

SAFETY DATA SHEET

SureSelect Enzymatic Fragmentation Kit, 96 Reactions, Automation, Part Number 5191-6764

Section 1. Identification

Product identifier : SureSelect Enzymatic Fragmentation Kit, 96 Reactions, Automation, Part Number 5191-6764

Part no. (chemical kit) : 5191-6764

Part no. : 5X SureSelect Fragmentation Buffer 5191-4077
SureSelect Fragmentation Enzyme 5191-6763

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

Identified uses : ☒ Analytical reagent.
For research use only.
☒ 5X SureSelect Fragmentation Buffer 0.310 ml (96 reactions)
SureSelect Fragmentation Enzyme 0.155 ml (96 reactions)

Uses advised against : ☒ Not for use in diagnostic procedures.

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

Emergency telephone number (with hours of operation) : CHEMTREC®: 1-800-424-9300

Section 2. Hazard identification

Classification of the substance or mixture

5X SureSelect Fragmentation Buffer
H361 TOXIC TO REPRODUCTION - Category 2

SureSelect Fragmentation Enzyme
H320 EYE IRRITATION - Category 2B

GHS label elements

Hazard pictograms : 5X SureSelect Fragmentation Buffer



Signal word : 5X SureSelect Fragmentation Buffer Warning
SureSelect Fragmentation Enzyme Warning

Hazard statements : 5X SureSelect Fragmentation Buffer H361 - Suspected of damaging fertility or the unborn child.
SureSelect Fragmentation Enzyme H320 - Causes eye irritation.

Precautionary statements

Section 2. Hazard identification

Prevention	: 5X SureSelect Fragmentation Buffer	P201 - Obtain special instructions before use.
	SureSelect Fragmentation Enzyme	P280 - Wear protective gloves, protective clothing and eye or face protection. Not applicable.
Response	: 5X SureSelect Fragmentation Buffer	P308 + P313 - IF exposed or concerned: Get medical advice or attention.
	SureSelect Fragmentation Enzyme	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	: 5X SureSelect Fragmentation Buffer	Not applicable.
	SureSelect Fragmentation Enzyme	Not applicable.
Disposal	: 5X SureSelect Fragmentation Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	SureSelect Fragmentation Enzyme	Not applicable.
Supplemental label elements	: 5X SureSelect Fragmentation Buffer	None known.
	SureSelect Fragmentation Enzyme	None known.
	5X SureSelect Fragmentation Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.5%
Other hazards which do not result in classification	: 5X SureSelect Fragmentation Buffer	None known.
	SureSelect Fragmentation Enzyme	None known.

Section 3. Composition/information on ingredients

Substance/mixture	: 5X SureSelect Fragmentation Buffer	Mixture
	SureSelect Fragmentation Enzyme	Mixture

Ingredient name	Synonyms	% (w/w)	CAS number
5X SureSelect Fragmentation Buffer			
Caesium chloride	Caesium chloride	≥1 - ≤5	7647-17-8
SureSelect Fragmentation Enzyme			
Glycerol	Glycerol	≥30 - ≤60	56-81-5

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

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

Description of necessary first aid measures

Eye contact	: 5X SureSelect Fragmentation Buffer	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 if irritation occurs.
	SureSelect Fragmentation Enzyme	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.
Inhalation	: 5X SureSelect Fragmentation Buffer	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.
	SureSelect Fragmentation Enzyme	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	: 5X SureSelect Fragmentation Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	SureSelect Fragmentation Enzyme	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: 5 X SureSelect Fragmentation Buffer	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.
	SureSelect Fragmentation Enzyme	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

Section 4. First-aid measures

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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	No known significant effects or critical hazards. Causes eye irritation.
Inhalation	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	No specific data. Adverse symptoms may include the following: irritation watering redness
Inhalation	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations No specific data.
Skin contact	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations No specific data.
Ingestion	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations No specific data.

Section 4. First-aid measures

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

Notes to physician	: 5X SureSelect Fragmentation Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	SureSelect Fragmentation Enzyme	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: 5X SureSelect Fragmentation Buffer	No specific treatment.
	SureSelect Fragmentation Enzyme	No specific treatment.
Protection of first-aiders	: 5X SureSelect Fragmentation Buffer	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.
	SureSelect Fragmentation Enzyme	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

Extinguishing media

Suitable extinguishing media	: 5X SureSelect Fragmentation Buffer	Use an extinguishing agent suitable for the surrounding fire.
	SureSelect Fragmentation Enzyme	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: 5X SureSelect Fragmentation Buffer	None known.
	SureSelect Fragmentation Enzyme	None known.
Specific hazards arising from the chemical	: 5X SureSelect Fragmentation Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	SureSelect Fragmentation Enzyme	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: 5X SureSelect Fragmentation Buffer	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
	SureSelect Fragmentation Enzyme	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Special protective actions for fire-fighters	: 5X SureSelect Fragmentation 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.
	SureSelect Fragmentation Enzyme	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.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters	: 5X SureSelect Fragmentation Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	SureSelect Fragmentation Enzyme	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

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: 5X SureSelect Fragmentation 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	SureSelect Fragmentation Enzyme	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.
For emergency responders	: 5X SureSelect Fragmentation 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".
	SureSelect Fragmentation Enzyme	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".
Environmental precautions	: 5X SureSelect Fragmentation 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).
	SureSelect Fragmentation Enzyme	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).

Methods and materials for containment and cleaning up

Methods for cleaning up	: 5X SureSelect Fragmentation 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.
	SureSelect Fragmentation Enzyme	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.

Section 6. Accidental release measures

disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: 5X SureSelect
Fragmentation Buffer

SureSelect Fragmentation
Enzyme

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

Advice on general occupational hygiene

: 5X SureSelect
Fragmentation Buffer

SureSelect Fragmentation
Enzyme

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.

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.

Conditions for safe storage, including any incompatibilities

: 5X SureSelect
Fragmentation Buffer

SureSelect Fragmentation
Enzyme

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. 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

Section 7. Handling and storage

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.

Section 8. Exposure controls/personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
SureSelect Fragmentation Enzyme Glycerol	CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 10 mg/m ³ 8 hours. Form: Mist CA Quebec Provincial (Canada, 6/2022). TWAEV: 10 mg/m ³ 8 hours. Form: mist CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m ³ 15 minutes. Form: mist TWA: 10 mg/m ³ 8 hours. Form: mist CA British Columbia Provincial (Canada, 6/2022). TWA: 3 mg/m ³ 8 hours. Form: respirable mist TWA: 10 mg/m ³ 8 hours. Form: total mist

[Biological exposure indices](#)

No exposure indices known.

[Appropriate engineering controls](#)

: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

[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](#)

Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.





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	: 5X SureSelect	Liquid.
	Fragmentation Buffer	
	SureSelect Fragmentation Enzyme	Liquid.
Color	: 5X SureSelect	Not available.
	Fragmentation Buffer	
	SureSelect Fragmentation Enzyme	Not available.
Odor	: 5X SureSelect	Not available.
	Fragmentation Buffer	
	SureSelect Fragmentation Enzyme	Not available.
Odor threshold	: 5X SureSelect	Not available.
	Fragmentation Buffer	
	SureSelect Fragmentation Enzyme	Not available.
pH	: 5X SureSelect	7.5
	Fragmentation Buffer	
	SureSelect Fragmentation Enzyme	7.5
Melting point/freezing point	: 5X SureSelect	Not available.
	Fragmentation Buffer	
	SureSelect Fragmentation Enzyme	Not available.
Boiling point, initial boiling point, and boiling range	: 5X SureSelect	Not available.
	Fragmentation Buffer	
	SureSelect Fragmentation Enzyme	Not available.
Flash point	:	

Section 9. Physical and chemical properties and safety characteristics

	Ingredient name	Closed cup			Open cup		
		°C	°F	Method	°C	°F	Method
	 SureSelect Fragmentation Enzyme						
	Glycerol	-	-	-	177	350.6	-
Evaporation rate	: 5X SureSelect Fragmentation Buffer	Not available.					
	SureSelect Fragmentation Enzyme	Not available.					
Flammability	: 5X SureSelect Fragmentation Buffer	Not applicable.					
	SureSelect Fragmentation Enzyme	Not applicable.					
Lower and upper explosion limit/flammability limit	: 5X SureSelect Fragmentation Buffer	Not available.					
	SureSelect Fragmentation Enzyme	Not available.					
Vapor pressure	:						
	Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
		mm Hg	kPa	Method	mm Hg	kPa	Method
	 5X SureSelect Fragmentation Buffer						
	water	17.5	2.3	-	92.258	12.3	-
	SureSelect Fragmentation Enzyme						
	water	17.5	2.3	-	92.258	12.3	-
	Glycerol	0.000075	0.00001	-	0.0025	0.00033	-
Relative vapor density	: 5X SureSelect Fragmentation Buffer	Not available.					
	SureSelect Fragmentation Enzyme	Not available.					
Relative density	: 5X SureSelect Fragmentation Buffer	Not available.					
	SureSelect Fragmentation Enzyme	Not available.					
Solubility(ies)	:						
	Media	Result					
	 5X SureSelect Fragmentation Buffer	Soluble					
	water						
	SureSelect Fragmentation Enzyme	Soluble					
water							
Partition coefficient: n-octanol/water	:  5X SureSelect Fragmentation Buffer	Not applicable.					
	SureSelect Fragmentation Enzyme	Not applicable.					

Section 9. Physical and chemical properties and safety characteristics

Auto-ignition temperature	Ingredient name	°C	°F	Method
	5X SureSelect Fragmentation Buffer			
	Caesium chloride	>400	>752	-
	SureSelect Fragmentation Enzyme			
	Glycerol	370	698	-
Decomposition temperature	5X SureSelect Fragmentation Buffer	Not available.		
	SureSelect Fragmentation Enzyme	Not available.		
Viscosity	5X SureSelect Fragmentation Buffer	Not available.		
	SureSelect Fragmentation Enzyme	Not available.		
<u>Particle characteristics</u>				
Median particle size	5X SureSelect Fragmentation Buffer	Not applicable.		
	SureSelect Fragmentation Enzyme	Not applicable.		

Section 10. Stability and reactivity

Reactivity	5X SureSelect Fragmentation Buffer	No specific test data related to reactivity available for this product or its ingredients.
	SureSelect Fragmentation Enzyme	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	5X SureSelect Fragmentation Buffer	The product is stable.
	SureSelect Fragmentation Enzyme	The product is stable.
Possibility of hazardous reactions	5X SureSelect Fragmentation Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	SureSelect Fragmentation Enzyme	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	5X SureSelect Fragmentation Buffer	No specific data.
	SureSelect Fragmentation Enzyme	No specific data.
Incompatible materials	5X SureSelect Fragmentation Buffer	May react or be incompatible with oxidizing materials.
	SureSelect Fragmentation Enzyme	May react or be incompatible with oxidizing materials.

Section 10. Stability and reactivity

Hazardous decomposition products	5X SureSelect Fragmentation Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	SureSelect Fragmentation Enzyme	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
5X SureSelect Fragmentation Buffer Caesium chloride	LD50 Oral	Rat	2004 mg/kg	-
SureSelect Fragmentation Enzyme Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
SureSelect Fragmentation Enzyme Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

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)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Section 11. Toxicological information

Eye contact	: 5X SureSelect Fragmentation Buffer	No known significant effects or critical hazards.
	SureSelect Fragmentation Enzyme	Causes eye irritation.
Inhalation	: 5X SureSelect Fragmentation Buffer	No known significant effects or critical hazards.
	SureSelect Fragmentation Enzyme	No known significant effects or critical hazards.
Skin contact	: 5X SureSelect Fragmentation Buffer	No known significant effects or critical hazards.
	SureSelect Fragmentation Enzyme	No known significant effects or critical hazards.
Ingestion	: 5X SureSelect Fragmentation Buffer	No known significant effects or critical hazards.
	SureSelect Fragmentation Enzyme	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: 5X SureSelect Fragmentation Buffer	No specific data.
	SureSelect Fragmentation Enzyme	Adverse symptoms may include the following: irritation watering redness
Inhalation	: 5X SureSelect Fragmentation Buffer	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	SureSelect Fragmentation Enzyme	No specific data.
Skin contact	: 5X SureSelect Fragmentation Buffer	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	SureSelect Fragmentation Enzyme	No specific data.
Ingestion	: 5X SureSelect Fragmentation Buffer	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	SureSelect Fragmentation Enzyme	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.

Section 11. Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

General	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	No known significant effects or critical hazards. No known significant effects or critical hazards.
Reproductive toxicity	: 5X SureSelect Fragmentation Buffer SureSelect Fragmentation Enzyme	Suspected of damaging fertility or the unborn child. 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)
5X SureSelect Fragmentation Buffer 5X SureSelect Fragmentation Buffer Caesium chloride	119030.6 2004	N/A N/A	N/A N/A	N/A N/A	N/A N/A
SureSelect Fragmentation Enzyme Glycerol	12600	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
5X SureSelect Fragmentation Buffer Caesium chloride	Acute EC50 135000 µg/l Fresh water Acute LC50 7400 µg/l Fresh water	Crustaceans - <i>Eudiaptomus padanus</i> ssp. <i>padanus</i> - Adult Daphnia - <i>Daphnia hyalina</i> - Adult	48 hours 48 hours
SureSelect Fragmentation Enzyme Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours

Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
SureSelect Fragmentation Enzyme Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
SureSelect Fragmentation Enzyme Glycerol	-1.76	-	Low

Mobility in soil

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

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

Section 13. Disposal considerations

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.

Section 14. Transport information

TDG / 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

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

International regulations

[Chemical Weapon Convention List Schedules I, II & III Chemicals](#)

Section 15. Regulatory information

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](#)

Canada : Not determined.

United States : All components are active or exempted.

Section 16. Other information

[History](#)

Date of issue/Date of revision : 06/30/2023


Date of previous issue : 02/24/2020

Version : 2

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- HPR = Hazardous Products Regulations
- 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

[Procedure used to derive the classification](#)

Classification	Justification
 SureSelect Fragmentation Buffer TOXIC TO REPRODUCTION - Category 2	Calculation method
SureSelect Fragmentation Enzyme EYE IRRITATION - Category 2B	Calculation method

 Indicates information that has changed from previously issued version.

[Notice to reader](#)

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