

SAFETY DATA SHEET

Gigapack III XL-4 Packaging Extract, Part Number 200207

Section 1. Identification

1.1 Product identifier

Product name : Gigapack III XL-4 Packaging Extract, Part Number 200207
Part no. (chemical kit) : 200207
Part no. : VCS257 E. coli Strain 200256-51
 Wild-Type Lambda DNA c1857ind 1 Sam7 246203-51
 Gigapack III XL - 11 packaging extract 200207-41
Validation date : 4/25/2023

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

Identified uses : ☒ Analytical reagent.
 ☒ VCS257 E. coli Strain 1 ml
 Wild-Type Lambda DNA c1857ind 1 Sam7 0.005 ml (1.05 µg 0.21 µg/µl)
 Gigapack III XL - 11 packaging extract 0.1 ml

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 : VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Gigapack III XL - 11 packaging extract	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). 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. 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.
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Classification of the substance or mixture

VCS257 E. coli Strain H320	EYE IRRITATION - Category 2B Gigapack III XL - 11 packaging extract	Percentage of the mixture consisting of ingredient (s) of unknown hazards to the aquatic environment: 8%
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2.2 GHS label elements

Signal word :

Section 2. Hazards identification

	VCS257 E. coli Strain	Warning
	Wild-Type Lambda DNA c1857ind	No signal word.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	No signal word.
Hazard statements	: VCS257 E. coli Strain	H320 - Causes eye irritation.
	Wild-Type Lambda DNA c1857ind	No known significant effects or critical hazards.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.
Precautionary statements		
Prevention	: VCS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA c1857ind	Not applicable.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	Not applicable.
Response	: VCS257 E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind	Not applicable.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	Not applicable.
Storage	: VCS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA c1857ind	Not applicable.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	Not applicable.
Disposal	: VCS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA c1857ind	Not applicable.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	Not applicable.
Supplemental label elements	: VCS257 E. coli Strain	None known.
	Wild-Type Lambda DNA c1857ind	None known.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	None known.
2.3 Other hazards		
Hazards not otherwise classified	: VCS257 E. coli Strain	None known.
	Wild-Type Lambda DNA c1857ind	None known.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	None known.

Section 3. Composition/information on ingredients

Substance/mixture	: VCS257 E. coli Strain	Mixture
	Wild-Type Lambda DNA c1857ind	Mixture
	1 Sam7	
	Gigapack III XL - 11 packaging extract	Mixture

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
VCS257 E. coli Strain		
Glycerol	≥10 - ≤25	56-81-5

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	: VCS257 E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind 1 Sam7	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.
	Gigapack III XL - 11 packaging extract	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	: VCS257 E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Gigapack III XL - 11 packaging extract	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	: VCS257 E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Gigapack III XL - 11 packaging extract	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Section 4. First aid measures

Ingestion	: VCS257 E. coli Strain	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Wild-Type Lambda DNA c1857ind 1 Sam7	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.
	Gigapack III XL - 11 packaging extract	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	: VCS257 E. coli Strain	Causes eye irritation.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.
Inhalation	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.
Skin contact	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.
Ingestion	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: VCS257 E. coli Strain	Adverse symptoms may include the following: irritation watering redness
	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.
	Gigapack III XL - 11 packaging	No specific data.

Section 4. First aid measures

	extract	
Inhalation	: VCS257 E. coli Strain	No specific data.
	Wild-Type Lambda DNA c1857ind	No specific data.
	1 Sam7	
	Gigapack III XL - 11 packaging	No specific data.
	extract	
Skin contact	: VCS257 E. coli Strain	No specific data.
	Wild-Type Lambda DNA c1857ind	No specific data.
	1 Sam7	
	Gigapack III XL - 11 packaging	No specific data.
	extract	
Ingestion	: VCS257 E. coli Strain	No specific data.
	Wild-Type Lambda DNA c1857ind	No specific data.
	1 Sam7	
	Gigapack III XL - 11 packaging	No specific data.
	extract	

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

Notes to physician	: VCS257 E. coli Strain	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Wild-Type Lambda DNA c1857ind	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	1 Sam7	
	Gigapack III XL - 11 packaging	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	extract	
Specific treatments	: VCS257 E. coli Strain	No specific treatment.
	Wild-Type Lambda DNA c1857ind	No specific treatment.
	1 Sam7	
	Gigapack III XL - 11 packaging	No specific treatment.
	extract	
Protection of first-aiders	: VCS257 E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind	No action shall be taken involving any personal risk or without suitable training.
	1 Sam7	
	Gigapack III XL - 11 packaging	No action shall be taken involving any personal risk or without suitable training.
	extract	

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	: VCS257 E. coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	Wild-Type Lambda DNA c1857ind	Use an extinguishing agent suitable for the surrounding fire.
	1 Sam7	
	Gigapack III XL - 11 packaging	Use an extinguishing agent suitable for the surrounding fire.
	extract	
Unsuitable extinguishing media	: VCS257 E. coli Strain	None known.
	Wild-Type Lambda DNA c1857ind	None known.
	1 Sam7	
	Gigapack III XL - 11 packaging	None known.
	extract	

Section 5. Fire-fighting measures

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	: VCS257 E. coli Strain	In a fire or if heated, a pressure increase will occur and the container may burst.
	Wild-Type Lambda DNA c1857ind 1 Sam7	In a fire or if heated, a pressure increase will occur and the container may burst.
	Gigapack III XL - 11 packaging extract	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: VCS257 E. coli Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data.
	Wild-Type Lambda DNA c1857ind 1 Sam7	
	Gigapack III XL - 11 packaging extract	Decomposition products may include the following materials: carbon dioxide carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters	: VCS257 E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind 1 Sam7	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.
	Gigapack III XL - 11 packaging extract	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	: VCS257 E. coli Strain	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Gigapack III XL - 11 packaging extract	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	: VCS257 E. coli Strain	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
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Section 6. Accidental release measures

Wild-Type Lambda DNA c1857ind
1 Sam7

Gigapack III XL - 11 packaging
extract

personal protective equipment.
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.
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.

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".
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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".

For emergency responders : VCS257 E. coli Strain

Wild-Type Lambda DNA c1857ind
1 Sam7

Gigapack III XL - 11 packaging
extract

6.2 Environmental precautions

: VCS257 E. coli Strain

Wild-Type Lambda DNA c1857ind
1 Sam7

Gigapack III XL - 11 packaging
extract

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).
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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 : VCS257 E. coli Strain

Wild-Type Lambda DNA c1857ind
1 Sam7

Gigapack III XL - 11 packaging
extract

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.
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.
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Section 6. Accidental release measures

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 : VCS257 E. coli Strain

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.

Wild-Type Lambda DNA c1857ind
1 Sam7
Gigapack III XL - 11 packaging
extract

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

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

Advice on general occupational hygiene : VCS257 E. coli Strain

Potentially biohazardous material. 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.

Wild-Type Lambda DNA c1857ind
1 Sam7

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.

Gigapack III XL - 11 packaging
extract

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 : VCS257 E. coli Strain

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.

Wild-Type Lambda DNA c1857ind
1 Sam7

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

Section 7. Handling and storage

Gigapack III XL - 11 packaging extract

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 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

: VCS257 E. coli Strain Industrial applications, Professional applications.
Wild-Type Lambda DNA c1857ind Industrial applications, Professional applications.
1 Sam7
Gigapack III XL - 11 packaging extract Industrial applications, Professional applications.

Industrial sector specific solutions

: ☒ VCS257 E. coli Strain Not available.
Wild-Type Lambda DNA c1857ind Not available.
1 Sam7
Gigapack III XL - 11 packaging extract Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
<input checked="" type="checkbox"/> VCS257 E. coli Strain Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 5/2018). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust

Biological exposure indices

No exposure indices known.

8.2 Exposure controls

Appropriate engineering controls

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

Environmental exposure controls

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

Section 8. Exposure controls/personal protection

Individual protection measures

- Hygiene measures** : Handle as biohazard material (Biosafety level 1). Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- 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	VCS257 E. coli Strain	Liquid.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Liquid.
	Gigapack III XL - 11 packaging extract	Liquid.
Color	VCS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
Odor	VCS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
Odor threshold	VCS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
pH	VCS257 E. coli Strain	7
	Wild-Type Lambda DNA c1857ind 1 Sam7	7
	Gigapack III XL - 11 packaging extract	8

Section 9. Physical and chemical properties and safety characteristics

Melting point/freezing point : VCS257 E. coli Strain Not available.
 Wild-Type Lambda DNA c1857ind 0°C (32°F)
 1 Sam7
 Gigapack III XL - 11 packaging extract Not available.

Boiling point, initial boiling point, and boiling range : VCS257 E. coli Strain Not available.
 Wild-Type Lambda DNA c1857ind 100°C (212°F)
 1 Sam7
 Gigapack III XL - 11 packaging extract Not available.

Flash point	Ingredient name	Closed cup			Open cup		
		°C	°F	Method	°C	°F	Method
	VCS257 E. coli Strain						
	Glycerol				177	350.6	

Evaporation rate : VCS257 E. coli Strain Not available.
 Wild-Type Lambda DNA c1857ind Not available.
 1 Sam7
 Gigapack III XL - 11 packaging extract Not available.

Flammability : VCS257 E. coli Strain Not applicable.
 Wild-Type Lambda DNA c1857ind Not applicable.
 1 Sam7
 Gigapack III XL - 11 packaging extract Not applicable.

Lower and upper explosion limit/flammability limit : VCS257 E. coli Strain Not available.
 Wild-Type Lambda DNA c1857ind Not available.
 1 Sam7
 Gigapack III XL - 11 packaging extract Not available.

Vapor pressure	Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
		mm Hg	kPa	Method	mm Hg	kPa	Method
	VCS257 E. coli Strain						
	water	23.8	3.2		92.258	12.3	
	Glycerol	0.000075	0.00001		0.0025	0.00033	
	Wild-Type Lambda DNA c1857ind 1 Sam7						
	water	23.8	3.2		92.258	12.3	
	Gigapack III XL - 11 packaging extract						
	water	23.8	3.2		92.258	12.3	

Section 9. Physical and chemical properties and safety characteristics

Relative vapor density : VCS257 E. coli Strain Not available.
 Wild-Type Lambda DNA c1857ind Not available.
 1 Sam7
 Gigapack III XL - 11 packaging extract Not available.

Relative density : VCS257 E. coli Strain Not available.
 Wild-Type Lambda DNA c1857ind Not available.
 1 Sam7
 Gigapack III XL - 11 packaging extract Not available.

Solubility(ies)	Media	Result
	VCS257 E. coli Strain water	Soluble
	Wild-Type Lambda DNA c1857ind 1 Sam7 water	Soluble
	Gigapack III XL - 11 packaging extract water	Soluble

Partition coefficient: n-octanol/water : VCS257 E. coli Strain Not applicable.
 Wild-Type Lambda DNA c1857ind Not applicable.
 1 Sam7
 Gigapack III XL - 11 packaging extract Not applicable.

Auto-ignition temperature	Ingredient name	°C	°F	Method
	VCS257 E. coli Strain			
	Glycerol	370	698	

Decomposition temperature : VCS257 E. coli Strain Not available.
 Wild-Type Lambda DNA c1857ind Not available.
 1 Sam7
 Gigapack III XL - 11 packaging extract Not available.

Viscosity : VCS257 E. coli Strain Not available.
 Wild-Type Lambda DNA c1857ind Not available.
 1 Sam7
 Gigapack III XL - 11 packaging extract Not available.

Particle characteristics

Median particle size : VCS257 E. coli Strain Not applicable.
 Wild-Type Lambda DNA c1857ind Not applicable.
 1 Sam7
 Gigapack III XL - 11 packaging extract Not applicable.

Section 10. Stability and reactivity

10.1 Reactivity : VCS257 E. coli Strain No specific test data related to reactivity available for this product or its ingredients.
 Wild-Type Lambda DNA c1857ind No specific test data related to reactivity available for this product or its ingredients.
 1 Sam7
 Gigapack III XL - 11 packaging extract No specific test data related to reactivity available for this product or its ingredients.

Section 10. Stability and reactivity

10.2 Chemical stability	: VCS257 E. coli Strain	The product is stable.
	Wild-Type Lambda DNA c1857ind 1 Sam7	The product is stable.
	Gigapack III XL - 11 packaging extract	The product is stable.
10.3 Possibility of hazardous reactions	: VCS257 E. coli Strain	Under normal conditions of storage and use, hazardous reactions will not occur.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Under normal conditions of storage and use, hazardous reactions will not occur.
	Gigapack III XL - 11 packaging extract	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: VCS257 E. coli Strain	No specific data.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.
	Gigapack III XL - 11 packaging extract	No specific data.
10.5 Incompatible materials	: VCS257 E. coli Strain	May react or be incompatible with oxidizing materials.
	Wild-Type Lambda DNA c1857ind 1 Sam7	May react or be incompatible with oxidizing materials.
	Gigapack III XL - 11 packaging extract	May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	: VCS257 E. coli Strain	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Gigapack III XL - 11 packaging extract	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
VCS257 E. coli Strain Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
VCS257 E. coli Strain 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.

Section 11. Toxicological information

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	:  VCS257 E. coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
<u>Potential acute health effects</u>		
Eye contact	:  VCS257 E. coli Strain	Causes eye irritation.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.
Inhalation	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.
Skin contact	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.
Ingestion	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:  VCS257 E. coli Strain	Adverse symptoms may include the following: irritation watering redness
	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.
	Gigapack III XL - 11 packaging extract	No specific data.

Section 11. Toxicological information

Inhalation	: VCS257 E. coli Strain	No specific data.
	Wild-Type Lambda DNA c1857ind	No specific data.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	No specific data.
Skin contact	: VCS257 E. coli Strain	No specific data.
	Wild-Type Lambda DNA c1857ind	No specific data.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	No specific data.
Ingestion	: VCS257 E. coli Strain	No specific data.
	Wild-Type Lambda DNA c1857ind	No specific data.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	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	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind	No known significant effects or critical hazards.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.
Carcinogenicity	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind	No known significant effects or critical hazards.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.
Mutagenicity	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind	No known significant effects or critical hazards.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.
Reproductive toxicity	: <input checked="" type="checkbox"/> VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind	No known significant effects or critical hazards.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
VCS257 E. coli Strain VCS257 E. coli Strain Glycerol	300000.0 12600	N/A N/A	N/A N/A	N/A N/A	N/A N/A

Other information : **VCS257 E. coli Strain** Not available.
Wild-Type Lambda DNA c1857ind Not available.
1 Sam7
Gigapack III XL - 11 packaging Adverse symptoms may include the following: May
extract cause skin sensitization.

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
VCS257 E. coli Strain Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
VCS257 E. coli Strain Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
VCS257 E. coli Strain Glycerol	-1.76	-	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

Section 13. Disposal considerations

safe way. 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) 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 :  CS257 E. coli Strain
Wild-Type Lambda DNA c1857ind 1 Sam7
Gigapack III XL - 11 packaging extract
EYE IRRITATION - Category 2B
Not applicable.
Not applicable.

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Classification
<input checked="" type="checkbox"/> CS257 E. coli Strain Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B
Gigapack III XL - 11 packaging extract Sucrose	≤10	COMBUSTIBLE DUSTS

State regulations

- Massachusetts** : The following components are listed: GLYCERINE MIST; SUCROSE DUST
- 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; .ALPHA.-D-GLUCOPYRANOSIDE, .BETA.-D-FRUCTOFURANOSYL

California Prop. 65

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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

- Australia** : Not determined.
- Canada** : At least one component is not listed in DSL but all such components are listed in NDSL.
- China** : All components are listed or exempted.
- Eurasian Economic Union** : ☒ **Russian Federation inventory**: All components are listed or exempted.
- Japan** : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.
- New Zealand** : All components are listed or exempted.
- 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** : ☒ All components are listed or exempted.

Section 16. Other information

[Procedure used to derive the classification](#)

Classification	Justification
✓CS257 E. coli Strain EYE IRRITATION - Category 2B	Calculation method

[History](#)

Date of issue	: 04/25/2023
Date of previous issue	: 12/24/2019
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 UN = United Nations

✓ Indicates information that has changed from previously issued version.

[Notice to reader](#)

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