional warning phrases	:	Nucleic Acid Binding Buffer	Not applicable.
		High Salt Wash Buffer	Not applicable.
		Elution Buffer	Not applicable.
		Proteinase K	Not applicable.
		Proteinase K Digestion Buffer	Not applicable.
Other hazards which do not result in classification	:	Nucleic Acid Binding Buffer	None known.
		High Salt Wash Buffer	None known.
		Elution Buffer	None known.
		Proteinase K	None known.
		Proteinase K Digestion Buffer	None known.

Section 3. Composition and ingredient information

Substance/mixture	:	Nucleic Acid Binding Buffer	Mixture
		High Salt Wash Buffer	Mixture
		Elution Buffer	Mixture
		Proteinase K	Mixture
		Proteinase K Digestion Buffer	Mixture

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
<input checked="" type="checkbox"/> Nucleic Acid Binding Buffer Tetrahydrothiophene-1,1-dioxide	≥30 - ≤60	126-33-0
High Salt Wash Buffer Guanidinium thiocyanate	≥30 - <55	593-84-0
Proteinase K Glycerol	≥30 - ≤60	56-81-5
Proteinase K Digestion Buffer Sodium dodecyl sulphate	<3	151-21-3

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	:	Nucleic Acid Binding 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 if irritation occurs.
		High Salt Wash Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.

Section 4. First aid measures

Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Elution 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.

Proteinase K

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.

Proteinase K Digestion 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.

Inhalation

: Nucleic Acid Binding Buffer

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

High Salt Wash Buffer

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 adverse health effects persist or are severe. 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.

Elution Buffer

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

Proteinase K

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

Proteinase K Digestion 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.

Section 4. First aid measures

Skin contact

: Nucleic Acid Binding Buffer	Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.
High Salt Wash 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.
Elution Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Proteinase K	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Proteinase K Digestion 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.

Ingestion

: Nucleic Acid Binding 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 necessary, call a poison center or 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.
High Salt Wash 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 necessary, call a poison center or 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.
Elution 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.
Proteinase K	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

Section 4. First aid measures

	water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Proteinase K Digestion 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	☑ Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
		High Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		Proteinase K	No known significant effects or critical hazards.
		Proteinase K Digestion Buffer	Causes serious eye irritation.
Inhalation	:	Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
		High Salt Wash Buffer	Harmful if inhaled.
		Elution Buffer	No known significant effects or critical hazards.
		Proteinase K	No known significant effects or critical hazards.
		Proteinase K Digestion Buffer	No known significant effects or critical hazards.
Skin contact	:	☑ Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
		High Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		Proteinase K	No known significant effects or critical hazards.
		Proteinase K Digestion Buffer	No known significant effects or critical hazards.
Ingestion	:	Nucleic Acid Binding Buffer	Harmful if swallowed.
		High Salt Wash Buffer	Harmful if swallowed.
		Elution Buffer	No known significant effects or critical hazards.
		Proteinase K	No known significant effects or critical hazards.
		Proteinase K Digestion Buffer	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	☑ Nucleic Acid Binding Buffer	No specific data.
		High Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		Proteinase K	No specific data.
		Proteinase K Digestion Buffer	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	:	Nucleic Acid Binding Buffer	No specific data.
		High Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		Proteinase K	No specific data.
		Proteinase K Digestion Buffer	No specific data.
Skin contact	:	☑ Nucleic Acid Binding Buffer	No specific data.
		High Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		Proteinase K	No specific data.
		Proteinase K Digestion Buffer	No specific data.

Section 4. First aid measures

Ingestion	:	Nucleic Acid Binding Buffer	No specific data.
		High Salt Wash Buffer	No specific data.
		Elution Buffer	No specific data.
		Proteinase K	No specific data.
		Proteinase K Digestion Buffer	No specific data.

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

Notes to physician	:	Nucleic Acid Binding Buffer	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.
		High Salt Wash Buffer	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.
		Elution Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Proteinase K	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Proteinase K Digestion Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments	:	Nucleic Acid Binding Buffer	No specific treatment.
		High Salt Wash Buffer	No specific treatment.
		Elution Buffer	No specific treatment.
		Proteinase K	No specific treatment.
		Proteinase K Digestion Buffer	No specific treatment.

Protection of first-aiders	:	Nucleic Acid Binding 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.
		High Salt Wash Buffer	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.
		Elution Buffer	No action shall be taken involving any personal risk or without suitable training.
		Proteinase K	No action shall be taken involving any personal risk or without suitable training.
		Proteinase K Digestion 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.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media	:	Nucleic Acid Binding Buffer	Use an extinguishing agent suitable for the surrounding fire.
		High Salt Wash Buffer	Use an extinguishing agent suitable for the surrounding fire.
		Elution Buffer	Use an extinguishing agent suitable for the surrounding fire.
		Proteinase K	Use an extinguishing agent suitable for the surrounding fire.

Section 5. Firefighting measures

	Proteinase K Digestion Buffer	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Nucleic Acid Binding Buffer	None known.
	High Salt Wash Buffer	None known.
	Elution Buffer	None known.
	Proteinase K	None known.
	Proteinase K Digestion Buffer	None known.
Specific hazards arising from the chemical	: <input checked="" type="checkbox"/> Nucleic Acid Binding Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	High Salt Wash Buffer	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.
	Elution Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Proteinase K	In a fire or if heated, a pressure increase will occur and the container may burst.
	Proteinase K Digestion Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: Nucleic Acid Binding Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
	High Salt Wash Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds
	Elution Buffer	No specific data.
	Proteinase K	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Proteinase K Digestion Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds metal oxide/oxides
Special protective actions for fire-fighters	: Nucleic Acid Binding 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.
	High Salt Wash 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.
	Elution 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.
	Proteinase K	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No

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		action shall be taken involving any personal risk or without suitable training.
	Proteinase K 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.
Special protective equipment for fire-fighters	: Nucleic Acid Binding Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	High Salt Wash Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Elution Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Proteinase K	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Proteinase K 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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Nucleic Acid Binding Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	High Salt Wash Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Elution Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	Proteinase K	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.
	Proteinase K Digestion Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist.

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		Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: Nucleic Acid Binding Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	High Salt Wash Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Elution Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Proteinase K	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".
	Proteinase K Digestion Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions	: Nucleic Acid Binding Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	High Salt Wash Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
	Elution Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Proteinase K	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).
	Proteinase K Digestion Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up	: Nucleic Acid Binding Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	High Salt Wash Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container.

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Elution Buffer	disposal container. Dispose of via a licensed waste disposal contractor. 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.
Proteinase K	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.
Proteinase K Digestion Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling


Protective measures

: Nucleic Acid Binding Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
High Salt Wash Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. 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.
Elution Buffer	Put on appropriate personal protective equipment (see Section 8).
Proteinase K	Put on appropriate personal protective equipment (see Section 8).
Proteinase K Digestion Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: Nucleic Acid Binding 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.
High Salt Wash Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and

Section 7. Handling and storage

	<p>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.</p>
Elution Buffer	<p>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.</p>
Proteinase K	<p>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.</p>
Proteinase K Digestion Buffer	<p>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.</p>
<p>Conditions for safe storage, including any incompatibilities :  Nucleic Acid Binding Buffer</p>	<p>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. See Section 10 for incompatible materials before handling or use.</p>
High Salt Wash Buffer	<p>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. See Section 10 for incompatible materials before handling or use.</p>
Elution Buffer	<p>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. See Section 10 for incompatible materials before handling or use.</p>
Proteinase K	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from</p>

Section 7. Handling and storage

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. See Section 10 for incompatible materials before handling or use.

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

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Proteinase K Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.

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

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.

Section 8. Exposure controls and personal protection

- 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	:	Nucleic Acid Binding Buffer	Liquid.
		High Salt Wash Buffer	Liquid.
		Elution Buffer	Liquid.
		Proteinase K	Liquid.
		Proteinase K Digestion Buffer	Liquid.
Colour	:	Nucleic Acid Binding Buffer	Not available.
		High Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		Proteinase K	Not available.
		Proteinase K Digestion Buffer	Not available.
Odour	:	Nucleic Acid Binding Buffer	Not available.
		High Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		Proteinase K	Not available.
		Proteinase K Digestion Buffer	Not available.
Odour threshold	:	Nucleic Acid Binding Buffer	Not available.
		High Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		Proteinase K	Not available.
		Proteinase K Digestion Buffer	Not available.
pH	:	Nucleic Acid Binding Buffer	Not available.
		High Salt Wash Buffer	6.4
		Elution Buffer	7.5
		Proteinase K	Not available.
		Proteinase K Digestion Buffer	Not available.
Melting point	:	Nucleic Acid Binding Buffer	Not available.
		High Salt Wash Buffer	Not available.
		Elution Buffer	0°C (32°F)
		Proteinase K	Not available.
		Proteinase K Digestion Buffer	0°C (32°F)
Boiling point	:	Nucleic Acid Binding Buffer	Not available.
		High Salt Wash Buffer	Not available.
		Elution Buffer	100°C (212°F)
		Proteinase K	Not available.
		Proteinase K Digestion Buffer	100°C (212°F)
Flash point	:	Nucleic Acid Binding Buffer	Not available.
		High Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		Proteinase K	Not available.
		Proteinase K Digestion Buffer	Not available.
Evaporation rate	:	Nucleic Acid Binding Buffer	Not available.
		High Salt Wash Buffer	Not available.
		Elution Buffer	Not available.
		Proteinase K	Not available.
		Proteinase K Digestion Buffer	Not available.
Flammability (solid, gas)	:	Nucleic Acid Binding Buffer	Not applicable.
		High Salt Wash Buffer	Not applicable.
		Elution Buffer	Not applicable.
		Proteinase K	Not applicable.
		Proteinase K Digestion Buffer	Not applicable.

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits	: Nucleic Acid Binding Buffer	Not available.
	High Salt Wash Buffer	Not available.
	Elution Buffer	Not available.
	Proteinase K	Not available.
	Proteinase K Digestion Buffer	Not available.
Vapour pressure	: Nucleic Acid Binding Buffer	Not available.
	High Salt Wash Buffer	Not available.
	Elution Buffer	Not available.
	Proteinase K	Not available.
	Proteinase K Digestion Buffer	Not available.
Vapour density	: Nucleic Acid Binding Buffer	Not available.
	High Salt Wash Buffer	Not available.
	Elution Buffer	Not available.
	Proteinase K	Not available.
	Proteinase K Digestion Buffer	Not available.
Relative density	: Nucleic Acid Binding Buffer	Not available.
	High Salt Wash Buffer	Not available.
	Elution Buffer	Not available.
	Proteinase K	Not available.
	Proteinase K Digestion Buffer	Not available.
Solubility	: Nucleic Acid Binding Buffer	Not available.
	High Salt Wash Buffer	Partially soluble in the following materials: cold water and hot water.
	Elution Buffer	Easily soluble in the following materials: cold water and hot water.
	Proteinase K	Partially soluble in the following materials: cold water and hot water.
	Proteinase K Digestion Buffer	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Nucleic Acid Binding Buffer	Not available.
	High Salt Wash Buffer	Not available.
	Elution Buffer	Not available.
	Proteinase K	Not available.
	Proteinase K Digestion Buffer	Not available.
Auto-ignition temperature	: Nucleic Acid Binding Buffer	Not available.
	High Salt Wash Buffer	Not available.
	Elution Buffer	Not available.
	Proteinase K	Not available.
	Proteinase K Digestion Buffer	Not available.
Decomposition temperature	: Nucleic Acid Binding Buffer	Not available.
	High Salt Wash Buffer	Not available.
	Elution Buffer	Not available.
	Proteinase K	Not available.
	Proteinase K Digestion Buffer	Not available.
Viscosity	: Nucleic Acid Binding Buffer	Not available.
	High Salt Wash Buffer	Not available.
	Elution Buffer	Not available.
	Proteinase K	Not available.
	Proteinase K Digestion Buffer	Not available.

Section 10. Stability and reactivity

Reactivity	: Nucleic Acid Binding Buffer	No specific test data related to reactivity available for this product or its ingredients.
	High Salt Wash Buffer	No specific test data related to reactivity available for this product or its ingredients.
	Elution Buffer	No specific test data related to reactivity available for this product or its ingredients.
	Proteinase K	No specific test data related to reactivity available for this product or its ingredients.
	Proteinase K Digestion Buffer	No specific test data related to reactivity available for this product or its ingredients.

Section 10. Stability and reactivity

Chemical stability	: Nucleic Acid Binding Buffer High Salt Wash Buffer Elution Buffer Proteinase K Proteinase K Digestion Buffer	The product is stable. The product is stable. The product is stable. The product is stable. The product is stable.
Possibility of hazardous reactions	: Nucleic Acid Binding Buffer High Salt Wash Buffer Elution Buffer Proteinase K Proteinase K Digestion Buffer	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Nucleic Acid Binding Buffer High Salt Wash Buffer Elution Buffer Proteinase K Proteinase K Digestion Buffer	No specific data. No specific data. No specific data. No specific data. No specific data.
Incompatible materials	: Nucleic Acid Binding Buffer High Salt Wash Buffer Elution Buffer Proteinase K Proteinase K Digestion Buffer	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.
Hazardous decomposition products	: Nucleic Acid Binding Buffer High Salt Wash Buffer Elution Buffer Proteinase K Proteinase K Digestion Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. 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
Nucleic Acid Binding Buffer Tetrahydrothiophene-1,1-dioxide	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	2006 mg/kg	-
Proteinase K Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Section 11. Toxicological information

Proteinase K Digestion Buffer Sodium dodecyl sulphate	LD50 Oral	Rat	1288 mg/kg	-
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Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Nucleic Acid Binding Buffer Tetrahydrothiophene-1, 1-dioxide	Eyes - Mild irritant	Rabbit	-	253 milligrams	-
Proteinase K Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Proteinase K Digestion Buffer 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	-

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
Proteinase K Digestion Buffer Sodium dodecyl sulphate	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 likely routes of exposure	Nucleic Acid Binding Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
	High Salt Wash Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Elution Buffer	Not available.
	Proteinase K	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Proteinase K Digestion Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact	☑ Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
	High Salt Wash Buffer	No known significant effects or critical hazards.
	Elution Buffer	No known significant effects or critical hazards.
	Proteinase K	No known significant effects or critical hazards.
	Proteinase K Digestion Buffer	Causes serious eye irritation.
Inhalation	Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
	High Salt Wash Buffer	Harmful if inhaled.
	Elution Buffer	No known significant effects or critical hazards.
	Proteinase K	No known significant effects or critical hazards.
	Proteinase K Digestion Buffer	No known significant effects or critical hazards.
Skin contact	☑ Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
	High Salt Wash Buffer	No known significant effects or critical hazards.
	Elution Buffer	No known significant effects or critical hazards.
	Proteinase K	No known significant effects or critical hazards.
	Proteinase K Digestion Buffer	No known significant effects or critical hazards.
Ingestion	Nucleic Acid Binding Buffer	Harmful if swallowed.
	High Salt Wash Buffer	Harmful if swallowed.
	Elution Buffer	No known significant effects or critical hazards.
	Proteinase K	No known significant effects or critical hazards.
	Proteinase K Digestion Buffer	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	☑ Nucleic Acid Binding Buffer	No specific data.
	High Salt Wash Buffer	No specific data.
	Elution Buffer	No specific data.
	Proteinase K	No specific data.
	Proteinase K Digestion Buffer	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	Nucleic Acid Binding Buffer	No specific data.
	High Salt Wash Buffer	No specific data.
	Elution Buffer	No specific data.
	Proteinase K	No specific data.
	Proteinase K Digestion Buffer	No specific data.
Skin contact	☑ Nucleic Acid Binding Buffer	No specific data.
	High Salt Wash Buffer	No specific data.
	Elution Buffer	No specific data.
	Proteinase K	No specific data.
	Proteinase K Digestion Buffer	No specific data.
Ingestion	Nucleic Acid Binding Buffer	No specific data.
	High Salt Wash Buffer	No specific data.
	Elution Buffer	No specific data.
	Proteinase K	No specific data.
	Proteinase K Digestion Buffer	No specific data.

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

Short term exposure

Potential immediate effects	: Not available.
Potential delayed effects	: Not available.

Section 11. Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General	:	Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
		High Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		Proteinase K	No known significant effects or critical hazards.
		Proteinase K Digestion Buffer	No known significant effects or critical hazards.
Carcinogenicity	:	Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
		High Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		Proteinase K	No known significant effects or critical hazards.
		Proteinase K Digestion Buffer	No known significant effects or critical hazards.
Mutagenicity	:	Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
		High Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		Proteinase K	No known significant effects or critical hazards.
		Proteinase K Digestion Buffer	No known significant effects or critical hazards.
Teratogenicity	:	Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
		High Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		Proteinase K	No known significant effects or critical hazards.
		Proteinase K Digestion Buffer	No known significant effects or critical hazards.
Developmental effects	:	Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
		High Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		Proteinase K	No known significant effects or critical hazards.
		Proteinase K Digestion Buffer	No known significant effects or critical hazards.
Fertility effects	:	Nucleic Acid Binding Buffer	No known significant effects or critical hazards.
		High Salt Wash Buffer	No known significant effects or critical hazards.
		Elution Buffer	No known significant effects or critical hazards.
		Proteinase K	No known significant effects or critical hazards.
		Proteinase K Digestion Buffer	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Nucleic Acid Binding Buffer	
Oral	666.7 mg/kg
Dermal	6875 mg/kg
Inhalation (dusts and mists)	9.375 mg/l
High Salt Wash Buffer	
Oral	1282.1 mg/kg
Dermal	2820.5 mg/kg
Inhalation (dusts and mists)	3.846 mg/l
Proteinase K Digestion Buffer	
Oral	128800 mg/kg
Dermal	30000 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Nucleic Acid Binding Buffer Tetrahydrothiophene-1, 1-dioxide	Acute EC50 500 mg/l Fresh water	Algae	72 hours
	Acute EC50 52 mg/l Marine water	Crustaceans - Acartia tonsa	48 hours
	Acute EC50 40 mg/l	Daphnia	48 hours
	Acute EC50 40 mg/l Fresh water	Daphnia - Daphnia magna - Young	48 hours
	Acute LC50 >100 mg/l Fresh water	Fish	96 hours
	Acute NOEC 171 mg/l Fresh water	Algae	72 hours
	Acute NOEC 171 mg/l Fresh water	Daphnia	48 hours
Proteinase K Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Proteinase K Digestion Buffer 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	

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Proteinase K Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Nucleic Acid Binding Buffer Tetrahydrothiophene-1, 1-dioxide	0	<13	low
Proteinase K Glycerol	-1.76	-	low
Proteinase K Digestion Buffer Sodium dodecyl sulphate	-2.03	-	low

Mobility in soil

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

Section 12. Ecological information

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

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

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

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 : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Europe : All components are listed or exempted.
Japan : **Japan inventory (ENCS):** All components are listed or exempted.
Japan inventory (ISHL): All components are listed or exempted.

Section 15. Regulatory information

Malaysia	: Not determined.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: Not determined.
United States	: All components are listed or exempted.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision	: 23/01/2018
Date of previous issue	: 29/02/2016.
Version	: 5

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
<input checked="" type="checkbox"/> Nucleic Acid Binding Buffer Acute Tox. 4, H302	Calculation method
High Salt Wash Buffer Acute Tox. 4, H302 Acute Tox. 4, H332 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method
Proteinase K Digestion Buffer Eye Irrit. 2A, H319	Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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