

Gigapack III Gold-4 Packaging Extract, Part Number 200201

1.1 Product identifier

Part no.	: Gigapack III packaging extract	200201-41
	VCS257 E. coli Strain	200256-51
	Wild-Type Lambda DNA c1857ind 1 Sam7	246203-51

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

Identified uses	: Analytical reagent.
	Gigapack III packaging extract 0.1 ml (4 x 0.025 ml)
	VCS257 E. coli Strain 1 ml
	Wild-Type Lambda DNA c1857ind 1 Sam7 0.005 ml (1.05 µg 0.21 µg/µl)

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

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

2.1 Classification of the substance or mixture

OSHA/HCS status		
	: Gigapack III packaging extract	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.
	VCS257 E. coli Strain	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	Wild-Type Lambda DNA c1857ind 1 Sam7	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.

VCS257 E. coli Strain
H320

Gigapack III packaging extract	Percentage of the mixture consisting of ingredient (s) of unknown hazards to the aquatic environment: 8%
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Signal word :

Section 2. Hazards identification

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

Section 3. Composition/information on ingredients

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

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	:  Gigapack III 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.
	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.
Inhalation	: Gigapack III packaging extract	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	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.
Skin contact	: Gigapack III packaging extract	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	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.
Ingestion	:  Gigapack III 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.
	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

Section 4. First aid measures

Wild-Type Lambda DNA c1857ind
1 Sam7

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. 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	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. Causes eye irritation. No known significant effects or critical hazards.
Inhalation	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

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

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

Section 4. First aid measures

Notes to physician	: Gigapack III packaging extract	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	VCS257 E. coli Strain	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Gigapack III packaging extract	No specific treatment.
	VCS257 E. coli Strain	No specific treatment.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific treatment.
Protection of first-aiders	: Gigapack III packaging extract	No action shall be taken involving any personal risk or without suitable training.
	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 1 Sam7	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	: Gigapack III packaging extract	Use an extinguishing agent suitable for the surrounding fire.
	VCS257 E. coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Gigapack III packaging extract	None known.
	VCS257 E. coli Strain	None known.
	Wild-Type Lambda DNA c1857ind 1 Sam7	None known.

5.2 Special hazards arising from the substance or mixture

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

Section 5. Fire-fighting measures

5.3 Advice for firefighters

Special protective actions for fire-fighters

: Gigapack III 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.

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.

Special protective equipment for fire-fighters

: Gigapack III 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.

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.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: Gigapack III packaging extract

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.

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 personal protective equipment.

Wild-Type Lambda DNA c1857ind
1 Sam7

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 : Gigapack III packaging extract

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". 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".

VCS257 E. coli Strain

Section 6. Accidental release measures

Wild-Type Lambda DNA c1857ind 1 Sam7	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	
: Gigapack III 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).
VCS257 E. coli Strain	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).
Wild-Type Lambda DNA c1857ind 1 Sam7	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	: Gigapack III 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.
	VCS257 E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind 1 Sam7	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.

Section 7. Handling and storage

7.1 Precautions for safe handling


Protective measures	: Gigapack III packaging extract	Put on appropriate personal protective equipment (see Section 8).
	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	Put on appropriate personal protective equipment (see Section 8).

Section 7. Handling and storage

Advice on general occupational hygiene	: Gigapack III 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.
	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.
7.2 Conditions for safe storage, including any incompatibilities	: Gigapack III packaging extract	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.
	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 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)


Section 7. Handling and storage

Recommendations	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	:  Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available. Not available. Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
 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.

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.

Section 8. Exposure controls/personal protection

- 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** : Gigapack III packaging extract Liquid.
VCS257 E. coli Strain Liquid.
Wild-Type Lambda DNA c1857ind Liquid.
1 Sam7
- Color** : Gigapack III packaging extract Not available.
VCS257 E. coli Strain Not available.
Wild-Type Lambda DNA c1857ind Not available.
1 Sam7
- Odor** : Gigapack III packaging extract Not available.
VCS257 E. coli Strain Not available.
Wild-Type Lambda DNA c1857ind Not available.
1 Sam7
- Odor threshold** : Gigapack III packaging extract Not available.
VCS257 E. coli Strain Not available.
Wild-Type Lambda DNA c1857ind Not available.
1 Sam7
- pH** : Gigapack III packaging extract 8
VCS257 E. coli Strain 7
Wild-Type Lambda DNA c1857ind 7
1 Sam7
- Melting point/freezing point** : Gigapack III packaging extract Not available.
VCS257 E. coli Strain Not available.
Wild-Type Lambda DNA c1857ind 0°C (32°F)
1 Sam7
- Boiling point, initial boiling point, and boiling range** : Gigapack III packaging extract Not available.
VCS257 E. coli Strain Not available.
Wild-Type Lambda DNA c1857ind 100°C (212°F)
1 Sam7
- Flash point** :
- | Ingredient name | Closed cup | | | Open cup | | |
|-----------------------|------------|----|--------|----------|-------|--------|
| | °C | °F | Method | °C | °F | Method |
| VCS257 E. coli Strain | | | | | | |
| Glycerol | | | | 177 | 350.6 | |
- Evaporation rate** : Gigapack III packaging extract Not available.
VCS257 E. coli Strain Not available.
Wild-Type Lambda DNA c1857ind Not available.
1 Sam7
- Flammability** : Gigapack III packaging extract Not applicable.
VCS257 E. coli Strain Not applicable.
Wild-Type Lambda DNA c1857ind Not applicable.
1 Sam7


Section 9. Physical and chemical properties and safety characteristics


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


Vapor pressure	Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
		mm Hg	kPa	Method	mm Hg	kPa	Method
	 Gigapack III packaging extract						
	water	23.8	3.2		92.258	12.3	
	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	

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

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

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

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

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

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

Section 9. Physical and chemical properties and safety characteristics

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

Particle characteristics

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


Section 10. Stability and reactivity

10.1 Reactivity	:	Gigapack III packaging extract	No specific test data related to reactivity available for this product or its ingredients.
	:	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	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	:	Gigapack III packaging extract	The product is stable.
	:	VCS257 E. coli Strain	The product is stable.
	:	Wild-Type Lambda DNA c1857ind	The product is stable.
	:	1 Sam7	
10.3 Possibility of hazardous reactions	:	Gigapack III packaging extract	Under normal conditions of storage and use, hazardous reactions will not occur.
	:	VCS257 E. coli Strain	Under normal conditions of storage and use, hazardous reactions will not occur.
	:	Wild-Type Lambda DNA c1857ind	Under normal conditions of storage and use, hazardous reactions will not occur.
	:	1 Sam7	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	:	Gigapack III packaging extract	No specific data.
	:	VCS257 E. coli Strain	No specific data.
	:	Wild-Type Lambda DNA c1857ind	No specific data.
	:	1 Sam7	
10.5 Incompatible materials	:	Gigapack III packaging extract	May react or be incompatible with oxidizing materials.
	:	VCS257 E. coli Strain	May react or be incompatible with oxidizing materials.
	:	Wild-Type Lambda DNA c1857ind	May react or be incompatible with oxidizing materials.
	:	1 Sam7	
10.6 Hazardous decomposition products	:	Gigapack III packaging extract	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	:	VCS257 E. coli Strain	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	:	Wild-Type Lambda DNA c1857ind	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	:	1 Sam7	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.

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	 Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes. Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes. Not available.
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Potential acute health effects

Eye contact	 Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. Causes eye irritation. No known significant effects or critical hazards.
Inhalation	Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Section 11. Toxicological information

Ingestion	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
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Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data. Adverse symptoms may include the following: irritation watering redness No specific data.
Inhalation	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data. No specific data. No specific data.
Skin contact	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data. No specific data. No specific data.
Ingestion	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data. No specific data. 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	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Reproductive toxicity	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Section 11. Toxicological information

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

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

Section 13. Disposal considerations

when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal 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 :  Gigapack III packaging extract
VCS257 E. coli Strain
Wild-Type Lambda DNA c1857ind 1 Sam7




Not applicable.
EYE IRRITATION - Category 2B
Not applicable.

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Classification
 Gigapack III packaging extract Sucrose	≤10	COMBUSTIBLE DUSTS
VCS257 E. coli Strain Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B

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** : Not determined.
- 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
 VCS257 E. coli Strain EYE IRRITATION - Category 2B	Calculation method

History

Date of issue	: 03/28/2023
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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