

SAFETY DATA SHEET

StrataPrep Plasmid Miniprep Kit, Part Number 400763

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier	: StrataPrep Plasmid Miniprep Kit, Part Number 400763		
Part No. (Chemical Kit)	: 400763		
Part No.	: 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, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

Emergency telephone number (with hours of operation) : CHEMTREC®: 1-800-424-9300

SECTION 2: Hazards identification

Classification of the substance or mixture

Solution 2

H314 SKIN CORROSION - Category 1
H318 SERIOUS EYE DAMAGE - Category 1
H402 AQUATIC HAZARD (ACUTE) - Category 3

Solution 3

H302 ACUTE TOXICITY (oral) - Category 4
H312 ACUTE TOXICITY (dermal) - Category 4
H332 ACUTE TOXICITY (inhalation) - Category 4
H315 SKIN IRRITATION - Category 2
H319 EYE IRRITATION - Category 2A
H412 AQUATIC HAZARD (LONG-TERM) - Category 3




Nuclease Removal Buffer

H225 FLAMMABLE LIQUIDS - Category 2
H302 ACUTE TOXICITY (oral) - Category 4
H313 ACUTE TOXICITY (dermal) - Category 5
H316 SKIN IRRITATION - Category 3
H319 EYE IRRITATION - Category 2A
H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SECTION 2: Hazards identification

H336	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3										
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) - Category 2										
	<table> <tr> <td>☑ Solution 2</td> <td>Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%</td> </tr> <tr> <td>Solution 3</td> <td>Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%</td> </tr> <tr> <td>Wash Buffer</td> <td>Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%</td> </tr> <tr> <td>Nuclease Removal Buffer</td> <td>Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%</td> </tr> <tr> <td></td> <td>Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%</td> </tr> </table>	☑ Solution 2	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%	Solution 3	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%	Wash Buffer	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%	Nuclease Removal Buffer	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%		Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
☑ Solution 2	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%										
Solution 3	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%										
Wash Buffer	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%										
Nuclease Removal Buffer	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%										
	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%										

GHS label elements**Hazard pictograms**

☑ Solution 2	
Solution 3	
Nuclease Removal Buffer	

Signal word

☑ Solution 1	No signal word.
Solution 2	Danger
Solution 3	Warning
Wash Buffer	No signal word.
Nuclease Removal Buffer	Danger

Hazard statements

☑ Solution 1	No known significant effects or critical hazards.
Solution 2	H314 - Causes severe skin burns and eye damage.
Solution 3	H402 - Harmful to aquatic life.
	H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.
	H319 - Causes serious eye irritation.
	H315 - Causes skin irritation.
	H412 - Harmful to aquatic life with long lasting effects.
Wash Buffer	No known significant effects or critical hazards.
Nuclease Removal Buffer	H225 - Highly flammable liquid and vapor.
	H302 - Harmful if swallowed.
	H313 - May be harmful in contact with skin.
	H319 - Causes serious eye irritation.
	H316 - Causes mild skin irritation.
	H335 - May cause respiratory irritation.
	H336 - May cause drowsiness or dizziness.
	H373 - May cause damage to organs through prolonged or repeated exposure. (kidneys)

Precautionary statements

SECTION 2: Hazards identification

Prevention	: <input checked="" type="checkbox"/> Solution 1	Not applicable.
	Solution 2	P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing. P273 - Avoid release to the environment. P264 - Wash hands thoroughly after handling.
	Solution 3	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 vapor. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
	Wash Buffer	Not applicable.
	Nuclease Removal Buffer	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. P271 - Use only outdoors or in a well-ventilated area. P260 - Do not breathe vapor. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
Response	: <input checked="" type="checkbox"/> Solution 1	Not applicable.
	Solution 2	P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. 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.
	Solution 3	P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. P302 + P352 + P312 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
	Wash Buffer	Not applicable.
	Nuclease Removal Buffer	P314 - Get medical attention if you feel unwell. P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.

SECTION 2: Hazards identification

		Rinse mouth. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P302 + P312 - IF ON SKIN: Call a POISON CENTER or physician if you feel unwell. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
Storage	: <input checked="" type="checkbox"/> Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	Not applicable. P405 - Store locked up. Not applicable. Not applicable. P405 - Store locked up.
Disposal	: <input checked="" type="checkbox"/> Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Other hazards which do not result in classification	: <input checked="" type="checkbox"/> Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	None known. Prolonged or repeated contact may dry skin and cause irritation. Causes severe digestive tract burns. None known. Causes severe digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.

SECTION 3: Composition/information on ingredients

Substance/mixture	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	Mixture Mixture Mixture Mixture Mixture
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CAS number/other identifiers

Ingredient name	%	CAS number
Solution 2 Sodium dodecyl sulphate Sodium hydroxide	<2.5 <1	151-21-3 1310-73-2
Solution 3 Guanidinium thiocyanate Acetic acid potassium acetate	≥25 - ≤50 ≥10 - ≤21 ≤10	593-84-0 64-19-7 127-08-2
Wash Buffer Sodium chloride	≤3	7647-14-5

SECTION 3: Composition/information on ingredients

Nuclease Removal Buffer		
Propan-2-ol	≥50 - ≤75	67-63-0
Guanidinium thiocyanate	≥10 - <25	593-84-0
Acetic acid	<10	64-19-7
potassium acetate	≤5	127-08-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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

SECTION 4: First aid measures

Description of necessary first aid measures

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

SECTION 4: First aid measures

		if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	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	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	: 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 recognized 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	Wash with plenty of soap and 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. If necessary, call a poison center or 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	Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing

SECTION 4: First aid measures**Ingestion**

: Solution 1

thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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 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.

Solution 3

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

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

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

SECTION 4: First aid measures

may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: 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 irritation. No known significant effects or critical hazards. Causes serious eye irritation.
Inhalation	: 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. May cause respiratory irritation.
Skin contact	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	No known significant effects or critical hazards. Causes severe burns. Defatting to the skin. Harmful in contact with skin. Causes skin irritation. No known significant effects or critical hazards. May be harmful in contact with skin. Causes mild skin irritation. Defatting to the skin.
Ingestion	: 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. Severely corrosive to the digestive tract. Causes severe burns. Harmful if swallowed. No known significant effects or critical hazards. Severely corrosive to the digestive tract. Causes severe burns. Harmful if swallowed. Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact	: Solution 1 Solution 2 Solution 3 Wash Buffer Nuclease Removal Buffer	No specific data. Adverse symptoms may include the following: pain watering redness Adverse symptoms may include the following: pain or irritation watering redness No specific data. Adverse symptoms may include the following: pain or irritation watering redness
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SECTION 4: First aid measures

Inhalation	:	☑ 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: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
Skin contact	:	☑ 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: irritation redness
		Wash Buffer	No specific data.
		Nuclease Removal Buffer	Adverse symptoms may include the following: irritation redness dryness cracking
Ingestion	:	☑ 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

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

Notes to physician	:	☑ 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.

SECTION 4: First aid measures

Specific treatments	:	<input checked="" type="checkbox"/> 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.
Protection of first-aiders	:	<input checked="" type="checkbox"/> 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 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	:	<input checked="" type="checkbox"/> 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 ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	:	<input checked="" type="checkbox"/> Solution 1	None known.
		Solution 2	None known.
		Solution 3	None known.
		Wash Buffer	None known.
		Nuclease Removal Buffer	Do not use water jet.

SECTION 5: Firefighting measures

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. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	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 vapor. 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
Special protective actions for fire-fighters	:  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.

SECTION 5: Firefighting measures

	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.
Special protective equipment for fire-fighters	: 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

For non-emergency personnel	: 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 spilled 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 spilled material. Do not breathe vapor 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 personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Wash Buffer	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 spilled 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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders : Solution 1	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Solution 2	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Solution 3	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Wash Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Nuclease Removal Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Solution 1	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Solution 2	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
Solution 3	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
Wash Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Nuclease Removal Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 6: Accidental release measures

Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill	: 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 vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container 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 ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Use only

SECTION 7: Handling and storage

		with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Wash Buffer	Put on appropriate personal protective equipment (see Section 8).
	Nuclease Removal Buffer	Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. 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 unlabeled 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 unlabeled 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. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

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

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Solution 2 Sodium hydroxide	NOM-010-STPS (Mexico, 4/2016). LMPE-Pico: 2 mg/m ³
Solution 3 Acetic acid	NOM-010-STPS (Mexico, 4/2016). LMPE-PPT: 10 ppm 8 hours. LMPE-CT: 15 ppm 15 minutes.
Nuclease Removal Buffer Propan-2-ol	NOM-010-STPS (Mexico, 4/2016). LMPE-PPT: 200 ppm 8 hours. LMPE-CT: 400 ppm 15 minutes.
Acetic acid	NOM-010-STPS (Mexico, 4/2016). LMPE-PPT: 10 ppm 8 hours. LMPE-CT: 15 ppm 15 minutes.

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, vapor 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.

SECTION 8: Exposure controls/personal protection

- 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.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

SECTION 9: Physical and chemical properties

Appearance

Physical state	:	Solution 1	Liquid.
		Solution 2	Liquid.
		Solution 3	Liquid.
		Wash Buffer	Liquid.
		Nuclease Removal Buffer	Liquid.
Color	:	Solution 1	Not available.
		Solution 2	Not available.
		Solution 3	Not available.
		Wash Buffer	Not available.
		Nuclease Removal Buffer	Not available.
Odor	:	Solution 1	Not available.
		Solution 2	Not available.
		Solution 3	Not available.
		Wash Buffer	Not available.
		Nuclease Removal Buffer	Not available.
Odor threshold	:	Solution 1	Not available.
		Solution 2	Not available.
		Solution 3	Not available.
		Wash Buffer	Not available.
		Nuclease Removal Buffer	Not available.
pH	:	Solution 1	7.5
		Solution 2	>12
		Solution 3	4.4
		Wash Buffer	7.5
		Nuclease Removal Buffer	4.4
Melting point	:	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.
Boiling point	:	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.
Flash point	:	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)

SECTION 9: Physical and chemical properties

Fire point	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
Evaporation rate	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
Flammability (solid, gas)	: Solution 1	Not applicable.
	Solution 2	Not applicable.
	Solution 3	Not applicable.
	Wash Buffer	Not applicable.
	Nuclease Removal Buffer	Not applicable.
Lower and upper explosive (flammable) limits	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
Vapor pressure	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
Vapor density	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
Relative density	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
Solubility	: 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.
Partition coefficient: n-octanol/water	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
Auto-ignition temperature	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.

SECTION 9: Physical and chemical properties

Decomposition temperature	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
Viscosity	: Solution 1	Not available.
	Solution 2	Not available.
	Solution 3	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
Molecular weight	: Solution 1	Not applicable.
	Solution 2	Not applicable.
	Solution 3	Not applicable.
	Wash Buffer	Not applicable.
	Nuclease Removal Buffer	Not applicable.

SECTION 10: Stability and reactivity

Reactivity	: <input checked="" type="checkbox"/> 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 this product or its ingredients.
Chemical stability	: <input checked="" type="checkbox"/> Solution 1	The product is stable.
	Solution 2	The product is stable.
	Solution 3	The product is stable.
	Wash Buffer	The product is stable.
	Nuclease Removal Buffer	The product is stable.
Possibility of hazardous reactions	: <input checked="" type="checkbox"/> Solution 1	Under normal conditions of storage and use, hazardous reactions will not occur.
	Solution 2	Under normal conditions of storage and use, hazardous reactions will not occur.
	Solution 3	Under normal conditions of storage and use, hazardous reactions will not occur.
	Wash Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	Nuclease Removal Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: <input checked="" type="checkbox"/> Solution 1	No specific data.
	Solution 2	No specific data.
	Solution 3	No specific data.
	Wash Buffer	No specific data.
	Nuclease Removal Buffer	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

SECTION 10: Stability and reactivity

Incompatible materials	:	Solution 1	May react or be incompatible with oxidizing materials.
		Solution 2	Reactive or incompatible with the following materials: acids
	Solution 3	May react or be incompatible with oxidizing materials.	
	Wash Buffer	May react or be incompatible with oxidizing materials.	
	Nuclease Removal Buffer	Reactive or incompatible with the following materials: oxidizing materials	
Hazardous decomposition products	:	Solution 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Solution 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Solution 3	Under normal conditions of storage and use, hazardous decomposition products should not be produced.	
	Wash Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.	
	Nuclease Removal Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.	

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Solution 2 Sodium dodecyl sulphate	LD50 Dermal LD50 Oral	Rabbit Rat	580 mg/kg 1288 mg/kg	- -
Solution 3 Acetic acid	LC50 Inhalation Vapor LD50 Dermal	Rat Rabbit	11000 mg/m ³ 1060 mg/kg	4 hours -
potassium acetate	LD50 Oral LD50 Oral	Rat Rat	3310 mg/kg 3250 mg/kg	- -
Wash Buffer Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
Nuclease Removal Buffer Propan-2-ol	LD50 Dermal LD50 Oral	Rabbit Rat	12800 mg/kg 5000 mg/kg	- -
Acetic acid	LC50 Inhalation Vapor LD50 Dermal	Rat Rabbit	11000 mg/m ³ 1060 mg/kg	4 hours -
potassium acetate	LD50 Oral LD50 Oral	Rat Rat	3310 mg/kg 3250 mg/kg	- -

Irritation/Corrosion

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Solution 2					
Sodium dodecyl sulphate	Eyes - Mild irritant	Rabbit	-	250 Micrograms	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	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	-
Sodium hydroxide	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	1 Percent	-
	Eyes - Severe irritant	Rabbit	-	0.5 minutes	-
	Skin - Severe irritant	Rabbit	-	1 milligrams 24 hours 500 milligrams	-
Solution 3					
Acetic acid	Skin - Severe irritant	Rabbit	-	525 milligrams	-
Wash Buffer					
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Nuclease Removal Buffer					
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	-

Sensitization

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
Solution 2 Sodium dodecyl sulphate	Category 3	Not applicable.	Respiratory tract irritation
Nuclease Removal Buffer Propan-2-ol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Nuclease Removal Buffer Propan-2-ol	Category 2	Not determined	kidneys

Aspiration hazard

Not available.

Information on the 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 irritation.
Wash Buffer No known significant effects or critical hazards.
Nuclease Removal Buffer Causes serious eye irritation.

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. May cause respiratory irritation.

Skin contact

: **Solution 1** No known significant effects or critical hazards.
Solution 2 Causes severe burns. Defatting to the skin.
Solution 3 Harmful in contact with skin. Causes skin irritation.
Wash Buffer No known significant effects or critical hazards.
Nuclease Removal Buffer May be harmful in contact with skin. Causes mild skin irritation. 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. Harmful if swallowed. Can cause central nervous system (CNS) depression.

SECTION 11: Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

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

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

SECTION 11: Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General	: <input checked="" type="checkbox"/> 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. May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Carcinogenicity	: <input checked="" type="checkbox"/> 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.
Mutagenicity	: <input checked="" type="checkbox"/> 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.
Teratogenicity	: <input checked="" type="checkbox"/> 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.
Developmental effects	: <input checked="" type="checkbox"/> 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.
Fertility effects	: <input checked="" type="checkbox"/> 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
<input checked="" type="checkbox"/> Solution 2 Oral Dermal	128800 mg/kg 58000 mg/kg
Solution 3 Oral Dermal Inhalation (vapors) Inhalation (dusts and mists)	995.1 mg/kg 1857 mg/kg 95.65 mg/l 3.171 mg/l

SECTION 11: Toxicological information**Wash Buffer**

Oral

258620.7 mg/kg

Nuclease Removal Buffer

Oral

1662.9 mg/kg

Dermal

3720.4 mg/kg

Inhalation (vapors)

191.3 mg/l

Inhalation (dusts and mists)

6.356 mg/l

SECTION 12: Ecological information**Toxicity**

Product/ingredient name	Result	Species	Exposure
Solution 2			
Sodium dodecyl sulphate	Acute EC50 1200 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute LC50 900 µg/l Marine water	Crustaceans - Artemia salina - Adult	48 hours
	Acute LC50 1400 µg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 590 µg/l Fresh water	Fish - Cirrhinus mrigala - Larvae	96 hours
	Chronic NOEC 1.25 mg/l Marine water	Algae - Ulva fasciata - Zoea	96 hours
	Chronic NOEC 1 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	21 days
	Chronic NOEC 3.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC >1357 µg/l Fresh water	Fish - Pimephales promelas	42 days
Sodium hydroxide	Acute EC50 40.38 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 125 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
Solution 3			
Acetic acid	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
potassium acetate	Acute EC50 1.05 g/L Fresh water	Daphnia - Daphnia similis - Neonate	48 hours
	Acute LC50 313 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 298 mg/l Fresh water	Fish - Pimephales promelas	96 hours
Wash Buffer			
Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 28.85 mg/dm ³ Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours

SECTION 12: Ecological information

Nuclease Removal Buffer Propan-2-ol	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
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
potassium acetate	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
	Acute EC50 1.05 g/L Fresh water	Daphnia - Daphnia similis - Neonate	48 hours
	Acute LC50 313 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 298 mg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Solution 2 Sodium dodecyl sulphate Sodium hydroxide	- -	- -	Readily Readily
Solution 3 Acetic acid	-	-	Readily
Nuclease Removal Buffer Acetic acid	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Solution 2 Sodium dodecyl sulphate	-2.03	-	low
Solution 3 Acetic acid potassium acetate	-0.17 -3.72	3.16 3.162	low low
Nuclease Removal Buffer Propan-2-ol Acetic acid potassium acetate	0.05 -0.17 -3.72	- 3.16 3.162	low low low

Mobility in soil




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

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

SECTION 13: Disposal considerations

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

SECTION 14: Transport information

	Mexico Classification	IMDG	IATA
UN number	UN3316	UN3316	UN3316
UN proper shipping name	EQUIPO QUIMICO	CHEMICAL KIT	Chemical kit
Transport hazard class(es)	9 	9 	9 
Packing group	II	II	II
Environmental hazards	No.	No.	No.

Additional information

Mexico Classification

: **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

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. 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: Other information

History

Date of issue/Date of revision	: 05/22/2017
Date of previous issue	: 09/08/2015.
Version	: 5

SECTION 16: Other information

Key to abbreviations : 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)
 UN = United Nations

Procedure used to derive the classification

Classification	Justification
Solution 2 SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1 AQUATIC HAZARD (ACUTE) - Category 3	On basis of test data On basis of test data Calculation method
Solution 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A AQUATIC HAZARD (LONG-TERM) - Category 3	Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method
Nuclease Removal Buffer FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 5 SKIN IRRITATION - Category 3 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) - Category 2	Expert judgment Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

References : Not available.

▣ Indicates information that has changed from previously issued version.

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