Conforms to US OSHA Hazard Communication 29CFR1910.1200

SAFETY DATA SHEET

Agilent Technologies

Universal Rat Reference RNA, Part Number 740200

Section 1. Identification

1.1 Product identifier

Product name : Universal Rat Reference RNA, Part Number 740200

Part no. (chemical kit) : 740200

Part no. : RNase Free Water 740000-42
Universal Rat Reference RNA 740200-41

Validation date : 3/28/2024

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)

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status :

RNase Free Water	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Universal Rat Reference RNA	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

Universal Rat Reference RNA

H225	FLAMMABLE LIQUIDS - Category 2
H319	EYE IRRITATION - Category 2A

2.2 GHS label elements

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 vapor. H319 - Causes serious eye irritation.

Precautionary statements

Section 2. Hazards identification

Prevention	:	RNase Free Water Universal Rat Reference RNA	Not applicable. P280 - Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P241 - Use explosion-proof electrical, ventilating or lighting equipment. P242 - Use non-sparking tools. P243 - Take action to prevent static discharges. P233 - Keep container tightly closed.
Response	:	RNase Free Water Universal Rat Reference RNA	Not applicable. 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 Universal Rat Reference RNA	Not applicable. P403 + P235 - Store in a well-ventilated place. Keep cool.
Disposal	:	RNase Free Water Universal Rat Reference RNA	Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	:	RNase Free Water Universal Rat Reference RNA	None known. Avoid contact with skin and clothing. Wash thoroughly after handling.

2.3 Other hazards

Hazards not otherwise classified	:	RNase Free Water Universal Rat Reference RNA	None known. Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture	:	RNase Free Water Universal Rat Reference RNA	Substance Mixture

Ingredient name	%	CAS number
RNase Free Water		
water	100	7732-18-5
Universal Rat Reference RNA		
Ethanol	≥50 - ≤75	64-17-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

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

Section 4. First aid measures

4.1 Description of necessary 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	Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

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	Defatting to the skin. May cause skin dryness and irritation.
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	Adverse symptoms may include the following: irritation dryness cracking
Ingestion	:	RNase Free Water	No specific data.
		Universal Rat Reference RNA	No specific data.

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

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

See toxicological information (Section 11)

Section 5. Fire-fighting 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

Section 5. Fire-fighting measures

Specific hazards arising from the chemical	: 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 vapor. 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 thermal decomposition 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 protective actions 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.
	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.

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 spilled 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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

For emergency responders :

RNase Free Water

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Universal Rat Reference RNA

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions :

RNase Free Water

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

Universal Rat Reference RNA

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

6.3 Methods and materials 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.

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 vapor 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	:	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 unlabeled 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 oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
RNase Free Water water	None.
Universal Rat Reference RNA Ethanol	**ACGIH TLV (United States, 1/2023).** STEL: 1000 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. **NIOSH REL (United States, 10/2020).** TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. **CAL OSHA PEL (United States, 5/2018).** TWA: 1900 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.

Biological exposure indices

No exposure indices known.

8.2 Exposure controls

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

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

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.

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.

Section 9. Physical and chemical properties and safety characteristics

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

Appearance

Physical state : RNase Free Water — Liquid.
Universal Rat Reference RNA — Liquid.

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

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

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

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

Melting point/freezing point : RNase Free Water — 0°C (32°F)
Universal Rat Reference RNA — Not available.

Boiling point, initial boiling point, and boiling range : RNase Free Water — 100°C (212°F)
Universal Rat Reference RNA — Not available.

Flash point : RNase Free Water — Not available.
Universal Rat Reference RNA — Closed cup: -18 to 23°C (-0.4 to 73.4°F) [Based on solvent.]

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

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

Lower and upper explosion limit/flammability limit : RNase Free Water — Not available.
Universal Rat Reference RNA — Not available.

Vapor pressure : RNase Free Water — 2.3 kPa (17.5 mm Hg) [room temperature]
12.3 kPa (92.258 mm Hg) [50°C (122°F)]

Ingredient name	Vapor Pressure at 20°C			Vapor 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	-

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

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

Solubility(ies) :

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

Section 9. Physical and chemical properties and safety characteristics

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

Auto-ignition temperature :

Ingredient name	°C	°F	Method
Universal Rat Reference RNA			
Ethanol	455	851	DIN 51794

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

Viscosity :
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.

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 pressurize, 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 oxidizing materials.
Universal Rat Reference RNA Reactive or incompatible with the following materials:
oxidizing 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 Vapor LD50 Oral	Rat Rat	124700 mg/m³ 7 g/kg	4 hours -

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	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Universal Rat Reference RNA			
Ethanol	-	1	-

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

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.

Section 11. Toxicological information

Skin contact	:	RNase Free Water	No known significant effects or critical hazards.
		Universal Rat Reference RNA	Defatting to the skin. May cause skin dryness and irritation.
Ingestion	:	RNase Free Water	No known significant effects or critical hazards.
		Universal Rat Reference RNA	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

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	Adverse symptoms may include the following: irritation dryness cracking
Ingestion	:	RNase Free Water	No specific data.
		Universal Rat Reference RNA	No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	:	RNase Free Water	No known significant effects or critical hazards.
		Universal Rat Reference RNA	Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
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.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Universal Rat Reference RNA					
Ethanol	7000	N/A	N/A	124.7	N/A

Section 11. Toxicological information

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

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

12.3 Bioaccumulative potential

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.

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

Section 13. Disposal considerations

13.1 Waste treatment methods

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

Section 13. Disposal considerations

of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

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

Additional information

Remarks: Excepted Quantity

DOT Classification : **Limited quantity** Yes.
Packaging instruction Exceptions: 161. Non-bulk: 161. Bulk: None.
Quantity limitation Passenger aircraft/rail: 10 kg. Cargo aircraft: 10 kg.
Special provisions 15

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9).
Passenger Carrying Road or Rail Index 10
Special provisions 65, 141

Mexico Classification : **Special provisions** 251, 340

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

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.

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

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

Clean Water Act (CWA) 311: Edetic acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification :

RNase Free Water	Not applicable.
Universal Rat Reference RNA	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A HNOC - Defatting irritant

Composition/information on ingredients

Name	%	Classification
Universal Rat Reference RNA Ethanol	≥50 - ≤75	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A HNOC - Defatting irritant

State regulations

Massachusetts : The following components are listed: ETHYL ALCOHOL

New York : None of the components are listed.

New Jersey : The following components are listed: ETHYL ALCOHOL

Pennsylvania : The following components are listed: ETHANOL

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

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.

Section 15. Regulatory information

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.
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.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
Universal Rat Reference RNA FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A	 Expert judgment Calculation method

History

Date of issue/Date of revision	:	03/28/2024
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Version	:	8
Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

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