

SAFETY DATA SHEET



Agilent Total RNA Isolation Mini Kit

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

1.1 Product identifier

Product name : Agilent Total RNA Isolation Mini Kit

CAS number : Nuclease-Free Water 7732-18-5
 Wash Solution Not applicable.
 Lysis Solution Not applicable.

Part no. (chemical kit) : 5185-5999

Part no. : Agilent Total RNA Isolation Mini Kit Reagents 5185-5997
 Nuclease-free water 5190-0432
 Wash Solution 5190-0433
 Lysis Solution 5190-0434

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

Identified uses : Analytical reagent.
 For research use only.
 The following article is also contained in this kit: 5184-3520, 5184-3521, 5184-3522
 (No SDS is necessary.)

Nuclease-Free Water	25 ml
Wash Solution	12 ml
Lysis Solution	50 ml

Uses advised against : Not for use in diagnostic procedures.

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Deutschland GmbH
 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®: +353 1 901 4670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Nuclease-Free Water Mono-constituent substance
 Wash Solution Mixture
 Lysis Solution Mixture

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

Lysis Solution

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

Nuclease-Free Water	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Wash Solution	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Lysis Solution	The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Agilent Total RNA Isolation Mini Kit

SECTION 2: Hazards identification

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

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.

2.2 Label elements

Hazard pictograms : Lysis Solution



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

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

Precautionary statements

Prevention : Nuclease-Free Water Not applicable.
 Wash Solution Not applicable.
 Lysis Solution P280 - Wear protective gloves. Wear eye or face protection.
 P270 - Do not eat, drink or smoke when using this product.
 P264 - Wash thoroughly after handling.

Response : Nuclease-Free Water Not applicable.
 Wash Solution Not applicable.
 Lysis Solution P362 + P364 - Take off contaminated clothing and wash it before reuse.
 P302 + P352 - IF ON SKIN: Wash with plenty of water.

Storage : Nuclease-Free Water Not applicable.
 Wash Solution Not applicable.
 Lysis Solution Not applicable.

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

Hazardous ingredients : Lysis Solution guanidinium chloride

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

Special packaging requirements

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

2.3 Other hazards

Agilent Total RNA Isolation Mini Kit

SECTION 2: Hazards identification

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
Wash Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Lysis 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 Wash Solution Lysis Solution	None known. None known. None known.

SECTION 3: Composition/information on ingredients

3.1 Substances	Nuclease-Free Water Wash Solution Lysis Solution	Mono-constituent substance Mixture Mixture
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Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Nuclease-Free Water water	REACH #: Annex IV EC: 231-791-2 CAS: 7732-18-5	100	Not classified.	-	[1]
Lysis Solution guanidinium chloride	EC: 200-002-3 CAS: 50-01-1 Index: 607-148-00-0	≥25 - ≤50	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 See Section 16 for the full text of the H statements declared above.	ATE [Oral] = 475 mg/kg	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type
 Nuclease-Free Water [1] Constituent
 Lysis Solution [1] Substance classified with a health or environmental hazard

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	Nuclease-Free Water Wash Solution Lysis 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. 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. 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.
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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.
	Wash Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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.
	Lysis 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.
Skin contact	: Nuclease-Free Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Wash Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Lysis 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.
Ingestion	: Nuclease-Free Water	Wash out mouth with water. 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.
	Wash Solution	Wash out mouth with water. 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.
	Lysis Solution	Wash out mouth with water. Remove dentures if any. 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.
Protection of first-aiders	: Nuclease-Free Water	No action shall be taken involving any personal risk or without suitable training.
	Wash Solution	No action shall be taken involving any personal risk or without suitable training.
	Lysis 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.

4.2 Most important symptoms and effects, both acute and delayed

SECTION 4: First aid measures

Potential acute health effects

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

Over-exposure signs/symptoms

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

4.3 Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: Nuclease-Free Water Wash Solution Lysis Solution	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Nuclease-Free Water Wash Solution Lysis Solution	None known. None known. 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.
	Wash Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Lysis 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.
	Wash Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds
	Lysis Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds

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.
	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.
	Lysis 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.
	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.
	Lysis 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.
	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. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	Lysis 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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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".

Lysis 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).

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).

Lysis 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.

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.

Lysis 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).

Wash Solution

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

Lysis 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

SECTION 7: Handling and storage

Advice on general occupational hygiene

: Nuclease-Free Water

compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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.

Lysis 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.

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.

Lysis 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
Wash Solution
Lysis Solution

Industrial applications, Professional applications.
Industrial applications, Professional applications.
Industrial applications, Professional applications.

Agilent Total RNA Isolation Mini Kit

SECTION 7: Handling and storage

Industrial sector specific solutions : Nuclease-Free Water Not available.
 Wash Solution Not available.
 Lysis Solution Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures

: 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

Product/ingredient name	Type	Exposure	Value	Population	Effects
Lysis Solution guanidinium chloride	DNEL	Long term Oral	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.87 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	1 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	3.5 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	10.5 mg/m ³	Workers	Systemic

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

SECTION 8: Exposure controls/personal 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.
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

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	Nuclease-Free Water	Liquid.
		Wash Solution	Liquid.
		Lysis Solution	Liquid.
Colour	:	Nuclease-Free Water	Colourless.
		Wash Solution	Not available.
		Lysis Solution	Not available.
Odour	:	Nuclease-Free Water	Odourless.
		Wash Solution	Not available.
		Lysis Solution	Not available.
Odour threshold	:	Nuclease-Free Water	Not available.
		Wash Solution	Not available.
		Lysis Solution	Not available.
Melting point/freezing point	:	Nuclease-Free Water	0°C
		Wash Solution	0°C
		Lysis Solution	Not available.
Initial boiling point and boiling range	:	Nuclease-Free Water	100°C
		Wash Solution	100°C
		Lysis Solution	Not available.
Flammability	:	Nuclease-Free Water	Not applicable.
		Wash Solution	Not applicable.
		Lysis Solution	Not applicable.
Upper/lower flammability or explosive limits	:	Nuclease-Free Water	Not available.
		Wash Solution	Not available.
		Lysis Solution	Not available.
Flash point	:	Nuclease-Free Water	Not available.
		Wash Solution	Not available.
		Lysis Solution	Not available.
Auto-ignition temperature	:	Nuclease-Free Water	Not applicable.
Decomposition temperature	:	Nuclease-Free Water	Not available.
		Wash Solution	Not available.
		Lysis Solution	Not available.

SECTION 9: Physical and chemical properties

pH : Nuclease-Free Water 7
 Wash Solution 7.5
 Lysis Solution 7.5

Viscosity : Nuclease-Free Water Not available.
 Wash Solution Not available.
 Lysis Solution Not available.

Solubility(ies)	Media	Result
	Nuclease-Free Water water	Soluble
	Wash Solution water	Soluble
	Lysis Solution water	Soluble

Partition coefficient: n-octanol/water : Nuclease-Free Water -1.38
 Wash Solution Not applicable.
 Lysis Solution Not applicable.

Vapour pressure : Nuclease-Free Water 2.3 kPa (17.5 mm Hg) [room temperature]
 12.3 kPa (92.258 mm Hg) [50°C]

Ingredient name	Vapour Pressure at 20° C			Vapour pressure at 50° C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Wash Solution water	17.5	2.3	-	92.258	12.3	-
Lysis Solution water	17.5	2.3	-	92.258	12.3	-

Evaporation rate : Nuclease-Free Water Not available.
 Wash Solution Not available.
 Lysis Solution Not available.

Relative density : Nuclease-Free Water 1
 Wash Solution Not available.
 Lysis Solution Not available.

Vapour density : Nuclease-Free Water 0.62 [Air = 1]
 Wash Solution Not available.
 Lysis Solution Not available.

Explosive properties : Nuclease-Free Water Not available.
 Wash Solution Not available.
 Lysis Solution Not available.

Oxidising properties : Nuclease-Free Water Not available.
 Wash Solution Not available.
 Lysis Solution Not available.

Particle characteristics

Median particle size : Nuclease-Free Water Not applicable.
 Wash Solution Not applicable.
 Lysis Solution Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Lysis Solution guanidinium chloride	LC50 Inhalation Dusts and mists	Rat - Female	3.181 mg/l	4 hours
	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg	-
	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)
Lysis Solution Lysis Solution guanidinium chloride	1004.5 475	N/A N/A	N/A N/A	N/A N/A	N/A N/A

Irritation/Corrosion

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Lysis Solution guanidinium chloride	Eyes - Moderate irritant Skin - Severe irritant	Rabbit Rabbit	- -	81400 ug 24 hours 500 mg	- -

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)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure

Nuclease-Free Water	Not available.
Wash Solution	Not available.
Lysis Solution	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

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

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	: Nuclease-Free Water Wash Solution Lysis Solution	No specific data. No specific data. No specific data.
Ingestion	: Nuclease-Free Water Wash Solution Lysis Solution	No specific data. No specific data. No specific data.
Skin contact	: Nuclease-Free Water Wash Solution Lysis Solution	No specific data. No specific data. Adverse symptoms may include the following: irritation redness

SECTION 11: Toxicological information

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

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

Conclusion/Summary : Not available.

General : Nuclease-Free Water No known significant effects or critical hazards.
 Wash Solution No known significant effects or critical hazards.
 Lysis Solution No known significant effects or critical hazards.

Carcinogenicity : Nuclease-Free Water No known significant effects or critical hazards.
 Wash Solution No known significant effects or critical hazards.
 Lysis Solution No known significant effects or critical hazards.

Mutagenicity : Nuclease-Free Water No known significant effects or critical hazards.
 Wash Solution No known significant effects or critical hazards.
 Lysis Solution No known significant effects or critical hazards.

Reproductive toxicity : Nuclease-Free Water No known significant effects or critical hazards.
 Wash Solution No known significant effects or critical hazards.
 Lysis Solution No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

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
Lysis Solution guanidinium chloride	-	-	Inherent

12.3 Bioaccumulative potential

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SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
Nuclease-Free Water water	-1.38	-	Low
Lysis Solution guanidinium chloride	-1.7	-	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 Endocrine disrupting properties

Not available.

12.7 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 or ID number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-

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SECTION 14: Transport information

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 IMO instruments : 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.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product / Ingredient name	Identifiers	Designation [Usage]
Lysis Solution Lysis Solution	-	3

Label : Nuclease-Free Water Not applicable.
 Wash Solution Not applicable.
 Lysis Solution Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Persistent Organic Pollutants

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

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SECTION 15: Regulatory information

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: All components are listed or exempted.
Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
Eurasian Economic Union	: Russian Federation inventory : All components are listed or exempted.
Japan	: Japan inventory (CSCL) : All components are listed or exempted. Japan inventory (ISHL) : All components are listed or exempted.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
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 active or exempted.
Viet Nam	: All components are listed or exempted.

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

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

Classification	Justification
Lysis 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

Lysis Solution H302 H315 H319	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.
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Full text of classifications [CLP/GHS]

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SECTION 16: Other information

Lysis Solution Acute Tox. 4 Eye Irrit. 2 Skin Irrit. 2	ACUTE TOXICITY - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2
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Date of previous issue : No previous validation

Version : 1

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