





## Section 2. Hazards identification


**Hazard pictograms** :  CS257 E. coli Strain





**Signal word** :  CS257 E. coli Strain Warning  
 Wild-Type Lambda DNA c1857ind No signal word.  
 1 Sam7  
 Gigapack III XL - 11 packaging No signal word.  
 extract


**Hazard statements** :  CS257 E. coli Strain H319 - Causes serious eye irritation.  
 Wild-Type Lambda DNA c1857ind No known significant effects or critical hazards.  
 1 Sam7  
 Gigapack III XL - 11 packaging No known significant effects or critical hazards.  
 extract


### Precautionary statements

**Prevention** :  CS257 E. coli Strain P280 - Wear eye or face protection.  
 Wild-Type Lambda DNA c1857ind P264 - Wash hands thoroughly after handling.  
 1 Sam7 Not applicable.  
 Gigapack III XL - 11 packaging Not applicable.  
 extract


**Response** :  CS257 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  
 attention.  
 Wild-Type Lambda DNA c1857ind Not applicable.  
 1 Sam7  
 Gigapack III XL - 11 packaging Not applicable.  
 extract

**Storage** :  CS257 E. coli Strain Not applicable.  
 Wild-Type Lambda DNA c1857ind Not applicable.  
 1 Sam7  
 Gigapack III XL - 11 packaging Not applicable.  
 extract

**Disposal** :  CS257 E. coli Strain Not applicable.  
 Wild-Type Lambda DNA c1857ind Not applicable.  
 1 Sam7  
 Gigapack III XL - 11 packaging Not applicable.  
 extract

**Supplemental label elements** :  CS257 E. coli Strain None known.  
 Wild-Type Lambda DNA c1857ind None known.  
 1 Sam7  
 Gigapack III XL - 11 packaging None known.  
 extract

### 2.3 Other hazards

**Hazards not otherwise classified** :  CS257 E. coli Strain None known.  
 Wild-Type Lambda DNA c1857ind None known.  
 1 Sam7  
 Gigapack III XL - 11 packaging None known.  
 extract

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	:	✓CS257 E. coli Strain	Mixture
		Wild-Type Lambda DNA c1857ind 1	Mixture
		Sam7	
		Gigapack III XL - 11 packaging extract	Mixture

Ingredient name	%	CAS number
✓CS257 E. coli Strain		
Glycerol	≥10 - ≤25	56-81-5
Sodium chloride	≤3	7647-14-5

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 as hazardous to health or the environment 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

<b>Eye contact</b>	:	✓CS257 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. 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.
<b>Inhalation</b>	:	✓CS257 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.

## Section 4. First aid measures

<b>Skin contact</b>	: ✓CS257 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.
<b>Ingestion</b>	: ✓CS257 E. coli Strain	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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

<b>Eye contact</b>	: ✓CS257 E. coli Strain	Causes serious 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.
<b>Inhalation</b>	: ✓CS257 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.

## Section 4. First aid measures

<b>Skin contact</b>	: ✓CS257 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.
<b>Ingestion</b>	: ✓CS257 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

<b>Eye contact</b>	: ✓CS257 E. coli Strain	Adverse symptoms may include the following: pain or irritation watering redness
	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.
	Gigapack III XL - 11 packaging extract	No specific data.
<b>Inhalation</b>	: ✓CS257 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.
<b>Skin contact</b>	: ✓CS257 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.
<b>Ingestion</b>	: ✓CS257 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.

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

<b>Notes to physician</b>	: ✓CS257 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.
	Gigapack III XL - 11 packaging extract	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: ✓CS257 E. coli Strain	No specific treatment.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific treatment.
	Gigapack III XL - 11 packaging extract	No specific treatment.

## Section 4. First aid measures

<b>Protection of first-aiders</b>	: ✓CS257 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 Gigapack III XL - 11 packaging extract	No action shall be taken involving any personal risk or without suitable training. 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

<b>Suitable extinguishing media</b>	: ✓CS257 E. coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	Wild-Type Lambda DNA c1857ind 1 Sam7 Gigapack III XL - 11 packaging extract	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: ✓CS257 E. coli Strain	None known.
	Wild-Type Lambda DNA c1857ind 1 Sam7 Gigapack III XL - 11 packaging extract	None known. None known.

### 5.2 Special hazards arising from the substance or mixture

<b>Specific hazards arising from the chemical</b>	: ✓CS257 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 Gigapack III XL - 11 packaging extract	In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: ✓CS257 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 Gigapack III XL - 11 packaging extract	No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide

### 5.3 Advice for firefighters

<b>Special protective actions for fire-fighters</b>	: ✓CS257 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 Gigapack III XL - 11 packaging	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. Promptly isolate the scene by removing all persons

## Section 5. Fire-fighting measures

<p><b>Special protective equipment for fire-fighters</b></p>	<p>extract</p> <p>: ✓CS257 E. coli Strain</p> <p>Wild-Type Lambda DNA c1857ind 1 Sam7</p> <p>Gigapack III XL - 11 packaging extract</p>	<p>from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</p> <p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p> <p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p> <p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p>
--------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

<p><b>For non-emergency personnel</b></p>	<p>: ✓CS257 E. coli Strain</p> <p>Wild-Type Lambda DNA c1857ind 1 Sam7</p> <p>Gigapack III XL - 11 packaging extract</p>	<p>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.</p> <p>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.</p> <p>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.</p>
<p><b>For emergency responders</b></p>	<p>: ✓CS257 E. coli Strain</p> <p>Wild-Type Lambda DNA c1857ind 1 Sam7</p> <p>Gigapack III XL - 11 packaging extract</p>	<p>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".</p> <p>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".</p> <p>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".</p>

## Section 6. Accidental release measures

### 6.2 Environmental precautions

:  CS257 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).

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).

### 6.3 Methods and materials for containment and cleaning up

#### Methods for cleaning up

:  CS257 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.

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.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

#### Protective measures

:  CS257 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).

Gigapack III XL - 11 packaging  
extract

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



## Section 7. Handling and storage

<b>Advice on general occupational hygiene</b>	:  CS257 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.
<b>7.2 Conditions for safe storage, including any incompatibilities</b>	:  CS257 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.
	Gigapack III XL - 11 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.

### 7.3 Specific end use(s)

## Section 7. Handling and storage

<b>Recommendations</b>	: ✓CS257 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.
<b>Industrial sector specific solutions</b>	: ✓CS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA c1857ind	Not applicable.
	1 Sam7	
	Gigapack III XL - 11 packaging extract	Not applicable.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
✓CS257 E. coli Strain	<b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Total dust
Glycerol	
Sodium chloride	<b>OSHA PEL (United States, 6/2016).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m <sup>3</sup> 8 hours. Form: Total dust None.

### 8.2 Exposure controls

<b>Appropriate engineering controls</b>	: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
<b>Environmental exposure controls</b>	: 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

<b>Hygiene measures</b>	: ✓ 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.
<b>Eye/face protection</b>	: 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.
<b>Skin protection</b>	
<b>Hand protection</b>	: 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.

## Section 8. Exposure controls/personal protection

- 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

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	<input checked="" type="checkbox"/> CS257 E. coli Strain	Liquid.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Liquid.
	Gigapack III XL - 11 packaging extract	Liquid.
<b>Color</b>	<input checked="" type="checkbox"/> CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
<b>Odor</b>	<input checked="" type="checkbox"/> CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
<b>Odor threshold</b>	<input checked="" type="checkbox"/> CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
<b>pH</b>	<input checked="" type="checkbox"/> CS257 E. coli Strain	7
	Wild-Type Lambda DNA c1857ind 1 Sam7	7
	Gigapack III XL - 11 packaging extract	8
<b>Melting point</b>	<input checked="" type="checkbox"/> CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	0°C (32°F)
	Gigapack III XL - 11 packaging extract	Not available.
<b>Boiling point</b>	<input checked="" type="checkbox"/> CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	100°C (212°F)
	Gigapack III XL - 11 packaging extract	Not available.
<b>Flash point</b>	<input checked="" type="checkbox"/> CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.

## Section 9. Physical and chemical properties

<b>Evaporation rate</b>	: ✓CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
<b>Flammability (solid, gas)</b>	: ✓CS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not applicable.
	Gigapack III XL - 11 packaging extract	Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: ✓CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
<b>Vapor pressure</b>	: ✓CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
<b>Vapor density</b>	: ✓CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
<b>Relative density</b>	: ✓CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
<b>Solubility</b>	: ✓CS257 E. coli Strain	Easily soluble in the following materials: cold water and hot water.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Easily soluble in the following materials: cold water and hot water.
	Gigapack III XL - 11 packaging extract	Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n- octanol/water</b>	: ✓CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
<b>Auto-ignition temperature</b>	: ✓CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
<b>Decomposition temperature</b>	: ✓CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.
<b>Viscosity</b>	: ✓CS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Gigapack III XL - 11 packaging extract	Not available.

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: ✓CS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7 Gigapack III XL - 11 packaging extract	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: ✓CS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7 Gigapack III XL - 11 packaging extract	The product is stable. The product is stable.  The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: ✓CS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7 Gigapack III XL - 11 packaging extract	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: ✓CS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7 Gigapack III XL - 11 packaging extract	No specific data. No specific data.  No specific data.
<b>10.5 Incompatible materials</b>	: ✓CS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7 Gigapack III XL - 11 packaging extract	May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.
<b>10.6 Hazardous decomposition products</b>	: ✓CS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7  Gigapack III XL - 11 packaging extract	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.  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
✓CS257 E. coli Strain				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

#### Irritation/Corrosion

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
✓CS257 E. coli Strain Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit	- -	10 milligrams 24 hours 500 milligrams	- -

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

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

✓CS257 E. coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.
Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
Gigapack III XL - 11 packaging extract	Not available.

### Potential acute health effects

#### Eye contact

✓CS257 E. coli Strain	Causes serious 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

✓CS257 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.

## Section 11. Toxicological information

<b>Skin contact</b>	: ✓CS257 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.
<b>Ingestion</b>	: ✓CS257 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

<b>Eye contact</b>	: ✓CS257 E. coli Strain	Adverse symptoms may include the following: pain or irritation watering redness
	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.
	Gigapack III XL - 11 packaging extract	No specific data.
<b>Inhalation</b>	: ✓CS257 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.
<b>Skin contact</b>	: ✓CS257 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.
<b>Ingestion</b>	: ✓CS257 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.

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

#### Short term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Long term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Potential chronic health effects

<b>General</b>	: ✓CS257 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.

## Section 11. Toxicological information

<b>Carcinogenicity</b>	: ✓CS257 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.
<b>Mutagenicity</b>	: ✓CS257 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.
<b>Teratogenicity</b>	: ✓CS257 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.
<b>Developmental effects</b>	: ✓CS257 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.
<b>Fertility effects</b>	: ✓CS257 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.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
✓CS257 E. coli Strain Oral	300000 mg/kg

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
✓CS257 E. coli Strain Glycerol Sodium chloride	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks

### 12.2 Persistence and degradability



## Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
✓CS257 E. coli Strain Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
✓CS257 E. coli Strain Glycerol	-1.76	-	low

### 12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

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

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

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

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

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

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

## Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 14. Transport information

Transport in bulk according to Annex II of MARPOL and the IBC Code : 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 EYE IRRITATION - Category 2A  
Wild-Type Lambda DNA c1857ind Not applicable.  
1 Sam7  
Gigapack III XL - 11 packaging extract Not applicable.

#### Composition/information on ingredients

Name	%	Classification
<input checked="" type="checkbox"/> CS257 E. coli Strain		EYE IRRITATION - Category 2A
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2A
Sodium chloride	≤3	EYE IRRITATION - Category 2A

### 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; 1,2,3-PROPANETRIOL

**Pennsylvania** : The following components are listed: 1,2,3-PROPANETRIOL; .ALPHA.-D-GLUCOPYRANOSIDE, .BETA.-D-FRUCTOFURANOSYL

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

## Section 15. Regulatory information

### [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](#)

<a href="#">Australia</a>	: Not determined.
<a href="#">Canada</a>	: At least one component is not listed in DSL but all such components are listed in NDSL.
<a href="#">China</a>	: <input checked="" type="checkbox"/> All components are listed or exempted.
<a href="#">Europe</a>	: All components are listed or exempted.
<a href="#">Japan</a>	: <input checked="" type="checkbox"/> <b>Japan inventory (ENCS)</b> : Not determined. <input checked="" type="checkbox"/> <b>Japan inventory (ISHL)</b> : Not determined.
<a href="#">Malaysia</a>	: Not determined.
<a href="#">New Zealand</a>	: All components are listed or exempted.
<a href="#">Philippines</a>	: Not determined.
<a href="#">Republic of Korea</a>	: Not determined.
<a href="#">Taiwan</a>	: All components are listed or exempted.
<a href="#">Thailand</a>	: <input checked="" type="checkbox"/> Not determined.
<a href="#">Turkey</a>	: <input checked="" type="checkbox"/> Not determined.
<a href="#">United States</a>	: All components are listed or exempted.
<a href="#">Viet Nam</a>	: <input checked="" type="checkbox"/> Not determined.

## Section 16. Other information

### [History](#)

<a href="#">Date of issue</a>	: 12/31/2017
<a href="#">Date of previous issue</a>	: 10/27/2015.
<a href="#">Version</a>	: 4

Indicates information that has changed from previously issued version.

### [Notice to reader](#)

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.