

# SAFETY DATA SHEET



StrataPrep Plasmid Miniprep Kit, Part Number 400763

## Section 1. Identification

<b>Product identifier</b>	: StrataPrep Plasmid Miniprep Kit, Part Number 400763		
<b>Part No. (Chemical Kit)</b>	: 400763		
<b>Part No.</b>	: Solution 1	400763-13	
	: Solution 2	400763-14	
	: Solution 3	400763-15	
	: Wash Buffer	400763-16	
	: Nuclease Removal Buffer	400763-17	

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

Analytical reagent.

Solution 1	30 ml
Solution 2	30 ml
Solution 3	40 ml
Wash Buffer	125 ml
Nuclease Removal Buffer	200 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

#### **Solution 2**

H314 SKIN CORROSION/IRRITATION - Category 1  
H318 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1

#### **Solution 3**

H302 ACUTE TOXICITY (oral) - Category 4  
H332 ACUTE TOXICITY (inhalation) - Category 4  
H314 SKIN CORROSION/IRRITATION - Category 1A  
H318 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1  
H412 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

#### **Nuclease Removal Buffer**

H225 FLAMMABLE LIQUIDS - Category 2  
H314 SKIN CORROSION/IRRITATION - Category 1A  
H318 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1  
H336 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3

<b>Solution 3</b>	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%
<b>Wash Buffer</b>	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
<b>Nuclease Removal Buffer</b>	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%

## Section 2. Hazard(s) identification

of unknown inhalation toxicity: 1 - 10%

### GHS label elements

#### Hazard pictograms

: Solution 2



Solution 3



Nuclease Removal Buffer



#### Signal word

: Solution 1  
Solution 2  
Solution 3  
Wash Buffer  
Nuclease Removal Buffer

No signal word.  
DANGER  
DANGER  
No signal word.  
DANGER

#### Hazard statements

: Solution 1  
Solution 2  
Solution 3  
  
Wash Buffer  
Nuclease Removal Buffer

No known significant effects or critical hazards.  
H314 - Causes severe skin burns and eye damage.  
H302 + H332 - Harmful if swallowed or if inhaled.  
H314 - Causes severe skin burns and eye damage.  
H412 - Harmful to aquatic life with long lasting effects.  
No known significant effects or critical hazards.  
H225 - Highly flammable liquid and vapour.  
H314 - Causes severe skin burns and eye damage.  
H336 - May cause drowsiness or dizziness.

### Precautionary statements

#### Prevention

: Solution 1  
Solution 2  
  
Solution 3  
  
Wash Buffer  
Nuclease Removal Buffer

Not applicable.  
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.  
P264 - Wash hands thoroughly after handling.  
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.  
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.  
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.  
P242 - Use only non-sparking tools.  
P243 - Take precautionary measures against static discharge.  
P233 - Keep container tightly closed.  
P271 - Use only outdoors or in a well-ventilated area.  
P261 - Avoid breathing vapour.  
P264 - Wash hands thoroughly after handling.

## Section 2. Hazard(s) identification

<b>Response</b>	: Solution 1 Solution 2	<p>Not applicable.</p> <p>P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.</p> <p>P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.</p> <p>P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.</p> <p>P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.</p>
	Solution 3	<p>P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.</p> <p>P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.</p> <p>P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.</p> <p>P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.</p>
	Wash Buffer Nuclease Removal Buffer	<p>Not applicable.</p> <p>P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.</p> <p>P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.</p> <p>P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.</p> <p>P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.</p>
<b>Storage</b>	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	<p>Not applicable.</p> <p>P405 - Store locked up.</p> <p>P405 - Store locked up.</p> <p>Not applicable.</p> <p>P405 - Store locked up.</p> <p>P403 - Store in a well-ventilated place.</p> <p>P235 - Keep cool.</p>

## Section 2. Hazard(s) identification

<b>Disposal</b>	: Solution 1	Not applicable.
	Solution 2	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Solution 3	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Wash Buffer	Not applicable.
	Nuclease Removal Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	: Solution 1	Not applicable.
	Solution 2	Not applicable.
	Solution 3	Not applicable.
	Wash Buffer	Not applicable.
	Nuclease Removal Buffer	Not applicable.
<b>Other hazards which do not result in classification</b>	: <input checked="" type="checkbox"/> Solution 1	None known.
	Solution 2	None known.
	Solution 3	Causes severe digestive tract burns.
	Wash Buffer	None known.
	Nuclease Removal Buffer	Causes severe digestive tract burns.

## Section 3. Composition and ingredient information

<b>Substance/mixture</b>	: Solution 1	Mixture
	Solution 2	Mixture
	Solution 3	Mixture
	Wash Buffer	Mixture
	Nuclease Removal Buffer	Mixture

### CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
<input checked="" type="checkbox"/> <b>Solution 2</b> Sodium dodecyl sulphate	≤3	151-21-3
<b>Solution 3</b> Guanidinium thiocyanate	≥30 - ≤55	593-84-0
acetic acid	≥10 - ≤30	64-19-7
<b>Nuclease Removal Buffer</b> Propan-2-ol	≥30 - ≤60	67-63-0
acetic acid	≤10	64-19-7

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

<b>Eye contact</b>	: <input checked="" type="checkbox"/> Solution 1	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.
	Solution 2	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes.

## Section 4. First aid measures

Chemical burns must be treated promptly by a physician.

Solution 3  
Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Wash 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.

Nuclease Removal Buffer  
Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

### Inhalation

: Solution 1  
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Solution 2  
Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.



Solution 3  
Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.

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

Nuclease Removal Buffer  
Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if

## Section 4. First aid measures

breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.

<b>Skin contact</b>	:  Solution 1	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Solution 2	Get medical attention immediately. Call a poison center or physician. Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Solution 3	Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Wash Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Nuclease Removal Buffer	Get medical attention immediately. Call a poison center or physician. Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Ingestion</b>	:  Solution 1	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.
	Solution 2	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an

## Section 4. First aid measures

Solution 3	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. Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Wash 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.
Nuclease Removal Buffer	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

<b>Eye contact</b>	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	No known significant effects or critical hazards. Causes serious eye damage. Causes serious eye damage. No known significant effects or critical hazards. Causes serious eye damage.
<b>Inhalation</b>	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards. Harmful if inhaled. No known significant effects or critical hazards. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

## Section 4. First aid measures

<b>Skin contact</b>	:	☑ Solution 1	No known significant effects or critical hazards.
		Solution 2	Causes severe burns. Defatting to the skin.
		Solution 3	Causes severe burns.
		Wash Buffer	No known significant effects or critical hazards.
<b>Ingestion</b>	:	☑ Solution 1	No known significant effects or critical hazards.
		Solution 2	No known significant effects or critical hazards.
		Solution 3	Severely corrosive to the digestive tract. Causes severe burns. Harmful if swallowed.
		Wash Buffer	No known significant effects or critical hazards.
		Nuclease Removal Buffer	Severely corrosive to the digestive tract. Causes severe burns. Can cause central nervous system (CNS) depression.

### Over-exposure signs/symptoms

<b>Eye contact</b>	:	☑ Solution 1	No specific data.
		Solution 2	Adverse symptoms may include the following: pain watering redness
		Solution 3	Adverse symptoms may include the following: pain watering redness
		Wash Buffer	No specific data.
		Nuclease Removal Buffer	Adverse symptoms may include the following: pain watering redness
<b>Inhalation</b>	:	☑ Solution 1	No specific data.
		Solution 2	No specific data.
		Solution 3	No specific data.
		Wash Buffer	No specific data.
		Nuclease Removal Buffer	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
<b>Skin contact</b>	:	☑ Solution 1	No specific data.
		Solution 2	Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur
		Solution 3	Adverse symptoms may include the following: pain or irritation redness blistering may occur
		Wash Buffer	No specific data.
		Nuclease Removal Buffer	Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur



## Section 4. First aid measures

<b>Ingestion</b>	: Solution 1	No specific data.
	Solution 2	Adverse symptoms may include the following: stomach pains
	Solution 3	Adverse symptoms may include the following: stomach pains
	Wash Buffer	No specific data.
	Nuclease Removal Buffer	Adverse symptoms may include the following: stomach pains
<b><u>Indication of immediate medical attention and special treatment needed, if necessary</u></b>		
<b>Notes to physician</b>	: Solution 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Solution 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Solution 3	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.
	Wash Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Nuclease Removal 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.
<b>Specific treatments</b>	: Solution 1	No specific treatment.
	Solution 2	No specific treatment.
	Solution 3	No specific treatment.
	Wash Buffer	No specific treatment.
	Nuclease Removal Buffer	No specific treatment.
<b>Protection of first-aiders</b>	: Solution 1	No action shall be taken involving any personal risk or without suitable training.
	Solution 2	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
	Solution 3	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
	Wash Buffer	No action shall be taken involving any personal risk or without suitable training.
	Nuclease Removal 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 4. First aid measures

## Section 5. Firefighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	:	Solution 1	Use an extinguishing agent suitable for the surrounding fire.
		Solution 2	Use an extinguishing agent suitable for the surrounding fire.
		Solution 3	Use an extinguishing agent suitable for the surrounding fire.
		Wash Buffer	Use an extinguishing agent suitable for the surrounding fire.
		Nuclease Removal Buffer	Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
<b>Unsuitable extinguishing media</b>	:	Solution 1	None known.
		Solution 2	None known.
		Solution 3	None known.
		Wash Buffer	None known.
		Nuclease Removal Buffer	Do not use water jet.

### Specific hazards arising from the chemical

:	☑ Solution 1	In a fire or if heated, a pressure increase will occur and the container may burst.
	Solution 2	In a fire or if heated, a pressure increase will occur and the container may burst.
	Solution 3	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	Wash Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Nuclease Removal Buffer	Highly flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

### Hazardous thermal decomposition products

:	Solution 1	No specific data.
	Solution 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides metal oxide/oxides
	Solution 3	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
	Wash Buffer	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
	Nuclease Removal Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides

## Section 5. Firefighting measures

<b>Special protective actions for fire-fighters</b>	: Solution 1	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Solution 2	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Solution 3	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	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.
	Nuclease Removal 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
<b>Special protective equipment for fire-fighters</b>	: Solution 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Solution 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Solution 3	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	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.
	Nuclease Removal 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

<b>For non-emergency personnel</b>	: Solution 1	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	Solution 2	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Solution 3	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected

## Section 6. Accidental release measures

		personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	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. Put on appropriate personal protective equipment.
	Nuclease Removal 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	Solution 1	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Solution 2	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Solution 3	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	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".
	Nuclease Removal 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".
<b>Environmental precautions</b>	Solution 1	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Solution 2	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Solution 3	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.
	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).

## Section 6. Accidental release measures

Nuclease Removal 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**      : Solution 1      Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Solution 2      Stop leak if without risk. Move containers from spill area. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Solution 3      Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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. Dispose of via a licensed waste disposal contractor.

Nuclease Removal Buffer      Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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**      : Solution 1      Put on appropriate personal protective equipment (see Section 8).

Solution 2      Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. 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.

Solution 3      Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. 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

## Section 7. Handling and storage

Wash Buffer

not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Put on appropriate personal protective equipment (see Section 8).

Nuclease Removal Buffer

Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

### Advice on general occupational hygiene

: Solution 1

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Solution 2

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Solution 3

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Wash 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.

Nuclease Removal Buffer

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Solution 1

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. 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.

Solution 2

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. 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.

Solution 3

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

Wash 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.

Nuclease Removal Buffer

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls and personal protection

[Control parameters](#)

[Occupational exposure limits](#)

## Section 8. Exposure controls and personal protection

Ingredient name	Exposure limits
<b>Solution 3</b> acetic acid	<b>Safe Work Australia (Australia, 1/2014).</b> STEL: 37 mg/m <sup>3</sup> 15 minutes. STEL: 15 ppm 15 minutes. TWA: 25 mg/m <sup>3</sup> 8 hours. TWA: 10 ppm 8 hours.
<b>Nuclease Removal Buffer</b> Propan-2-ol	<b>Safe Work Australia (Australia, 1/2014).</b> STEL: 1230 mg/m <sup>3</sup> 15 minutes. STEL: 500 ppm 15 minutes. TWA: 983 mg/m <sup>3</sup> 8 hours. TWA: 400 ppm 8 hours.
acetic acid	<b>Safe Work Australia (Australia, 1/2014).</b> STEL: 37 mg/m <sup>3</sup> 15 minutes. STEL: 15 ppm 15 minutes. TWA: 25 mg/m <sup>3</sup> 8 hours. TWA: 10 ppm 8 hours.

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**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: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

### Skin protection

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

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.



## 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

<b>Physical state</b>	: Solution 1	Liquid.
	Solution 2	Liquid.
	Solution 3	Liquid.
	Wash Buffer	Liquid.
	Nuclease Removal Buffer	Liquid.
<b>Colour</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
<b>Odour</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
<b>Odour threshold</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
<b>pH</b>	: Solution 1	7.5
	Solution 2	>12
	Solution 3	4.4
	Wash Buffer	7.5
	Nuclease Removal Buffer	4.4
<b>Melting point</b>	: Solution 1	0°C (32°F)
	Solution 2	0°C (32°F)
	Solution 3	Not available.
	Wash Buffer	0°C (32°F)
	Nuclease Removal Buffer	Not available.
<b>Boiling point</b>	: Solution 1	100°C (212°F)
	Solution 2	100°C (212°F)
	Solution 3	Not available.
	Wash Buffer	100°C (212°F)
	Nuclease Removal Buffer	Not available.
<b>Flash point</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Closed cup: 12 to 23°C (53.6 to 73.4°F)
<b>Evaporation rate</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
<b>Flammability (solid, gas)</b>	: Solution 1	Not applicable.
	Solution 2	Not applicable.
	Solution 3	Not applicable.
	Wash Buffer	Not applicable.
	Nuclease Removal Buffer	Not applicable.

## Section 9. Physical and chemical properties

<b>Lower and upper explosive (flammable) limits</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
<b>Vapour pressure</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
<b>Vapour density</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
<b>Relative density</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
<b>Solubility</b>	: Solution 1	Easily soluble in the following materials: cold water and hot water.
	Solution 2	Easily soluble in the following materials: cold water and hot water.
	Solution 3	Soluble in the following materials: cold water and hot water.
	Wash Buffer	Easily soluble in the following materials: cold water and hot water.
	Nuclease Removal Buffer	Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
<b>Auto-ignition temperature</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
<b>Decomposition temperature</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
<b>Viscosity</b>	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: Solution 1	No specific test data related to reactivity available for this product or its ingredients.
	Solution 2	No specific test data related to reactivity available for this product or its ingredients.
	Solution 3	No specific test data related to reactivity available for this product or its ingredients.
	Wash Buffer	No specific test data related to reactivity available for this product or its ingredients.
	Nuclease Removal Buffer	No specific test data related to reactivity available for

## Section 10. Stability and reactivity

this product or its ingredients.

<b>Chemical stability</b>	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	The product is stable. The product is stable. The product is stable. The product is stable. The product is stable.
<b>Possibility of hazardous reactions</b>	: Solution 1  Solution 2  Solution 3  Wash Buffer  Nuclease Removal 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.
<b>Conditions to avoid</b>	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	No specific data. No specific data. No specific data. No specific data. Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>Incompatible materials</b>	: Solution 1 Solution 2  Solution 3 Wash Buffer Nuclease Removal Buffer	May react or be incompatible with oxidising materials. Reactive or incompatible with the following materials: acids May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. Reactive or incompatible with the following materials: oxidizing materials
<b>Hazardous decomposition products</b>	: Solution 1  Solution 2  Solution 3  Wash Buffer  Nuclease Removal 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

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
<b>Solution 2</b> Sodium dodecyl sulphate	LD50 Dermal LD50 Oral	Rabbit Rat	580 mg/kg 1288 mg/kg	- -
<b>Solution 3</b> acetic acid	LC50 Inhalation Vapour LD50 Dermal LD50 Oral	Rat Rabbit Rat	11000 mg/m <sup>3</sup> 1060 mg/kg 3310 mg/kg	4 hours - -
<b>Nuclease Removal Buffer</b> Propan-2-ol	LD50 Dermal LD50 Oral	Rabbit Rat	12800 mg/kg 5000 mg/kg	- -
acetic acid	LC50 Inhalation Vapour LD50 Dermal LD50 Oral	Rat Rabbit Rat	11000 mg/m <sup>3</sup> 1060 mg/kg 3310 mg/kg	4 hours - -

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>Solution 2</b> Sodium dodecyl sulphate	Eyes - Mild irritant	Rabbit	-	250 Micrograms	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Guinea pig	-	24 hours 25 milligrams	-
	Skin - Moderate irritant	Mouse	-	24 hours 25 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 50 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 25 milligrams	-
<b>Solution 3</b> acetic acid	Skin - Severe irritant	Rabbit	-	525 milligrams	-
<b>Nuclease Removal Buffer</b> Propan-2-ol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
acetic acid	Skin - Severe irritant	Rabbit	-	525 milligrams	-

### Sensitisation

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

## Section 11. Toxicological information

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
<input checked="" type="checkbox"/> <b>Solution 2</b> Sodium dodecyl sulphate	Category 3	Not applicable.	Respiratory tract irritation
<input checked="" type="checkbox"/> <b>Nuclease Removal Buffer</b> Propan-2-ol	Category 3	Not applicable.	Narcotic effects

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** :  Solution 1 Not available.  
 Solution 2 Routes of entry anticipated: Oral, Dermal, Inhalation.  
 Solution 3 Routes of entry anticipated: Oral, Dermal, Inhalation.  
 Wash Buffer Not available.  
 Nuclease Removal Buffer Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

**Eye contact** :  Solution 1 No known significant effects or critical hazards.  
 Solution 2 Causes serious eye damage.  
 Solution 3 Causes serious eye damage.  
 Wash Buffer No known significant effects or critical hazards.  
 Nuclease Removal Buffer Causes serious eye damage.

**Inhalation** :  Solution 1 No known significant effects or critical hazards.  
 Solution 2 No known significant effects or critical hazards.  
 Solution 3 Harmful if inhaled.  
 Wash Buffer No known significant effects or critical hazards.  
 Nuclease Removal Buffer Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

**Skin contact** :  Solution 1 No known significant effects or critical hazards.  
 Solution 2 Causes severe burns. Defatting to the skin.  
 Solution 3 Causes severe burns.  
 Wash Buffer No known significant effects or critical hazards.  
 Nuclease Removal Buffer Causes severe burns. Defatting to the skin.

**Ingestion** :  Solution 1 No known significant effects or critical hazards.  
 Solution 2 No known significant effects or critical hazards.  
 Solution 3 Severely corrosive to the digestive tract. Causes severe burns. Harmful if swallowed.  
 Wash Buffer No known significant effects or critical hazards.  
 Nuclease Removal Buffer Severely corrosive to the digestive tract. Causes severe burns. Can cause central nervous system (CNS) depression.

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

**Eye contact** :  Solution 1 No specific data.  
 Solution 2 Adverse symptoms may include the following:  
 pain  
 watering  
 redness  
 Solution 3 Adverse symptoms may include the following:  
 pain  
 watering  
 redness  
 Wash Buffer No specific data.  
 Nuclease Removal Buffer Adverse symptoms may include the following:

## Section 11. Toxicological information

<b>Inhalation</b>	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	pain watering redness No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
<b>Skin contact</b>	: Solution 1 Solution 2  Solution 3  Wash Buffer Nuclease Removal Buffer	No specific data. Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur Adverse symptoms may include the following: pain or irritation redness blistering may occur No specific data. Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur
<b>Ingestion</b>	: Solution 1 Solution 2  Solution 3  Wash Buffer Nuclease Removal Buffer	No specific data. Adverse symptoms may include the following: stomach pains Adverse symptoms may include the following: stomach pains No specific data. Adverse symptoms may include the following: stomach pains

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

<b>General</b>	: Solution 1 Solution 2  Solution 3 Wash Buffer Nuclease Removal Buffer	No known significant effects or critical hazards. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. No known significant effects or critical hazards. No known significant effects or critical hazards. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
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## Section 11. Toxicological information

<b>Carcinogenicity</b>	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	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>	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	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>	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	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>	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	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>	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	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.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
<b>Solution 2</b> Oral Dermal	128800 mg/kg 58000 mg/kg
<b>Solution 3</b> Oral Dermal Inhalation (dusts and mists)	1057.1 mg/kg 2325.6 mg/kg 3.171 mg/l
<b>Nuclease Removal Buffer</b> Oral Dermal Inhalation (dusts and mists)	2118.6 mg/kg 4661 mg/kg 6.356 mg/l

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
<b>Solution 2</b> 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

## Section 12. Ecological information

<b>Solution 3</b> acetic acid	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
<b>Nuclease Removal Buffer</b> Propan-2-ol	Acute EC50 73400 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 65000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 75000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
acetic acid	Acute EC50 929 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1400000 to 1950000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours
	Acute EC50 73400 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 65000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 75000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours

### Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<b>Solution 2</b> Sodium dodecyl sulphate	-	-	Readily
<b>Solution 3</b> acetic acid	-	-	Readily
<b>Nuclease Removal Buffer</b> acetic acid	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>Solution 2</b> Sodium dodecyl sulphate	-2.03	-	low
<b>Solution 3</b> acetic acid	-0.17	3.16	low
<b>Nuclease Removal Buffer</b> Propan-2-ol	0.05	-	low
	acetic acid -0.17	3.16	low

### Mobility in soil

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




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



## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	ADG	IMDG	IATA
<b>UN number</b>	UN3316	UN3316	UN3316
<b>UN proper shipping name</b>	CHEMICAL KIT	CHEMICAL KIT	Chemical kit
<b>Transport hazard class(es)</b>	9 	9 	9 
<b>Packing group</b>	II	II	II
<b>Environmental hazards</b>	No.	No.	No.

### Additional information

#### ADG

: **Hazchem code**  
2Z

**Special provisions**  
251, 340

#### IMDG

: **Emergency schedules (EmS)**  
F-A, \_S-P\_

**Special provisions**  
251, 340

#### IATA

: **Passenger and Cargo Aircraft** Quantity limitation: 10 kg  
Packaging instructions: 960  
**Cargo Aircraft Only** Quantity limitation: 10 kg  
Packaging instructions: 960  
**Limited Quantities - Passenger Aircraft** Quantity limitation: 1 kg  
Packaging instructions: Y960

**Special provisions**  
A44, A163

**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.

## Section 14. Transport information

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

## Section 15. Regulatory information

### Standard Uniform Schedule of Medicine and Poisons

6, 5

### Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

### International regulations

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

Not listed.

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

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

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

Not listed.

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

Not listed.

### Inventory list

Australia	: Not determined.
Canada	: <input checked="" type="checkbox"/> All components are listed or exempted.
China	: All components are listed or exempted.
Europe	: All components are listed or exempted.
Japan	: <input checked="" type="checkbox"/> Japan inventory (ENCS): All components are listed or exempted. <input checked="" type="checkbox"/> Japan inventory (ISHL): Not determined.
Malaysia	: Not determined.
New Zealand	: All components are listed or exempted.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: <input checked="" type="checkbox"/> 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	: 22/05/2017
Date of previous issue	: 08/09/2015.
Version	: 5

## Section 16. Any other relevant information

<b>Key to abbreviations</b>	: 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
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### Procedure used to derive the classification

Classification	Justification
<b>Solution 2</b> Skin Corr. 1, H314 Eye Dam. 1, H318	On basis of test data On basis of test data
<b>Solution 3</b> Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method Calculation method Calculation method
<b>Nuclease Removal Buffer</b> Flam. Liq. 2, H225 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H336	Expert judgment Calculation method Calculation method Calculation method

**References** : Not available.

✔ Indicates information that has changed from previously issued version.

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