Conforms to US OSHA Hazard Communication 29CFR1910.1200

SAFETY DATA SHEET

Agilent Technologies

SureGuide Cas9 Programmable Nuclease Kit - 20 Reactions, Part Number 5190-7715

Section 1. Identification

1.1 Product identifier

Product name : SureGuide Cas9 Programmable Nuclease Kit - 20 Reactions, Part Number 5190-7715

Part no. (chemical kit) : 5190-7715

Part no. :

RNase Free Water	740000-42
Control DNA Target	5190-7536
10X Cas9 Digestion Buffer	5190-7537
Cas9 Nuclease	5190-7538
Control gRNA	5190-7539

Validation date : 2/28/2024

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

Identified uses : Analytical reagent.

RNase Free Water	1.5 ml
Control DNA Target	0.022 ml (20 µl 50 ng/ µl)
10X Cas9 Digestion Buffer	0.04 ml
Cas9 Nuclease	0.02 ml (20 reactions)
Control gRNA	0.01 ml (10 µl 1 µM)

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.
Control DNA Target	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.
10X Cas9 Digestion Buffer	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.
Cas9 Nuclease	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Control gRNA	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR

Section 2. Hazards identification

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.

Classification of the substance or mixture

Cas9 Nuclease

H320	EYE IRRITATION - Category 2B
H317	SKIN SENSITIZATION - Category 1
H361	TOXIC TO REPRODUCTION - Category 2

10X Cas9 Digestion Buffer — Percentage of the mixture consisting of ingredient (s) of unknown hazards to the aquatic environment: 3%

2.2 GHS label elements

Hazard pictograms : Cas9 Nuclease

Signal word :

RNase Free Water	No signal word.
Control DNA Target	No signal word.
10X Cas9 Digestion Buffer	No signal word.
Cas9 Nuclease	Warning
Control gRNA	No signal word.

Hazard statements :

RNase Free Water	No known significant effects or critical hazards.
Control DNA Target	No known significant effects or critical hazards.
10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
Cas9 Nuclease	H317 - May cause an allergic skin reaction. H320 - Causes eye irritation. H361 - Suspected of damaging fertility or the unborn child.
Control gRNA	No known significant effects or critical hazards.

Precautionary statements

Prevention :

RNase Free Water	Not applicable.
Control DNA Target	Not applicable.
10X Cas9 Digestion Buffer	Not applicable.
Cas9 Nuclease	P201 - Obtain special instructions before use. P280 - Wear protective gloves, protective clothing and eye or face protection. P261 - Avoid breathing vapor.
Control gRNA	Not applicable.

Response :

RNase Free Water	Not applicable.
Control DNA Target	Not applicable.
10X Cas9 Digestion Buffer	Not applicable.
Cas9 Nuclease	P308 + P313 - IF exposed or concerned: Get medical advice or attention. P363 - Wash contaminated clothing before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.

Section 2. Hazards identification

		Control gRNA	Not applicable.
Storage	:	RNase Free Water	Not applicable.
		Control DNA Target	Not applicable.
		10X Cas9 Digestion Buffer	Not applicable.
		Cas9 Nuclease	Not applicable.
		Control gRNA	Not applicable.
Disposal	:	RNase Free Water	Not applicable.
		Control DNA Target	Not applicable.
		10X Cas9 Digestion Buffer	Not applicable.
		Cas9 Nuclease	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		Control gRNA	Not applicable.
Supplemental label elements	:	RNase Free Water	None known.
		Control DNA Target	None known.
		10X Cas9 Digestion Buffer	None known.
		Cas9 Nuclease	None known.
		Control gRNA	None known.

2.3 Other hazards

Hazards not otherwise classified	:	RNase Free Water	None known.
		Control DNA Target	None known.
		10X Cas9 Digestion Buffer	None known.
		Cas9 Nuclease	None known.
		Control gRNA	None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	RNase Free Water	Substance
		Control DNA Target	Mixture
		10X Cas9 Digestion Buffer	Mixture
		Cas9 Nuclease	Mixture
		Control gRNA	Mixture

Ingredient name	%	CAS number
RNase Free Water		
water	100	7732-18-5
Cas9 Nuclease		
Glycerol	≥50 - ≤75	56-81-5
Potassium chloride	≤5	7447-40-7
2-Mercaptoethanol	≤0.3	60-24-2
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	<0.1	9036-19-5

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.
		Control DNA Target	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.
		10X Cas9 Digestion Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		Cas9 Nuclease	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. If irritation persists, get medical attention.
		Control gRNA	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.
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.
		Control DNA Target	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		10X Cas9 Digestion Buffer	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.
		Cas9 Nuclease	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 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.
		Control gRNA	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	:	RNase Free Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Control DNA Target	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		10X Cas9 Digestion Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Cas9 Nuclease	Wash with plenty of soap and water. Remove

Section 4. First aid measures

			contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		Control gRNA	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
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.
		Control DNA Target	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.
		10X Cas9 Digestion Buffer	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.
		Cas9 Nuclease	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. 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.
		Control gRNA	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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	RNase Free Water	No known significant effects or critical hazards.
		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
		Cas9 Nuclease	Causes eye irritation.
		Control gRNA	No known significant effects or critical hazards.

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Inhalation	:	RNase Free Water	No known significant effects or critical hazards.
		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
		Cas9 Nuclease	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.
Skin contact	:	RNase Free Water	No known significant effects or critical hazards.
		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
		Cas9 Nuclease	May cause an allergic skin reaction.
		Control gRNA	No known significant effects or critical hazards.
Ingestion	:	RNase Free Water	No known significant effects or critical hazards.
		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
		Cas9 Nuclease	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	RNase Free Water	No specific data.
		Control DNA Target	No specific data.
		10X Cas9 Digestion Buffer	No specific data.
		Cas9 Nuclease	Adverse symptoms may include the following: irritation watering redness
		Control gRNA	No specific data.
Inhalation	:	RNase Free Water	No specific data.
		Control DNA Target	No specific data.
		10X Cas9 Digestion Buffer	No specific data.
		Cas9 Nuclease	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		Control gRNA	No specific data.
Skin contact	:	RNase Free Water	No specific data.
		Control DNA Target	No specific data.
		10X Cas9 Digestion Buffer	No specific data.
		Cas9 Nuclease	Adverse symptoms may include the following: irritation redness reduced fetal weight increase in fetal deaths skeletal malformations
		Control gRNA	No specific data.
Ingestion	:	RNase Free Water	No specific data.
		Control DNA Target	No specific data.
		10X Cas9 Digestion Buffer	No specific data.
		Cas9 Nuclease	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		Control gRNA	No specific data.

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

Section 4. First aid measures

Notes to physician	:	RNase Free Water	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Control DNA Target	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		10X Cas9 Digestion Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		Cas9 Nuclease	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Control gRNA	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	RNase Free Water	No specific treatment.
		Control DNA Target	No specific treatment.
		10X Cas9 Digestion Buffer	No specific treatment.
		Cas9 Nuclease	No specific treatment.
		Control gRNA	No specific treatment.
Protection of first-aiders	:	RNase Free Water	No action shall be taken involving any personal risk or without suitable training.
		Control DNA Target	No action shall be taken involving any personal risk or without suitable training.
		10X Cas9 Digestion Buffer	No action shall be taken involving any personal risk or without suitable training.
		Cas9 Nuclease	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
		Control gRNA	No action shall be taken involving any personal risk or without suitable training.

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.
		Control DNA Target	Use an extinguishing agent suitable for the surrounding fire.
		10X Cas9 Digestion Buffer	Use an extinguishing agent suitable for the surrounding fire.
		Cas9 Nuclease	Use an extinguishing agent suitable for the surrounding fire.
		Control gRNA	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	RNase Free Water	None known.
		Control DNA Target	None known.
		10X Cas9 Digestion Buffer	None known.
		Cas9 Nuclease	None known.
		Control gRNA	None known.

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.
	Control DNA Target	In a fire or if heated, a pressure increase will occur and the container may burst.
	10X Cas9 Digestion Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Cas9 Nuclease	In a fire or if heated, a pressure increase will occur and the container may burst.
	Control gRNA	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products :	RNase Free Water	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	Cas9 Nuclease	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	Control gRNA	No specific data.

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.
	Control DNA Target	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.
	10X Cas9 Digestion Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Cas9 Nuclease	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.
	Control gRNA	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 :	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.
	Control DNA Target	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	10X Cas9 Digestion Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive

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	pressure mode.
Cas9 Nuclease	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Control gRNA	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.
	Control DNA Target	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.
	10X Cas9 Digestion Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	Cas9 Nuclease	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Control gRNA	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.
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".
	Control DNA Target	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".
	10X Cas9 Digestion Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Cas9 Nuclease	If specialized clothing is required to deal with the spillage, take note of any information in Section 8

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		on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Control gRNA	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).
	Control DNA Target	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).
	10X Cas9 Digestion Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Cas9 Nuclease	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).
	Control gRNA	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.
	Control DNA Target	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.
	10X Cas9 Digestion Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Cas9 Nuclease	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.
	Control gRNA	Stop leak if without risk. Move containers from spill

Section 6. Accidental release measures

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.

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).
		Control DNA Target	Put on appropriate personal protective equipment (see Section 8).
		10X Cas9 Digestion Buffer	Put on appropriate personal protective equipment (see Section 8).
		Cas9 Nuclease	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
		Control gRNA	Put on appropriate personal protective equipment (see Section 8).
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.
		Control DNA Target	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.
		10X Cas9 Digestion Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
		Cas9 Nuclease	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

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		before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Control gRNA	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.
	Control DNA Target	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.
	10X Cas9 Digestion Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Cas9 Nuclease	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. 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.
	Control gRNA	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

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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.
		Control DNA Target	Industrial applications, Professional applications.
		10X Cas9 Digestion Buffer	Industrial applications, Professional applications.
		Cas9 Nuclease	Industrial applications, Professional applications.
		Control gRNA	Industrial applications, Professional applications.
Industrial sector specific solutions	:	RNase Free Water	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
RNase Free Water	
water	None.
Cas9 Nuclease	
Glycerol	**OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust **CAL OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. Form: respirable fraction TWA: 10 mg/m³ 8 hours. Form: total dust
Potassium chloride	None.
2-Mercaptoethanol	**OARS WEEL (United States, 4/2022).** **Absorbed through skin.** TWA: 0.2 ppm 8 hours.
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	None.

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.

Section 8. Exposure controls/personal protection

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

Individual protection measures

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

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

Skin protection

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

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

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

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.
	Control DNA Target	Liquid.
	10X Cas9 Digestion Buffer	Liquid.
	Cas9 Nuclease	Liquid.
	Control gRNA	Liquid.
Color :	RNase Free Water	Colorless.
	Control DNA Target	Not available.
	10X Cas9 Digestion Buffer	Not available.
	Cas9 Nuclease	Not available.
	Control gRNA	Not available.
Odor :	RNase Free Water	Odorless.
	Control DNA Target	Not available.
	10X Cas9 Digestion Buffer	Not available.
	Cas9 Nuclease	Not available.
	Control gRNA	Not available.

Section 9. Physical and chemical properties and safety characteristics

Odor threshold :

RNase Free Water	Not available.
Control DNA Target	Not available.
10X Cas9 Digestion Buffer	Not available.
Cas9 Nuclease	Not available.
Control gRNA	Not available.

pH :

RNase Free Water	7
Control DNA Target	8
10X Cas9 Digestion Buffer	7
Cas9 Nuclease	7
Control gRNA	7

Melting point/freezing point :

RNase Free Water	0°C (32°F)
Control DNA Target	0°C (32°F)
10X Cas9 Digestion Buffer	Not available.
Cas9 Nuclease	Not available.
Control gRNA	0°C (32°F)

Boiling point, initial boiling point, and boiling range :

RNase Free Water	100°C (212°F)
Control DNA Target	100°C (212°F)
10X Cas9 Digestion Buffer	Not available.
Cas9 Nuclease	Not available.
Control gRNA	100°C (212°F)

Flash point :

	Closed cup			Open cup		
Ingredient name	**°C**	**°F**	**Method**	**°C**	**°F**	**Method**
Cas9 Nuclease						
Glycerol	-	-	-	177	350.6	-

Evaporation rate :

RNase Free Water	Not available.
Control DNA Target	Not available.
10X Cas9 Digestion Buffer	Not available.
Cas9 Nuclease	Not available.
Control gRNA	Not available.

Flammability :

RNase Free Water	Not applicable.
Control DNA Target	Not applicable.
10X Cas9 Digestion Buffer	Not applicable.
Cas9 Nuclease	Not applicable.
Control gRNA	Not applicable.

Lower and upper explosion limit/flammability limit :

RNase Free Water	Not available.
Control DNA Target	Not available.
10X Cas9 Digestion Buffer	Not available.
Cas9 Nuclease	Not available.
Control gRNA	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)]

	Vapor Pressure at 20°C			Vapor pressure at 50°C		
Ingredient name	**mm Hg**	**kPa**	**Method**	**mm Hg**	**kPa**	**Method**
Control DNA Target						
water	17.5	2.3	-	92.258	12.3	-
10X Cas9 Digestion Buffer						
water	17.5	2.3	-	92.258	12.3	-

Section 9. Physical and chemical properties and safety characteristics

Cas9 Nuclease						
water	17.5	2.3	-	92.258	12.3	-
Glycerol	0.000075	0.00001	-	0.0025	0.00033	-
Control gRNA						
water	17.5	2.3	-	92.258	12.3	-

Relative vapor density :

RNase Free Water	0.62 [Air = 1]
Control DNA Target	Not available.
10X Cas9 Digestion Buffer	Not available.
Cas9 Nuclease	Not available.
Control gRNA	Not available.

Relative density :

RNase Free Water	1
Control DNA Target	Not available.
10X Cas9 Digestion Buffer	Not available.
Cas9 Nuclease	Not available.
Control gRNA	Not available.

Solubility(ies) :

Media	Result
RNase Free Water	
water	Soluble
Control DNA Target	
water	Soluble
10X Cas9 Digestion Buffer	
water	Soluble
Cas9 Nuclease	
water	Soluble
Control gRNA	
water	Soluble

Partition coefficient: n-octanol/water :

RNase Free Water	-1.38
Control DNA Target	Not applicable.
10X Cas9 Digestion Buffer	Not applicable.
Cas9 Nuclease	Not applicable.
Control gRNA	Not applicable.

Auto-ignition temperature :

Ingredient name	°C	°F	Method
Cas9 Nuclease			
Glycerol	370	698	-

Decomposition temperature :

RNase Free Water	Not available.
Control DNA Target	Not available.
10X Cas9 Digestion Buffer	Not available.
Cas9 Nuclease	Not available.
Control gRNA	Not available.

Viscosity :

RNase Free Water	Not available.
Control DNA Target	Not available.
10X Cas9 Digestion Buffer	Not available.
Cas9 Nuclease	Not available.
Control gRNA	Not available.

Particle characteristics

Median particle size :

RNase Free Water	Not applicable.
Control DNA Target	Not applicable.
10X Cas9 Digestion Buffer	Not applicable.
Cas9 Nuclease	Not applicable.
Control gRNA	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.
		Control DNA Target	No specific test data related to reactivity available for this product or its ingredients.
		10X Cas9 Digestion Buffer	No specific test data related to reactivity available for this product or its ingredients.
		Cas9 Nuclease	No specific test data related to reactivity available for this product or its ingredients.
		Control gRNA	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.
		Control DNA Target	The product is stable.
		10X Cas9 Digestion Buffer	The product is stable.
		Cas9 Nuclease	The product is stable.
		Control gRNA	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.
		Control DNA Target	Under normal conditions of storage and use, hazardous reactions will not occur.
		10X Cas9 Digestion Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		Cas9 Nuclease	Under normal conditions of storage and use, hazardous reactions will not occur.
		Control gRNA	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	:	RNase Free Water	No specific data.
		Control DNA Target	No specific data.
		10X Cas9 Digestion Buffer	No specific data.
		Cas9 Nuclease	No specific data.
		Control gRNA	No specific data.
10.5 Incompatible materials	:	RNase Free Water	May react or be incompatible with oxidizing materials.
		Control DNA Target	May react or be incompatible with oxidizing materials.
		10X Cas9 Digestion Buffer	May react or be incompatible with oxidizing materials.
		Cas9 Nuclease	May react or be incompatible with oxidizing materials.
		Control gRNA	May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	:	RNase Free Water	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Control DNA Target	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		10X Cas9 Digestion Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Cas9 Nuclease	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 10. Stability and reactivity

Control gRNA	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
Cas9 Nuclease				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
2-Mercaptoethanol	LD50 Oral	Rat	244 mg/kg	-
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	LD50 Oral	Rat	2800 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Cas9 Nuclease					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
2-Mercaptoethanol	Eyes - Severe irritant	Rabbit	-	2 mg	-
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	Eyes - Severe irritant	Rabbit	-	1 %	-

Sensitization

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)

Name	Category	Route of exposure	Target organs
Cas9 Nuclease			
2-Mercaptoethanol	Category 2	-	heart, liver

Aspiration hazard

Not available.

Section 11. Toxicological information

Information on the likely routes of exposure :	RNase Free Water	Not available.
	Control DNA Target	Not available.
	10X Cas9 Digestion Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	Cas9 Nuclease	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	Control gRNA	Not available.

Potential acute health effects

Eye contact :	RNase Free Water	No known significant effects or critical hazards.
	Control DNA Target	No known significant effects or critical hazards.
	10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
	Cas9 Nuclease	Causes eye irritation.
	Control gRNA	No known significant effects or critical hazards.
Inhalation :	RNase Free Water	No known significant effects or critical hazards.
	Control DNA Target	No known significant effects or critical hazards.
	10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
	Cas9 Nuclease	No known significant effects or critical hazards.
	Control gRNA	No known significant effects or critical hazards.
Skin contact :	RNase Free Water	No known significant effects or critical hazards.
	Control DNA Target	No known significant effects or critical hazards.
	10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
	Cas9 Nuclease	May cause an allergic skin reaction.
	Control gRNA	No known significant effects or critical hazards.
Ingestion :	RNase Free Water	No known significant effects or critical hazards.
	Control DNA Target	No known significant effects or critical hazards.
	10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
	Cas9 Nuclease	No known significant effects or critical hazards.
	Control gRNA	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact :	RNase Free Water	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	No specific data.
	Cas9 Nuclease	Adverse symptoms may include the following: irritation watering redness
	Control gRNA	No specific data.
Inhalation :	RNase Free Water	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	No specific data.
	Cas9 Nuclease	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	Control gRNA	No specific data.
Skin contact :	RNase Free Water	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	No specific data.
	Cas9 Nuclease	Adverse symptoms may include the following: irritation redness reduced fetal weight increase in fetal deaths skeletal malformations
	Control gRNA	No specific data.

Section 11. Toxicological information

Ingestion :

RNase Free Water	No specific data.
Control DNA Target	No specific data.
10X Cas9 Digestion Buffer	No specific data.
Cas9 Nuclease	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Control gRNA	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.
Control DNA Target	No known significant effects or critical hazards.
10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
Cas9 Nuclease	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Control gRNA	No known significant effects or critical hazards.

Carcinogenicity :

RNase Free Water	No known significant effects or critical hazards.
Control DNA Target	No known significant effects or critical hazards.
10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
Cas9 Nuclease	No known significant effects or critical hazards.
Control gRNA	No known significant effects or critical hazards.

Mutagenicity :

RNase Free Water	No known significant effects or critical hazards.
Control DNA Target	No known significant effects or critical hazards.
10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
Cas9 Nuclease	No known significant effects or critical hazards.
Control gRNA	No known significant effects or critical hazards.

Reproductive toxicity :

RNase Free Water	No known significant effects or critical hazards.
Control DNA Target	No known significant effects or critical hazards.
10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
Cas9 Nuclease	Suspected of damaging fertility or the unborn child.
Control gRNA	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)
10X Cas9 Digestion Buffer					
10X Cas9 Digestion Buffer	150000.0	N/A	N/A	N/A	N/A
Cas9 Nuclease					
Cas9 Nuclease	73446.3	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Potassium chloride	2600	N/A	N/A	N/A	N/A

Section 11. Toxicological information

2-Mercaptoethanol	244	200	N/A	3	N/A
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	500	N/A	N/A	N/A	N/A

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Cas9 Nuclease			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
Potassium chloride	Acute EC50 9.24 g/L Fresh water	Algae - *Desmodesmus subspicatus*	72 hours
	Acute EC50 1337000 µg/l Fresh water	Algae - *Navicula seminulum*	96 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - *Pseudosida ramosa* - Neonate	48 hours
	Acute LC50 93000 µg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 509.65 mg/l Fresh water	Fish - *Danio rerio*	96 hours
2-Mercaptoethanol	Acute EC50 0.4 mg/l Fresh water	Daphnia	48 hours
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Acute EC50 210 µg/l Fresh water	Algae - *Selenastrum sp.*	96 hours
	Acute LC50 10800 µg/l Marine water	Crustaceans - *Pandalus montagui* - Adult	48 hours
	Acute LC50 2.518 mg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 7200 µg/l Fresh water	Fish - *Oncorhynchus mykiss*	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Cas9 Nuclease				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
2-Mercaptoethanol	OECD 310 Ready Biodegradability - CO_2 in Sealed Vessels (Headspace Test)	69 % - Not readily - 60 days	20 mg/l	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
RNase Free Water			
water	-	-	Readily
Cas9 Nuclease			
Potassium chloride	-	-	Readily
2-Mercaptoethanol	-	-	Not readily

12.3 Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
RNase Free Water			
water	-1.38	-	Low
Cas9 Nuclease			
Glycerol	-1.76	-	Low
Potassium chloride	-0.46	-	Low
2-Mercaptoethanol	-0.056	-	Low
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	2.7	78.67	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. 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 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 / TDG / Mexico / IMDG / IATA : Not regulated.

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) PAIR**: Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-

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.
Control DNA Target	Not applicable.
10X Cas9 Digestion Buffer	Not applicable.
Cas9 Nuclease	EYE IRRITATION - Category 2B SKIN SENSITIZATION - Category 1 TOXIC TO REPRODUCTION - Category 2
Control gRNA	Not applicable.

Composition/information on ingredients

Name	%	Classification
Cas9 Nuclease		
Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2B
Potassium chloride	≤5	EYE IRRITATION - Category 2B
2-Mercaptoethanol	≤0.3	FLAMMABLE LIQUIDS - Category 4 ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 2 ACUTE TOXICITY (inhalation) - Category 3 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1A TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

State regulations

Massachusetts : The following components are listed: GLYCERINE MIST

New York : None of the components are listed.

New Jersey : The following components are listed: GLYCERIN

Pennsylvania : The following components are listed: 1,2,3-PROPANETRIOL

California Prop. 65

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

International regulations

Section 15. Regulatory information

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	:	Not determined.
Canada	:	Not determined.
China	:	All components are listed or exempted.
Japan	:	**Japan inventory (CSCL)**: Not determined. **Japan inventory (ISHL)**: All components are listed or exempted.
New Zealand	:	Not determined.
Philippines	:	Not determined.
Republic of Korea	:	Not determined.
Taiwan	:	All components are listed or exempted.
Thailand	:	Not determined.
Turkey	:	Not determined.
United States	:	All components are active or exempted.
Viet Nam	:	Not determined.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
Cas9 Nuclease	
EYE IRRITATION - Category 2B	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
TOXIC TO REPRODUCTION - Category 2	Calculation method

History

Date of issue/Date of revision	:	02/28/2024
Date of previous issue	:	03/22/2021
Version	:	6
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

Section 16. Other information

UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

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