

SAFETY DATA SHEET



Plant RNA Isolation Mini Kit, Part Number 5188-2780

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

1.1 Product identifier

Product name : Plant RNA Isolation Mini Kit, Part Number 5188-2780
Part no. (chemical kit) : 5188-2780
Part no. : ☒ Nuclease-Free Water 5190-0432
Plant Extraction Solution 5190-0435
Wash Solution 5190-0436

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

Material uses : Analytical reagent.
☒ Nuclease-Free Water 25 ml
Plant Extraction Solution 50 ml
Wash Solution 19.5 ml

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : ☒ Nuclease-Free Water Mono-constituent substance
Plant Extraction Solution Mixture
Wash Solution Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Plant Extraction Solution

H302 ACUTE TOXICITY (oral) - Category 4
H315 SKIN CORROSION/IRRITATION - Category 2
H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

Ingredients of unknown toxicity : Plant Extraction Solution Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 1 - 10%

Ingredients of unknown ecotoxicity : Plant Extraction Solution Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.2%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

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SECTION 2: Hazards identification

2.2 Label elements

Hazard pictograms : Plant Extraction Solution



Signal word : Nuclease-Free Water No signal word.
Plant Extraction Solution Warning
Wash Solution No signal word.

Hazard statements : Nuclease-Free Water No known significant effects or critical hazards.
Plant Extraction Solution H302 - Harmful if swallowed.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
Wash Solution No known significant effects or critical hazards.

Precautionary statements

Prevention : Nuclease-Free Water Not applicable.
Plant Extraction Solution P280 - Wear protective gloves. Wear eye or face protection.
P270 - Do not eat, drink or smoke when using this product.
Wash Solution Not applicable.

Response : Nuclease-Free Water Not applicable.
Plant Extraction Solution P301 + P312 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.
P305 + P351 - IF IN EYES: Rinse cautiously with water for several minutes.
Wash Solution Not applicable.

Storage : Nuclease-Free Water Not applicable.
Plant Extraction Solution Not applicable.
Wash Solution Not applicable.

Disposal : Nuclease-Free Water Not applicable.
Plant Extraction Solution P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Wash Solution Not applicable.

Hazardous ingredients : Plant Extraction Solution - guanidinium chloride

Supplemental label elements : Nuclease-Free Water Not applicable.
Plant Extraction Solution Not applicable.
Wash Solution Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Nuclease-Free Water Not applicable.
Plant Extraction Solution Not applicable.
Wash Solution Not applicable.

Special packaging requirements

Tactile warning of danger : Nuclease-Free Water Not applicable.
Plant Extraction Solution Not applicable.
Wash Solution Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

PBT	P	B	T	vPvB	vP	vB
Nuclease-Free Water Not applicable (Inorganic)	N/A	N/A	N/A	Not applicable (Inorganic)	N/A	N/A

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SECTION 2: Hazards identification

Plant Extraction Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Wash Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification :

Nuclease-Free Water	None known.
Plant Extraction Solution	None known.
Wash Solution	None known.

SECTION 3: Composition/information on ingredients

3.1 Substances :

Nuclease-Free Water	Mono-constituent substance
Plant Extraction Solution	Mixture
Wash Solution	Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Nuclease-Free Water water	REACH #: Annex IV EC: 231-791-2 CAS: 7732-18-5	100	Not classified.	[A]
Plant Extraction Solution Guanidinium chloride	EC: 200-002-3 CAS: 50-01-1 Index: 607-148-00-0	≥50 - ≤75	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
2-[bis(2-Hydroxyethyl)amino]-2-(hydroxymethyl)propane-1,3-diol	EC: 230-237-7 CAS: 6976-37-0	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 See Section 16 for the full text of the H statements declared above.	[1]

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.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy
- [*] Substance
- [A] Constituent
- [B] Impurity
- [C] Stabilising additive

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	Nuclease-Free Water	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.
	Plant Extraction Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	Wash Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

SECTION 4: First aid measures

Inhalation	: Nuclease-Free Water	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Plant Extraction Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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 Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	: Nuclease-Free Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Plant Extraction Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Wash Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: Nuclease-Free Water	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.
	Plant Extraction Solution	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed 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 Solution	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.
Protection of first-aiders	: Nuclease-Free Water	No action shall be taken involving any personal risk or without suitable training.
	Plant Extraction Solution	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	Wash Solution	No action shall be taken involving any personal risk or without suitable training.

SECTION 4: First aid measures

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	: Nuclease-Free Water	No known significant effects or critical hazards.
	Plant Extraction Solution	Causes serious eye irritation.
	Wash Solution	No known significant effects or critical hazards.
Inhalation	: Nuclease-Free Water	No known significant effects or critical hazards.
	Plant Extraction Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
Skin contact	: Nuclease-Free Water	No known significant effects or critical hazards.
	Plant Extraction Solution	Causes skin irritation.
	Wash Solution	No known significant effects or critical hazards.
Ingestion	: Nuclease-Free Water	No known significant effects or critical hazards.
	Plant Extraction Solution	Harmful if swallowed.
	Wash Solution	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: Nuclease-Free Water	No specific data.
	Plant Extraction Solution	Adverse symptoms may include the following: pain or irritation watering redness
	Wash Solution	No specific data.
Inhalation	: Nuclease-Free Water	No specific data.
	Plant Extraction Solution	No specific data.
	Wash Solution	No specific data.
Skin contact	: Nuclease-Free Water	No specific data.
	Plant Extraction Solution	Adverse symptoms may include the following: irritation redness
	Wash Solution	No specific data.
Ingestion	: Nuclease-Free Water	No specific data.
	Plant Extraction Solution	No specific data.
	Wash Solution	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: Nuclease-Free Water	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Plant Extraction Solution	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 Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Nuclease-Free Water	No specific treatment.
	Plant Extraction Solution	No specific treatment.
	Wash Solution	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: Nuclease-Free Water	Use an extinguishing agent suitable for the surrounding fire.
	Plant Extraction Solution	Use an extinguishing agent suitable for the surrounding fire.
	Wash Solution	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Nuclease-Free Water	None known.
	Plant Extraction Solution	None known.
	Wash Solution	None known.

5.2 Special hazards arising from the substance or mixture

SECTION 5: Firefighting measures

Hazards from the substance or mixture	: Nuclease-Free Water	In a fire or if heated, a pressure increase will occur and the container may burst.
	Plant Extraction Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Wash Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	: Nuclease-Free Water	No specific data.
	Plant Extraction Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds
	Wash Solution	No specific data.

5.3 Advice for firefighters

Special precautions for fire-fighters	: Nuclease-Free Water	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.
	Plant Extraction Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Wash Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Nuclease-Free Water	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	Plant Extraction Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	Wash Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Nuclease-Free Water	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.
	Plant Extraction Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Wash Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering.

SECTION 6: Accidental release measures

For emergency responders

: Nuclease-Free Water

Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

Plant Extraction Solution

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 Solution

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".

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".

6.2 Environmental precautions

: Nuclease-Free Water

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).

Plant Extraction Solution

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Wash Solution

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Nuclease-Free Water

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.

Plant Extraction Solution

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

Wash Solution

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

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures : Nuclease-Free Water

Put on appropriate personal protective equipment (see Section 8).

Plant Extraction Solution

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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SECTION 7: Handling and storage

Advice on general occupational hygiene	Wash Solution	Put on appropriate personal protective equipment (see Section 8).
	: Nuclease-Free Water	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.
	Plant Extraction Solution	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 Solution	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.

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end use(s)

Recommendations	: Nuclease-Free Water	Industrial applications, Professional applications.
	Plant Extraction Solution	Industrial applications, Professional applications.
	Wash Solution	Industrial applications, Professional applications.

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SECTION 7: Handling and storage

Industrial sector specific solutions	Nuclease-Free Water	Not applicable.
	Plant Extraction Solution	Not applicable.
	Wash Solution	Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

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

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.

Skin protection

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

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

SECTION 8: Exposure controls/personal protection

- 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.
- 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	<input checked="" type="checkbox"/> Nuclease-Free Water	Liquid.
	Plant Extraction Solution	Liquid.
	Wash Solution	Liquid.
Colour	<input checked="" type="checkbox"/> Nuclease-Free Water	Colourless.
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Odour	<input checked="" type="checkbox"/> Nuclease-Free Water	Odourless.
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Odour threshold	<input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
pH	<input checked="" type="checkbox"/> Nuclease-Free Water	7
	Plant Extraction Solution	6.6
	Wash Solution	8
Melting point/freezing point	<input checked="" type="checkbox"/> Nuclease-Free Water	0°C
	Plant Extraction Solution	Not available.
	Wash Solution	0°C
Initial boiling point and boiling range	<input checked="" type="checkbox"/> Nuclease-Free Water	100°C
	Plant Extraction Solution	Not available.
	Wash Solution	100°C
Flash point	<input checked="" type="checkbox"/> Nuclease-Free Water	Not applicable.
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Evaporation rate	<input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Flammability (solid, gas)	<input checked="" type="checkbox"/> Nuclease-Free Water	Not applicable.
	Plant Extraction Solution	Not applicable.
	Wash Solution	Not applicable.
Upper/lower flammability or explosive limits	<input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Vapour pressure	<input checked="" type="checkbox"/> Nuclease-Free Water	3.2 kPa [room temperature]
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Vapour density	<input checked="" type="checkbox"/> Nuclease-Free Water	0.62 [Air = 1]
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Relative density	<input checked="" type="checkbox"/> Nuclease-Free Water	1
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.

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SECTION 9: Physical and chemical properties

Solubility(ies)	: Nuclease-Free Water	Easily soluble in the following materials: cold water and hot water.
	Plant Extraction Solution	Not available.
	Wash Solution	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Nuclease-Free Water	-1.38
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Auto-ignition temperature	: Nuclease-Free Water	Not applicable.
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Decomposition temperature	: Nuclease-Free Water	Not available.
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Viscosity	: Nuclease-Free Water	Not available.
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Explosive properties	: Nuclease-Free Water	Not available.
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.
Oxidising properties	: Nuclease-Free Water	Not available.
	Plant Extraction Solution	Not available.
	Wash Solution	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: Nuclease-Free Water	No specific test data related to reactivity available for this product or its ingredients.
	Plant Extraction Solution	No specific test data related to reactivity available for this product or its ingredients.
	Wash Solution	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: Nuclease-Free Water	The product is stable.
	Plant Extraction Solution	The product is stable.
	Wash Solution	The product is stable.
10.3 Possibility of hazardous reactions	: Nuclease-Free Water	Under normal conditions of storage and use, hazardous reactions will not occur.
	Plant Extraction Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	Wash Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Nuclease-Free Water	No specific data.
	Plant Extraction Solution	No specific data.
	Wash Solution	No specific data.
10.5 Incompatible materials	: Nuclease-Free Water	May react or be incompatible with oxidising materials.
	Plant Extraction Solution	May react or be incompatible with oxidising materials.
	Wash Solution	May react or be incompatible with oxidising materials.

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SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products	N uclease-Free Water	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Plant Extraction Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Wash Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Plant Extraction Solution Guanidinium chloride	LC50 Inhalation Dusts and mists	Rat - Male, Female	5.319 mg/l	4 hours
	LD50 Oral	Rat	475 mg/kg	-

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Plant Extraction Solution Plant Extraction Solution Guanidinium chloride	904.8 475	N/A N/A	N/A N/A	N/A N/A	N/A 5.319

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Plant Extraction Solution Guanidinium chloride	Eyes - Moderate irritant	Rabbit	-	81400 Micrograms	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Plant Extraction Solution 2-[bis(2-Hydroxyethyl)amino]-2-(hydroxymethyl)propane-1,3-diol	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

SECTION 11: Toxicological information

Information on likely routes of exposure	: Nuclease-Free Water Plant Extraction Solution Wash Solution	Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available.
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Potential acute health effects

Inhalation	: Nuclease-Free Water Plant Extraction Solution Wash Solution	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: Nuclease-Free Water Plant Extraction Solution Wash Solution	No known significant effects or critical hazards. Harmful if swallowed. No known significant effects or critical hazards.
Skin contact	: Nuclease-Free Water Plant Extraction Solution Wash Solution	No known significant effects or critical hazards. Causes skin irritation. No known significant effects or critical hazards.
Eye contact	: Nuclease-Free Water Plant Extraction Solution Wash Solution	No known significant effects or critical hazards. Causes serious eye irritation. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	: Nuclease-Free Water Plant Extraction Solution Wash Solution	No specific data. No specific data. No specific data.
Ingestion	: Nuclease-Free Water Plant Extraction Solution Wash Solution	No specific data. No specific data. No specific data.
Skin contact	: Nuclease-Free Water Plant Extraction Solution Wash Solution	No specific data. Adverse symptoms may include the following: irritation redness No specific data.
Eye contact	: Nuclease-Free Water Plant Extraction Solution Wash Solution	No specific data. Adverse symptoms may include the following: pain or irritation watering redness No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: Nuclease-Free Water Plant Extraction Solution Wash Solution	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: Nuclease-Free Water Plant Extraction Solution Wash Solution	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: Nuclease-Free Water Plant Extraction Solution Wash Solution	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

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Teratogenicity	: Nuclease-Free Water	No known significant effects or critical hazards.
	Plant Extraction Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
Developmental effects	: Nuclease-Free Water	No known significant effects or critical hazards.
	Plant Extraction Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
Fertility effects	: Nuclease-Free Water	No known significant effects or critical hazards.
	Plant Extraction Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Nuclease-Free Water water	-	-	Readily
Plant Extraction Solution Guanidinium chloride	-	-	Inherent

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Nuclease-Free Water water	-1.38	-	low
Plant Extraction Solution Guanidinium chloride	-1.7	-	low
2-[bis(2-Hydroxyethyl)amino] -2-(hydroxymethyl)propane- 1,3-diol	-2.38	-	low

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Nuclease-Free Water water	Not applicable (Inorganic)	N/A	N/A	N/A	Not applicable (Inorganic)	N/A	N/A

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

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

Packaging

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

- 14.6 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.

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

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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SECTION 15: Regulatory information

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Nuclease-Free Water	Not applicable.
	Plant Extraction Solution	Not applicable.
	Wash Solution	Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: All components are listed or exempted.
Canada	: At least one component is not listed in DSL but all such components are listed in NDSL.
China	: All components are listed or exempted.
Europe	: All components are listed or exempted.
Japan	: Japan inventory (ENCS) : Not determined. Japan inventory (ISHL) : All components are listed or exempted.
New Zealand	: All components are listed or exempted.
Philippines	: Not determined.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: All components are listed or exempted.
Viet Nam	: Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

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SECTION 16: Other information

 Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Plant Extraction Solution Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319	Calculation method Calculation method Calculation method

Full text of abbreviated H statements

Plant Extraction Solution H302 H315 H319 H335	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.
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Full text of classifications [CLP/GHS]

Plant Extraction Solution Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Irrit. 2, H315 STOT SE 3, H335	ACUTE TOXICITY (oral) - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
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