

# Material Safety Data Sheet Agilent Technologies

AdvanceBio N-glycan deglycosylation kit (24 samples), Part Number 5190-8001

## 1 . Identification of the material and supplier

### Names

<b>Product name</b>	: AdvanceBio N-glycan deglycosylation kit (24 samples), Part Number 5190-8001
<b>Part No. (Chemical Kit)</b>	: 5190-8001
<b>Part No.</b>	: Peptide -N-Glycosidase F (PNGaseF)                      Not available. (EDTA - Free) 5X Tris Reaction Buffer    Not available. 5X Phosphate Reaction Buffer                                        Not available. Denaturation Solution    Not available. Detergent Solution    Not available.
<b>ADG</b>	: Not regulated as Dangerous Goods according to the ADG Code

### Supplier

<b>Supplier/Manufacturer</b>	: Agilent Technologies Australia Pty Ltd 679 Springvale Road Mulgrave Victoria 3170, Australia 1800 802 402
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<b>Emergency telephone number</b>	: CHEMTREC®: +(61)-290372994
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### Uses

<b>Area of application</b>	: Peptide -N-Glycosidase F (PNGaseF)                      Industrial applications, Professional applications. (EDTA - Free) 5X Tris Reaction Buffer    Industrial applications, Professional applications.  5X Phosphate Reaction Buffer                                        Industrial applications, Professional applications.  Denaturation Solution    Industrial applications, Professional applications.  Detergent Solution    Industrial applications, Professional applications.
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<b>Material uses</b>	: Analytical chemistry. Research and Development
	Peptide -N-Glycosidase F    40 µL (PNGaseF) (EDTA - Free)
	5X Tris Reaction Buffer    1 mL
	5X Phosphate Reaction Buffer                                        1 mL
	Denaturation Solution    200 µL
	Detergent Solution    200 µL

## 2 . Hazards identification

<b>Classification</b>	: Peptide -N-Glycosidase                      Not regulated. F (PNGaseF) (EDTA - Free)
	5X Tris Reaction Buffer    Not regulated.
	5X Phosphate Reaction Buffer                                        Xn; R22 R32
	Denaturation Solution    Xn; R21 Xi; R36 R43
	Detergent Solution    N; R51/53

## 2 . Hazards identification

<b>Risk phrases</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution  Detergent Solution	Not classified.  Not classified. R22- Harmful if swallowed. R32- Contact with acids liberates very toxic gas. R21- Harmful in contact with skin. R36- Irritating to eyes. R43- May cause sensitisation by skin contact. R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>Safety phrases</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	S36- Wear suitable protective clothing.  Not applicable. Not applicable.  S36/37- Wear suitable protective clothing and gloves. S36- Wear suitable protective clothing. S61- Avoid release to the environment. Refer to special instructions/safety data sheet.
<b>Statement of hazardous/ dangerous nature</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer  5X Phosphate Reaction Buffer Denaturation Solution  Detergent Solution	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.  NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3 . Composition/information on ingredients

<b>Mixture</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	Yes.  Yes. Yes. Yes. Yes.
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Ingredient name	CAS number	%
<b>5X Phosphate Reaction Buffer</b> Sodium azide	26628-22-8	<10
<b>Denaturation Solution</b> 2-Mercaptoethanol	60-24-2	<10
Sodium dodecyl sulphate	151-21-3	<10

Other ingredients, determined not to be hazardous according to Safe Work Australia criteria, and not dangerous according to the ADG Code, make up the product concentration to 100%.

**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.**

## 4 . First-aid measures

### Inhalation

: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
5X Phosphate Reaction 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.
Denaturation Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Detergent Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Ingestion

: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	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.
5X Tris Reaction 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.
5X Phosphate Reaction Buffer	Get medical attention immediately. 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. 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.
Denaturation Solution	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed

## 4 . First-aid measures

		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. 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.
	Detergent Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Skin contact</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	5X Tris Reaction 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.
	5X Phosphate Reaction Buffer	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. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Denaturation Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Detergent Solution	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.
<b>Eye contact</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	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.
	5X Tris Reaction 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.
	5X Phosphate Reaction 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.
	Denaturation Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	Detergent Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove

## 4 . First-aid measures

<b>Protection of first-aiders</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer  5X Phosphate Reaction Buffer  Denaturation Solution  Detergent Solution	any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.  No action shall be taken involving any personal risk or without suitable training.  No action shall be taken involving any personal risk or without suitable training.  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.  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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.  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.
<b>Advice to doctor</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer  5X Phosphate Reaction Buffer  Denaturation Solution  Detergent Solution	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.  No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.  No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.  No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.  No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5 . Fire-fighting measures

### Extinguishing media

<b>Suitable</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer  5X Phosphate Reaction Buffer Denaturation Solution  Detergent Solution	Use an extinguishing agent suitable for the surrounding fire.  Use an extinguishing agent suitable for the surrounding fire.  Use an extinguishing agent suitable for the surrounding fire.  Use an extinguishing agent suitable for the surrounding fire.  Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	None known.  None known. None known.  None known. None known.
<b>Special exposure hazards</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)  5X Tris Reaction 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.  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.

## 5 . Fire-fighting measures

	5X Phosphate Reaction 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.
	Denaturation Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	Detergent Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	In a fire or if heated, a pressure increase will occur and the container may burst.
	5X Tris Reaction Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	5X Phosphate Reaction Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Denaturation Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Detergent Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	No specific data.
	5X Tris Reaction Buffer	No specific data.
	5X Phosphate Reaction Buffer	Decomposition products may include the following materials: phosphorus oxides metal oxide/oxides
	Denaturation Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides metal oxide/oxides
	Detergent Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide
<b>Special protective equipment for fire-fighters</b>	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.	

## 6 . Accidental release measures

<b>Personal precautions</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	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 (see Section 8).
	5X Tris Reaction 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 (see Section 8).

## 6 . Accidental release measures

	5X Phosphate Reaction 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 (see Section 8).
	Denaturation Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
	Detergent Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
<b>Environmental precautions</b>	Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	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).
	5X Tris Reaction 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).
	5X Phosphate Reaction 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).
	Denaturation Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material.
	Detergent Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
<b>Methods for cleaning up</b>	Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	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.
	5X Tris Reaction 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.
	5X Phosphate Reaction 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.

**6 . Accidental release measures**

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

**7 . Handling and storage**

<b>Handling</b>	<p>: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)</p> <p>5X Tris Reaction Buffer</p> <p>5X Phosphate Reaction Buffer</p> <p>Denaturation Solution</p> <p>Detergent Solution</p>	<p>Put on appropriate personal protective equipment (see Section 8). 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.</p> <p>Put on appropriate personal protective equipment (see Section 8). 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.</p> <p>Put on appropriate personal protective equipment (see Section 8). 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.</p> <p>Put on appropriate personal protective equipment (see Section 8). 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. Persons with a history of skin sensitization problems 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. 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.</p> <p>Put on appropriate personal protective equipment (see Section 8). 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</p>
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## 7 . Handling and storage

<b>Storage</b>	<p>: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)</p> <p>5X Tris Reaction Buffer</p> <p>5X Phosphate Reaction Buffer</p> <p>Denaturation Solution</p> <p>Detergent Solution</p>	<p>contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Refer to special instructions/safety data sheet. 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.</p> <p>Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). 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.</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.</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. Separate from acids. 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.</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.</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.</p>
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## 8 . Exposure controls/personal protection

### Occupational exposure limits

Ingredient name	Exposure limits
<b>5X Phosphate Reaction Buffer</b> Sodium azide	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 0.11 ppm 8 hours. TWA: 0.3 mg/m <sup>3</sup> 8 hours.

## **8 . Exposure controls/personal protection**

No additional exposure standard allocated for other ingredients/components covered by the MSDS other than those listed in the table above.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### Exposure controls

- Engineering measures** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- 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.
- Eyes** : 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 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.
- Hands** : 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.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Skin** : 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.
- 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.

## **9 . Physical and chemical properties**

<b>Physical state</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Liquid.
	5X Tris Reaction Buffer	Liquid.
	5X Phosphate Reaction Buffer	Liquid.
	Denaturation Solution	Liquid. [Clear.]
	Detergent Solution	Liquid.
<b>Colour</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Clear.
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	Colourless.
	Denaturation Solution	Not available.
	Detergent Solution	Not available.

**9 . Physical and chemical properties**

<b>Odour</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Not available.
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	Not available.
	Denaturation Solution	Stench.
<b>Odour threshold</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Not available.
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	Not available.
	Denaturation Solution	Not available.
<b>Boiling point</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	100°C (212°F)
	5X Tris Reaction Buffer	100°C (212°F)
	5X Phosphate Reaction Buffer	100°C (212°F)
	Denaturation Solution	100°C (212°F)
<b>Melting point</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	0°C (32°F)
	5X Tris Reaction Buffer	0°C (32°F)
	5X Phosphate Reaction Buffer	0°C (32°F)
	Denaturation Solution	0°C (32°F)
<b>Vapour pressure</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Not available.
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	Not available.
	Denaturation Solution	Not available.
<b>Relative density</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Not available.
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	Not available.
	Denaturation Solution	Not available.
<b>Flash point</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Not available.
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	Not available.
	Denaturation Solution	Not available.
<b>Flammable limits</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Not available.
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	Not available.
	Denaturation Solution	Not available.

## 9 . Physical and chemical properties

	Detergent Solution	Not available.
<b>Vapour density</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Not available.
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	Not available.
	Denaturation Solution	Not available.
	Detergent Solution	Not available.
<b>pH</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	7.5
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	7.5
	Denaturation Solution	Not available.
	Detergent Solution	Not available.
<b>Viscosity</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Not available.
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	Not available.
	Denaturation Solution	Not available.
	Detergent Solution	Not available.
<b>Auto-ignition temperature</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Not available.
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	Not available.
	Denaturation Solution	Not available.
	Detergent Solution	Not available.
<b>Evaporation rate</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Not available.
	5X Tris Reaction Buffer	Not available.
	5X Phosphate Reaction Buffer	Not available.
	Denaturation Solution	Not available.
	Detergent Solution	Not available.
<b>Solubility</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Easily soluble in the following materials: cold water and hot water.
	5X Tris Reaction Buffer	Easily soluble in the following materials: cold water and hot water.
	5X Phosphate Reaction Buffer	Easily soluble in the following materials: cold water and hot water.
	Denaturation Solution	Easily soluble in the following materials: cold water and hot water.
	Detergent Solution	Easily soluble in the following materials: cold water and hot water.

## 10 . Stability and reactivity

<b>Chemical stability</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	The product is stable.
	5X Tris Reaction Buffer	The product is stable.
	5X Phosphate Reaction Buffer	The product is stable.
	Denaturation Solution	The product is stable.
	Detergent Solution	The product is stable.

## 10 . Stability and reactivity

<b>Possibility of hazardous reactions</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Under normal conditions of storage and use, hazardous reactions will not occur.
	5X Tris Reaction Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	5X Phosphate Reaction Buffer	Hazardous reactions or instability may occur under certain conditions of storage or use. Conditions may include the following: contact with acids Reactions may include the following: liberation of toxic gas
	Denaturation Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	Detergent Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	No specific data.
	5X Tris Reaction Buffer	No specific data.
	5X Phosphate Reaction Buffer	No specific data.
	Denaturation Solution	No specific data.
	Detergent Solution	No specific data.
<b>Materials to avoid</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	No specific data.
	5X Tris Reaction Buffer	No specific data.
	5X Phosphate Reaction Buffer	Reactive or incompatible with the following materials: acids
	Denaturation Solution	No specific data.
	Detergent Solution	No specific data.
<b>Hazardous decomposition products</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	5X Tris Reaction Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	5X Phosphate Reaction Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Denaturation Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Detergent Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11 . Toxicological information

### Potential acute health effects

<b>Inhalation</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	No known significant effects or critical hazards.
	5X Tris Reaction Buffer	No known significant effects or critical hazards.
	5X Phosphate Reaction Buffer	No known significant effects or critical hazards.
	Denaturation Solution	No known significant effects or critical hazards.
	Detergent Solution	No known significant effects or critical hazards.
<b>Ingestion</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	No known significant effects or critical hazards.
	5X Tris Reaction Buffer	No known significant effects or critical hazards.
	5X Phosphate Reaction Buffer	Harmful if swallowed.
	Denaturation Solution	No known significant effects or critical hazards.
	Detergent Solution	No known significant effects or critical hazards.

## 11 . Toxicological information

<b>Skin contact</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	No known significant effects or critical hazards.
	5X Tris Reaction Buffer	No known significant effects or critical hazards.
	5X Phosphate Reaction Buffer	No known significant effects or critical hazards.
	Denaturation Solution	Harmful in contact with skin. May cause sensitisation by skin contact.
	Detergent Solution	No known significant effects or critical hazards.
<b>Eye contact</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free)	No known significant effects or critical hazards.
	5X Tris Reaction Buffer	No known significant effects or critical hazards.
	5X Phosphate Reaction Buffer	No known significant effects or critical hazards.
	Denaturation Solution	Irritating to eyes.
	Detergent Solution	No known significant effects or critical hazards.

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>5X Phosphate Reaction Buffer</b> Sodium azide	LD50 Dermal	Rabbit	20 mg/kg	-
	LD50 Dermal	Rat	50 mg/kg	-
	LD50 Oral	Rat	27 mg/kg	-
<b>Denaturation Solution</b> 2-Mercaptoethanol	LD50 Dermal	Rabbit	200 mg/kg	-
	LD50 Oral	Rat	244 mg/kg	-
	Sodium dodecyl sulphate	LD50 Dermal	Rabbit	580 mg/kg
LD50 Oral		Rat	1288 mg/kg	-

**Conclusion/Summary** : Not available.

### Potential chronic health effects

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>Denaturation Solution</b> 2-Mercaptoethanol Sodium dodecyl sulphate	Eyes - Severe irritant	Rabbit	-	2 milligrams	-
	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	-	

**Conclusion/Summary** : Not available.

#### Sensitiser

##### Conclusion/Summary

**Skin** : Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) - May cause sensitisation by skin contact.

**Respiratory** : Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) - May cause sensitisation by inhalation.

#### Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

## **11 . Toxicological information**

<b>Chronic effects</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards.  Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Developmental effects</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Fertility effects</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards.
<b><u>Over-exposure signs/symptoms</u></b>		
<b>Inhalation</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	No specific data.  No specific data. No specific data.  No specific data. No specific data.

## 11 . Toxicological information

<b>Ingestion</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	No specific data. No specific data. No specific data. No specific data. No specific data.
<b>Skin</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution  Detergent Solution	No specific data. No specific data. No specific data. Adverse symptoms may include the following: irritation redness No specific data.
<b>Eyes</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution  Detergent Solution	No specific data. No specific data. No specific data. Adverse symptoms may include the following: irritation watering redness No specific data.
<b>Other adverse symptoms</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution Detergent Solution	Not available. Not available. Not available. Not available. Not available.
<b>Target organs</b>	: Peptide -N-Glycosidase F (PNGaseF) (EDTA - Free) 5X Tris Reaction Buffer 5X Phosphate Reaction Buffer Denaturation Solution  Detergent Solution	Not available. Not available. Contains material which may cause damage to the following organs: mucous membranes, skin, eyes. Contains material which may cause damage to the following organs: kidneys, liver, upper respiratory tract, skin, eyes, central nervous system (CNS). Contains material which may cause damage to the following organs: liver, cardiovascular system, eyes.

## 12 . Ecological information

**Ecotoxicity** : This material is toxic to aquatic life with long lasting effects.

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
<b>5X Phosphate Reaction Buffer</b> Sodium azide	Acute EC50 0.348 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 4.2 to 6.2 mg/l Fresh water	Daphnia - Daphnia pulex - Larvae	48 hours
	Acute LC50 9000 µg/l Fresh water	Crustaceans - Gammarus lacustris	48 hours
	Acute LC50 0.68 mg/l Fresh water	Fish - Lepomis macrochirus	96 hours



## 12 . Ecological information

<b>Denaturation Solution</b> Sodium dodecyl sulphate	Chronic NOEC 5600 µg/l Marine water	Algae - Macrocystis pyrifera	96 hours
	Acute EC50 1200 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute LC50 900 µg/l Marine water	Crustaceans - Artemia salina - Adult	48 hours
	Acute LC50 1400 µg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 590 µg/l Fresh water	Fish - Cirrhinus mrigala - Larvae	96 hours
	Chronic NOEC 1.25 mg/l Marine water	Algae - Ulva fasciata - Zoea	96 hours
	Chronic NOEC 3.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC >1357 µg/l Fresh water	Fish - Pimephales promelas	42 days

### Other ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Denaturation Solution Sodium dodecyl sulphate	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Denaturation Solution 2-Mercaptoethanol	-0.056	-	low
Sodium dodecyl sulphate	-2.03	-	low

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

## 13 . Disposal considerations

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

## 14 . Transport information

### Regulatory information

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

## 15 . Regulatory information

### Standard Uniform Schedule of Medicine and Poisons

6, 5

### Control of Scheduled Carcinogenic Substances

Ingredient name	Schedule
No listed substance	

**Australia inventory (AICS)** : Not determined.

## 16 . Other information

**Date of issue** : 20/11/2014

**Date of previous issue** : 31/10/2014.

✔ Indicates information that has changed from previously issued version.

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