SAFETY DATA SHEET

Agilent Technologies

Universal Rat Reference RNA, Part Number 740200

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

1.1 Product identifier

Product name : Universal Rat Reference RNA, Part Number 740200

CAS number :

RNase Free Water	7732-18-5
Universal Rat Reference RNA	Not applicable.

Part no. (chemical kit) : 740200

Part no. :

RNase Free Water	740000-42
Universal Rat Reference RNA	740200-41

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

Identified uses : Analytical reagent.

RNase Free Water	1.5 ml
Universal Rat Reference RNA	2 x 1.8 ml (200 µg ppt in EtOH)

Uses advised against : None known.

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®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition :

RNase Free Water	Mono-constituent substance
Universal Rat Reference RNA	Mixture

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

Universal Rat Reference RNA

H225	FLAMMABLE LIQUIDS	Category 2
H319	SERIOUS EYE DAMAGE/EYE IRRITATION	Category 2

RNase Free Water	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Universal Rat Reference RNA	The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

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

SECTION 2: Hazards identification

Hazard pictograms : Universal Rat Reference RNA

Signal word : RNase Free Water — No signal word.
Universal Rat Reference RNA — Danger

Hazard statements : RNase Free Water — No known significant effects or critical hazards.
Universal Rat Reference RNA — H225 - Highly flammable liquid and vapour.
H319 - Causes serious eye irritation.

Precautionary statements

Prevention : RNase Free Water — Not applicable.
Universal Rat Reference RNA — P280 - Wear eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : RNase Free Water — Not applicable.
Universal Rat Reference RNA — 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 advice or attention.

Storage : RNase Free Water — Not applicable.
Universal Rat Reference RNA — Not applicable.

Disposal : RNase Free Water — Not applicable.
Universal Rat Reference RNA — P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : RNase Free Water — Not applicable.
Universal Rat Reference RNA — Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : RNase Free Water — Not applicable.
Universal Rat Reference RNA — Not applicable.

Special packaging requirements

Tactile warning of danger : RNase Free Water — Not applicable.
Universal Rat Reference RNA — 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
RNase Free Water Not applicable (Inorganic)	N/A	N/A	N/A	Not applicable (Inorganic)	N/A	N/A

Universal Rat Reference RNA — 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 : RNase Free Water — None known.
Universal Rat Reference RNA — None known.

SECTION 3: Composition/information on ingredients

3.1 Substances : RNase Free Water — Mono-constituent substance
Universal Rat Reference RNA — Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
RNase Free Water					
water	REACH #: Annex IV EC: 231-791-2 CAS: 7732-18-5	100	Not classified.	-	[1]
Universal Rat Reference RNA					
ethanol	EC: 200-578-6 CAS: 64-17-5 Index: 603-002-00-5	≥50 - ≤75	Flam. Liq. 2, H225 Eye Irrit. 2, H319 **See Section 16 for the full text of the H statements declared above.**	Eye Irrit. 2, H319: C ≥ 50%	[1] [2]

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

RNase Free Water — [1] Constituent
Universal Rat Reference RNA — [1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : RNase 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.

Universal Rat Reference RNA — 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 : RNase Free Water — Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Universal Rat Reference RNA — 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.

Skin contact : RNase Free Water — Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Universal Rat Reference RNA — Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

Ingestion	:	RNase 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.
		Universal Rat Reference RNA	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 adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Protection of first-aiders	:	RNase Free Water	No action shall be taken involving any personal risk or without suitable training.
		Universal Rat Reference RNA	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

Potential acute health effects

Eye contact	:	RNase Free Water	No known significant effects or critical hazards.
		Universal Rat Reference RNA	Causes serious eye irritation.
Inhalation	:	RNase Free Water	No known significant effects or critical hazards.
		Universal Rat Reference RNA	No known significant effects or critical hazards.
Skin contact	:	RNase Free Water	No known significant effects or critical hazards.
		Universal Rat Reference RNA	No known significant effects or critical hazards.
Ingestion	:	RNase Free Water	No known significant effects or critical hazards.
		Universal Rat Reference RNA	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	RNase Free Water	No specific data.
		Universal Rat Reference RNA	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	:	RNase Free Water	No specific data.
		Universal Rat Reference RNA	No specific data.
Skin contact	:	RNase Free Water	No specific data.
		Universal Rat Reference RNA	No specific data.
Ingestion	:	RNase Free Water	No specific data.
		Universal Rat Reference RNA	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	:	RNase Free Water	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Universal Rat Reference RNA	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 4: First aid measures

Specific treatments	:	RNase Free Water	No specific treatment.
		Universal Rat Reference RNA	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	RNase Free Water	Use an extinguishing agent suitable for the surrounding fire.
		Universal Rat Reference RNA	Use dry chemical, CO_2, water spray (fog) or foam.
Unsuitable extinguishing media	:	RNase Free Water	None known.
		Universal Rat Reference RNA	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	:	RNase Free Water	In a fire or if heated, a pressure increase will occur and the container may burst.
		Universal Rat Reference RNA	Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
Hazardous combustion products	:	RNase Free Water	No specific data.
		Universal Rat Reference RNA	Decomposition products may include the following materials: carbon dioxide carbon monoxide

5.3 Advice for firefighters

Special precautions for fire-fighters	:	RNase 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.
		Universal Rat Reference RNA	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	:	RNase 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.
		Universal Rat Reference RNA	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	:	RNase 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.
		Universal Rat Reference RNA	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard

SECTION 6: Accidental release measures

			area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	:	RNase Free Water	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".
		Universal Rat Reference RNA	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	:	RNase 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).
		Universal Rat Reference RNA	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	:	RNase 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.
		Universal Rat Reference RNA	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.

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	:	RNase Free Water	Put on appropriate personal protective equipment (see Section 8).
		Universal Rat Reference RNA	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. 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.

SECTION 7: Handling and storage

Advice on general occupational hygiene

: RNase 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.

Universal Rat Reference RNA — 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

: RNase 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.

Universal Rat Reference RNA — 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. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
Universal Rat Reference RNA P5c	5000 tonne	50000 tonne

7.3 Specific end use(s)

Recommendations

: RNase Free Water — Industrial applications, Professional applications.

Universal Rat Reference RNA — Industrial applications, Professional applications.

Industrial sector specific solutions

: RNase Free Water — Not available.

Universal Rat Reference RNA — Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Universal Rat Reference RNA ethanol	**NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs)** OELV: 1000 ppm 15 minutes.

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
Universal Rat Reference RNA					
ethanol	DNEL	Long term Inhalation	380 mg/m³	Workers	Systemic
	DNEL	Long term Oral	87 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	114 mg/m³	General population	Systemic
	DNEL	Long term Dermal	206 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	343 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	950 mg/m³	General population	Local
	DNEL	Short term Inhalation	1900 mg/m³	Workers	Local

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: safety glasses with side-shields.

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.

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	:	RNase Free Water Universal Rat Reference RNA	Liquid. Liquid.
Colour	:	RNase Free Water Universal Rat Reference RNA	Colourless. Not available.
Odour	:	RNase Free Water Universal Rat Reference RNA	Odourless. Not available.
Odour threshold	:	RNase Free Water Universal Rat Reference RNA	Not available. Not available.
Melting point/freezing point	:	RNase Free Water Universal Rat Reference RNA	0°C Not available.
Initial boiling point and boiling range	:	RNase Free Water Universal Rat Reference RNA	100°C Not available.
Flammability	:	RNase Free Water Universal Rat Reference RNA	Not applicable. Not applicable.
Upper/lower flammability or explosive limits	:	RNase Free Water Universal Rat Reference RNA	Not available. Not available.
Flash point	:	RNase Free Water Universal Rat Reference RNA	Not available. Closed cup: -18 to 23°C [Based on solvent.]
Auto-ignition temperature	:	RNase Free Water	Not applicable.

Ingredient name	°C	Method
Universal Rat Reference RNA		
ethanol	455	DIN 51794

SECTION 9: Physical and chemical properties

Decomposition temperature : RNase Free Water — Not available.
Universal Rat Reference RNA — Not available.

pH : RNase Free Water — 7
Universal Rat Reference RNA — Not available.

Viscosity : RNase Free Water — Not available.
Universal Rat Reference RNA — Not available.

Solubility(ies) :

Media	Result
RNase Free Water	
water	Soluble
Universal Rat Reference RNA	
water	Soluble

Partition coefficient: n-octanol/water : RNase Free Water — -1.38
Universal Rat Reference RNA — Not applicable.

Vapour pressure : RNase 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
Universal Rat Reference RNA						
ethanol	42.94865	5.7	-	-	-	-
water	17.5	2.3	-	92.258	12.3	-

Evaporation rate : RNase Free Water — Not available.
Universal Rat Reference RNA — Not available.

Relative density : RNase Free Water — 1
Universal Rat Reference RNA — Not available.

Vapour density : RNase Free Water — 0.62 [Air = 1]
Universal Rat Reference RNA — Not available.

Explosive properties : RNase Free Water — Not available.
Universal Rat Reference RNA — Not available.

Oxidising properties : RNase Free Water — Not available.
Universal Rat Reference RNA — Not available.

Particle characteristics

Median particle size : RNase Free Water — Not applicable.
Universal Rat Reference RNA — Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : RNase Free Water — No specific test data related to reactivity available for this product or its ingredients.

Universal Rat Reference RNA — No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : RNase Free Water — The product is stable.

Universal Rat Reference RNA — The product is stable.

10.3 Possibility of hazardous reactions : RNase Free Water — Under normal conditions of storage and use, hazardous reactions will not occur.

Universal Rat Reference RNA — Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : RNase Free Water — No specific data.

Universal Rat Reference RNA — Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials : RNase Free Water — May react or be incompatible with oxidising materials.

Universal Rat Reference RNA — Reactive or incompatible with the following materials:

oxidising materials

10.6 Hazardous decomposition products : RNase Free Water — Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Universal Rat Reference RNA — 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
Universal Rat Reference RNA				
ethanol	LC50 Inhalation Vapour	Rat	124700 mg/m³	4 hours
	LD50 Oral	Rat	7 g/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)
Universal Rat Reference RNA					
ethanol	7000	N/A	N/A	124.7	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Universal Rat Reference RNA					
ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	100 uL	-

Sensitiser

SECTION 11: Toxicological information

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	:	RNase Free Water Universal Rat Reference RNA	Not available. Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Inhalation	:	RNase Free Water Universal Rat Reference RNA	No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	:	RNase Free Water Universal Rat Reference RNA	No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	:	RNase Free Water Universal Rat Reference RNA	No known significant effects or critical hazards. No known significant effects or critical hazards.
Eye contact	:	RNase Free Water Universal Rat Reference RNA	No known significant effects or critical hazards. Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	:	RNase Free Water Universal Rat Reference RNA	No specific data. No specific data.
Ingestion	:	RNase Free Water Universal Rat Reference RNA	No specific data. No specific data.
Skin contact	:	RNase Free Water Universal Rat Reference RNA	No specific data. No specific data.
Eye contact	:	RNase Free Water Universal Rat Reference RNA	No specific data. 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.

SECTION 11: Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary : Not available.

General	:	RNase Free Water	No known significant effects or critical hazards.
		Universal Rat Reference RNA	No known significant effects or critical hazards.
Carcinogenicity	:	RNase Free Water	No known significant effects or critical hazards.
		Universal Rat Reference RNA	No known significant effects or critical hazards.
Mutagenicity	:	RNase Free Water	No known significant effects or critical hazards.
		Universal Rat Reference RNA	No known significant effects or critical hazards.
Reproductive toxicity	:	RNase Free Water	No known significant effects or critical hazards.
		Universal Rat Reference RNA	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

Universal Rat Reference RNA — Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Universal Rat Reference RNA			
ethanol	Acute EC50 3306 mg/l Marine water	Algae - *Ulva pertusa*	96 hours
	Acute EC50 1074 mg/l Fresh water	Crustaceans - *Cypris subglobosa*	48 hours
	Acute EC50 2 mg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 11000000 µg/l Marine water	Fish - *Alburnus alburnus*	96 hours
	Chronic NOEC 4.995 mg/l Marine water	Algae - *Ulva pertusa*	96 hours
	Chronic NOEC 100 ul/L Fresh water	Daphnia - *Daphnia magna* - Neonate	21 days

12.2 Persistence and degradability

Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
RNase Free Water			
water	-	-	Readily
Universal Rat Reference RNA			
ethanol	-	-	Readily

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
RNase Free Water water	-1.38	-	Low
Universal Rat Reference RNA ethanol	-0.35	0.5	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
RNase 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 : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

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. 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

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	UN3316	UN3316	UN3316
14.2 UN proper shipping name	CHEMICAL KIT	CHEMICAL KIT	Chemical kit
14.3 Transport hazard class(es)	9 	9 	9 
14.4 Packing group	II	II	II
14.5 Environmental hazards	No.	No.	No.

Additional information

Remarks: Excepted Quantity

ADR/RID : **Hazard identification number** 90
Limited quantity See SP 251
Special provisions 251, 340, 671
Tunnel code (E)

IMDG : **Emergency schedules** F-A, _S-P_
Special provisions 251, 340

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 10 kg. Packaging instructions: 960. Cargo Aircraft Only: 10 kg. Packaging instructions: 960. Limited Quantities - Passenger Aircraft: 1 kg. Packaging instructions: Y960.
Special provisions A44, A163

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]
Universal Rat Reference RNA Universal Rat Reference RNA		3

Label : RNase Free Water Not applicable.
Universal Rat Reference RNA Not applicable.

Other EU regulations

SECTION 15: Regulatory information

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.

Danger criteria

Category
Universal Rat Reference RNA P5c

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

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	:	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

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

Classification	Justification
Universal Rat Reference RNA Flam. Liq. 2, H225 Eye Irrit. 2, H319	 Expert judgment Calculation method

Full text of abbreviated H statements

Universal Rat Reference RNA H225 H319	 Highly flammable liquid and vapour. Causes serious eye irritation.

Full text of classifications [CLP/GHS]

Universal Rat Reference RNA Eye Irrit. 2 Flam. Liq. 2	 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2

Date of issue/ Date of revision : 28/03/2024

Date of previous issue : No previous validation

Version : 1

Notice to reader

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