

# SAFETY DATA SHEET

Lambda gt11 - EcoR I - CIAP - Treated Vector Kit, Part Number 234211

## Section 1. Identification

<b>Product identifier</b>	: Lambda gt11 - EcoR I - CIAP - Treated Vector Kit, Part Number 234211
<b>Part no. (chemical kit)</b>	: 234211
<b>Part no.</b>	: Lambda gt11 Vector Digested With EcoR I      234211-51 And Dephosphorylated pRho/EcoR I Test Insert                                      210200-51 Y1088 E. coli Strain    200263-81 Y1089r- E. coli Strain    200260-81 Y1090r- E. coli Strain    200281-81
<b>Material uses</b>	: Analytical reagent.  Lambda gt11 Vector Digested With EcoR I      0.01 ml (10 µg 1 µg/µl) And Dephosphorylated pRho/EcoR I Test Insert                                      0.005 ml (1.25 µg 0.25 µg/µl) Y1088 E. coli Strain    0.5 ml Y1089r- E. coli Strain    0.5 ml Y1090r- E. coli Strain    0.5 ml
<b>Supplier/Manufacturer</b>	: Agilent Technologies, Inc. 5301 Stevens Creek Blvd Santa Clara, CA 95051, USA 800-227-9770
<b>Emergency telephone number (with hours of operation)</b>	: CHEMTREC®: 1-800-424-9300

## Section 2. Hazard identification

### Classification of the substance or mixture

<b>Y1088 E. coli Strain</b> H319	EYE IRRITATION - Category 2A
<b>Y1089r- E. coli Strain</b> H319	EYE IRRITATION - Category 2A
<b>Y1090r- E. coli Strain</b> H319	EYE IRRITATION - Category 2A

### GHS label elements

## Section 2. Hazard identification

**Hazard pictograms** : Y1088 E. coli Strain



Y1089r- E. coli Strain



Y1090r- E. coli Strain



**Signal word** : Lambda gt11 Vector No signal word.

Digested With EcoR I And  
Dephosphorylated  
pRheo/EcoR I Test Insert  
Y1088 E. coli Strain  
Y1089r- E. coli Strain  
Y1090r- E. coli Strain

No signal word.

No signal word.

Warning

Warning

Warning

**Hazard statements**

: Lambda gt11 Vector  
Digested With EcoR I And  
Dephosphorylated  
pRheo/EcoR I Test Insert  
Y1088 E. coli Strain  
Y1089r- E. coli Strain  
Y1090r- E. coli Strain

No known significant effects or critical hazards.

No known significant effects or critical hazards.

H319 - Causes serious eye irritation.

H319 - Causes serious eye irritation.

H319 - Causes serious eye irritation.

**Precautionary statements**

**Prevention**

: Lambda gt11 Vector  
Digested With EcoR I And  
Dephosphorylated  
pRheo/EcoR I Test Insert  
Y1088 E. coli Strain  
Y1089r- E. coli Strain  
Y1090r- E. coli Strain

Not applicable.

Not applicable.

P280 - Wear eye or face protection.

P280 - Wear eye or face protection.

P280 - Wear eye or face protection.

**Response**

: Lambda gt11 Vector  
Digested With EcoR I And  
Dephosphorylated  
pRheo/EcoR I Test Insert  
Y1088 E. coli Strain

Not applicable.

Not applicable.

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.

Y1089r- 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.

Y1090r- 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.

## Section 2. Hazard identification

<b>Storage</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	Not applicable.  Not applicable. Not applicable. Not applicable. Not applicable.
<b>Disposal</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	Not applicable.  Not applicable. Not applicable. Not applicable. Not applicable.
<b>Supplemental label elements</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	None known.  None known. None known. None known. None known.
<b>Other hazards which do not result in classification</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	None known.  None known. None known. None known. None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	Mixture  Mixture Mixture Mixture Mixture
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Ingredient name	% (w/w)	CAS number
<b>Y1088 E. coli Strain</b>		
Glycerol	10 - 30	56-81-5
Sodium chloride	0.1 - 1	7647-14-5
<b>Y1089r- E. coli Strain</b>		
Glycerol	10 - 30	56-81-5
Sodium chloride	0.1 - 1	7647-14-5
<b>Y1090r- E. coli Strain</b>		
Glycerol	10 - 30	56-81-5
Sodium chloride	0.1 - 1	7647-14-5

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

### Description of necessary first aid measures

#### Eye contact

: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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.
pRho/EcoR I Test Insert	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.
Y1088 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.
Y1089r- 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.
Y1090r- 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.

#### Inhalation

: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Y1088 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.
Y1089r- 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.
Y1090r- 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

## Section 4. First-aid measures

### Skin contact

- : Lambda gt11 Vector  
Digested With EcoR I And  
Dephosphorylated  
pRheo/EcoR I Test Insert  
  
Y1088 E. coli Strain  
  
Y1089r- E. coli Strain  
  
Y1090r- E. coli Strain
- as a collar, tie, belt or waistband.  
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.  
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.  
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.  
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.  
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

### Ingestion

- : Lambda gt11 Vector  
Digested With EcoR I And  
Dephosphorylated  
  
pRheo/EcoR I Test Insert  
  
Y1088 E. coli Strain  
  
Y1089r- E. coli Strain  
  
Y1090r- E. coli Strain
- 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.  
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.  
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.  
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.  
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

## Section 4. First-aid measures

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.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

<b>Eye contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards.  No known significant effects or critical hazards. Causes serious eye irritation. Causes serious eye irritation. Causes serious eye irritation.
<b>Inhalation</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards.  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

<b>Eye contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain	No specific data.  No specific data. Adverse symptoms may include the following: pain or irritation watering redness
	Y1089r- E. coli Strain	Adverse symptoms may include the following: pain or irritation watering redness
	Y1090r- E. coli Strain	Adverse symptoms may include the following: pain or irritation

## Section 4. First-aid measures

<b>Inhalation</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	watering redness No specific data.  No specific data. No specific data. No specific data. No specific data.
<b>Skin contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No specific data.  No specific data. No specific data. No specific data.
<b>Ingestion</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No specific data.  No specific data. No specific data. No specific data.

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

<b>Notes to physician</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert  Y1088 E. coli Strain  Y1089r- E. coli Strain  Y1090r- E. coli Strain	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No specific treatment.  No specific treatment. No specific treatment. No specific treatment.
<b>Protection of first-aiders</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert  Y1088 E. coli Strain  Y1089r- E. coli Strain	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. 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. 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

## Section 4. First-aid measures

Y1090r- E. coli Strain

resuscitation.

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing media

: Lambda gt11 Vector  
Digested With EcoR I And  
Dephosphorylated  
pRheo/EcoR I Test Insert

Use an extinguishing agent suitable for the surrounding fire.

Y1088 E. coli Strain

Use an extinguishing agent suitable for the surrounding fire.

Y1089r- E. coli Strain

Use an extinguishing agent suitable for the surrounding fire.

Y1090r- E. coli Strain

Use an extinguishing agent suitable for the surrounding fire.

Use an extinguishing agent suitable for the surrounding fire.

#### Unsuitable extinguishing media

: Lambda gt11 Vector  
Digested With EcoR I And  
Dephosphorylated  
pRheo/EcoR I Test Insert  
Y1088 E. coli Strain  
Y1089r- E. coli Strain  
Y1090r- E. coli Strain

None known.

None known.

None known.

None known.

None known.

#### Specific hazards arising from the chemical

: Lambda gt11 Vector  
Digested With EcoR I And  
Dephosphorylated  
pRheo/EcoR I Test Insert

In a fire or if heated, a pressure increase will occur and the container may burst.

Y1088 E. coli Strain

In a fire or if heated, a pressure increase will occur and the container may burst.

Y1089r- E. coli Strain

In a fire or if heated, a pressure increase will occur and the container may burst.

Y1090r- E. coli Strain

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.

#### Hazardous thermal decomposition products

: Lambda gt11 Vector  
Digested With EcoR I And  
Dephosphorylated  
pRheo/EcoR I Test Insert  
Y1088 E. coli Strain

No specific data.

No specific data.

Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
halogenated compounds  
metal oxide/oxides

Y1089r- E. coli Strain

Decomposition products may include the following materials:

carbon dioxide  
carbon monoxide  
halogenated compounds  
metal oxide/oxides

Y1090r- E. coli Strain

Decomposition products may include the following materials:

## Section 5. Fire-fighting measures

carbon dioxide  
carbon monoxide  
halogenated compounds  
metal oxide/oxides

### Special protective actions for fire-fighters

- : Lambda gt11 Vector Digested With EcoR I And Dephosphorylated  
pRheo/EcoR I Test Insert  
Y1088 E. coli Strain  
Y1089r- E. coli Strain  
Y1090r- 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.
- 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 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 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 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

- : Lambda gt11 Vector Digested With EcoR I And Dephosphorylated  
pRheo/EcoR I Test Insert  
Y1088 E. coli Strain  
Y1089r- E. coli Strain  
Y1090r- 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.
- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

- : Lambda gt11 Vector Digested With EcoR I And Dephosphorylated  
pRheo/EcoR I Test Insert
- 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

## Section 6. Accidental release measures

		through spilled material. Put on appropriate personal protective equipment.
	Y1088 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.
	Y1089r- 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.
	Y1090r- 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.
<b>For emergency responders</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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".
	pRheo/EcoR I Test Insert	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".
	Y1088 E. coli Strain	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".
	Y1089r- E. coli Strain	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".
	Y1090r- E. coli Strain	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".
<b>Environmental precautions</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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).
	pRheo/EcoR I Test Insert	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).
	Y1088 E. coli Strain	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 6. Accidental release measures

	Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Y1089r- 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).
Y1090r- 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).

### Methods and materials for containment and cleaning up

<b>Methods for cleaning up</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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.
	pRheo/EcoR I Test Insert	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.
	Y1088 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.
	Y1089r- 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.
	Y1090r- 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.

## Section 7. Handling and storage

### Precautions for safe handling

<b>Protective measures</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert	Put on appropriate personal protective equipment (see Section 8).
	Y1088 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

## Section 7. Handling and storage

		tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Y1089r- 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.
	Y1090r- 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.
<b>Advice on general occupational hygiene</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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.
	pRho/EcoR I Test Insert	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.
	Y1088 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.
	Y1089r- 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.
	Y1090r- 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.

## Section 7. Handling and storage

<b>Conditions for safe storage, including any incompatibilities</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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.
	pRho/EcoR I Test Insert	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.
	Y1088 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.
	Y1089r- 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.
	Y1090r- 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.

## Section 8. Exposure controls/personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
<p><b>Y1088 E. coli Strain</b> Glycerol</p>	<p><b>CA Alberta Provincial (Canada, 6/2018).</b> 8 hrs OEL: 10 mg/m<sup>3</sup> 8 hours. Form: Mist  <b>CA Quebec Provincial (Canada, 7/2019).</b> TWAEV: 10 mg/m<sup>3</sup> 8 hours. Form: mist  <b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 20 mg/m<sup>3</sup> 15 minutes. Form: mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: mist  <b>CA British Columbia Provincial (Canada, 1/2021).</b> TWA: 3 mg/m<sup>3</sup> 8 hours. Form: respirable mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: total mist</p>
<p><b>Y1089r- E. coli Strain</b> Glycerol</p>	<p><b>CA Alberta Provincial (Canada, 6/2018).</b> 8 hrs OEL: 10 mg/m<sup>3</sup> 8 hours. Form: Mist  <b>CA Quebec Provincial (Canada, 7/2019).</b> TWAEV: 10 mg/m<sup>3</sup> 8 hours. Form: mist  <b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 20 mg/m<sup>3</sup> 15 minutes. Form: mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: mist  <b>CA British Columbia Provincial (Canada, 1/2021).</b> TWA: 3 mg/m<sup>3</sup> 8 hours. Form: respirable mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: total mist</p>
<p><b>Y1090r- E. coli Strain</b> Glycerol</p>	<p><b>CA Alberta Provincial (Canada, 6/2018).</b> 8 hrs OEL: 10 mg/m<sup>3</sup> 8 hours. Form: Mist  <b>CA Quebec Provincial (Canada, 7/2019).</b> TWAEV: 10 mg/m<sup>3</sup> 8 hours. Form: mist  <b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 20 mg/m<sup>3</sup> 15 minutes. Form: mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: mist  <b>CA British Columbia Provincial (Canada, 1/2021).</b> TWA: 3 mg/m<sup>3</sup> 8 hours. Form: respirable mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: total mist</p>

**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

- |                       |   |  |
|-----------------------|---|--|
| <b>Physical state</b> | : Lambda gt11 Vector<br>Digested With EcoR I And<br>Dephosphorylated<br>pRho/EcoR I Test Insert<br>Y1088 E. coli Strain<br>Y1089r- E. coli Strain<br>Y1090r- E. coli Strain | Liquid.<br><br>Liquid.<br>Liquid.<br>Liquid.<br>Liquid.                                    |
| <b>Color</b>          | : Lambda gt11 Vector<br>Digested With EcoR I And<br>Dephosphorylated<br>pRho/EcoR I Test Insert<br>Y1088 E. coli Strain<br>Y1089r- E. coli Strain<br>Y1090r- E. coli Strain | Not available.<br><br>Not available.<br>Not available.<br>Not available.<br>Not available. |
| <b>Odor</b>           | : Lambda gt11 Vector<br>Digested With EcoR I And<br>Dephosphorylated<br>pRho/EcoR I Test Insert<br>Y1088 E. coli Strain<br>Y1089r- E. coli Strain<br>Y1090r- E. coli Strain | Not available.<br><br>Not available.<br>Not available.<br>Not available.<br>Not available. |

## Section 9. Physical and chemical properties and safety characteristics

**Odor threshold** : Lambda gt11 Vector Not available.  
 Digested With EcoR I And Dephosphorylated  
 pRheo/EcoR I Test Insert Not available.  
 Y1088 E. coli Strain Not available.  
 Y1089r- E. coli Strain Not available.  
 Y1090r- E. coli Strain Not available.

**pH** : Lambda gt11 Vector 7.5  
 Digested With EcoR I And Dephosphorylated  
 pRheo/EcoR I Test Insert 7.5  
 Y1088 E. coli Strain 7  
 Y1089r- E. coli Strain 7  
 Y1090r- E. coli Strain 7

**Melting point/freezing point** : Lambda gt11 Vector 0°C (32°F)  
 Digested With EcoR I And Dephosphorylated  
 pRheo/EcoR I Test Insert 0°C (32°F)  
 Y1088 E. coli Strain Not available.  
 Y1089r- E. coli Strain Not available.  
 Y1090r- E. coli Strain Not available.

**Boiling point, initial boiling point, and boiling range** : Lambda gt11 Vector 100°C (212°F)  
 Digested With EcoR I And Dephosphorylated  
 pRheo/EcoR I Test Insert 100°C (212°F)  
 Y1088 E. coli Strain Not available.  
 Y1089r- E. coli Strain Not available.  
 Y1090r- E. coli Strain Not available.

**Flash point** :

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
<b>Lambda gt11 Vector Digested With EcoR I And Dephosphorylated</b>						
Edetic acid	>100	>212	DIN 51758			
<b>pRheo/EcoR I Test Insert</b>						
Edetic acid	>100	>212	DIN 51758			
<b>Y1088 E. coli Strain</b>						
Glycerol				177	350.6	
<b>Y1089r- E. coli Strain</b>						
Glycerol				177	350.6	
<b>Y1090r- E. coli Strain</b>						
Glycerol				177	350.6	

## Section 9. Physical and chemical properties and safety characteristics

**Evaporation rate** : Lambda gt11 Vector Not available.  
 Digested With EcoR I And Dephosphorylated  
 pRheo/EcoR I Test Insert Not available.  
 Y1088 E. coli Strain Not available.  
 Y1089r- E. coli Strain Not available.  
 Y1090r- E. coli Strain Not available.

**Flammability** : Lambda gt11 Vector Not applicable.  
 Digested With EcoR I And Dephosphorylated  
 pRheo/EcoR I Test Insert Not applicable.  
 Y1088 E. coli Strain Not applicable.  
 Y1089r- E. coli Strain Not applicable.  
 Y1090r- E. coli Strain Not applicable.

**Lower and upper explosion limit/flammability limit** : Lambda gt11 Vector Not available.  
 Digested With EcoR I And Dephosphorylated  
 pRheo/EcoR I Test Insert Not available.  
 Y1088 E. coli Strain Not available.  
 Y1089r- E. coli Strain Not available.  
 Y1090r- E. coli Strain Not available.

**Vapor pressure** :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
<b>Lambda gt11 Vector Digested With EcoR I And Dephosphorylated</b>						
water	23.8	3.2		92.258	12.3	
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	0.000027	0.0000036		0.000007501	0.000001	
<b>pRheo/EcoR I Test Insert</b>						
water	23.8	3.2		92.258	12.3	
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	0.000027	0.0000036		0.000007501	0.000001	
<b>Y1088 E. coli Strain</b>						
water	23.8	3.2		92.258	12.3	
Glycerol	0.000075	0.00001		0.0025	0.00033	
<b>Y1089r- E. coli Strain</b>						
water	23.8	3.2		92.258	12.3	
Glycerol	0.000075	0.00001		0.0025	0.00033	
<b>Y1090r- E. coli Strain</b>						
water	23.8	3.2		92.258	12.3	
Glycerol	0.000075	0.00001		0.0025	0.00033	

## Section 9. Physical and chemical properties and safety characteristics

- Relative vapor density** : Lambda gt11 Vector Not available.  
 Digested With EcoR I And Dephosphorylated  
 pRheo/EcoR I Test Insert Not available.  
 Y1088 E. coli Strain Not available.  
 Y1089r- E. coli Strain Not available.  
 Y1090r- E. coli Strain Not available.
- Relative density** : Lambda gt11 Vector Not available.  
 Digested With EcoR I And Dephosphorylated  
 pRheo/EcoR I Test Insert Not available.  
 Y1088 E. coli Strain Not available.  
 Y1089r- E. coli Strain Not available.  
 Y1090r- E. coli Strain Not available.
- Solubility** : Lambda gt11 Vector Easily soluble in the following materials: cold water and hot water.  
 Digested With EcoR I And Dephosphorylated  
 pRheo/EcoR I Test Insert Easily soluble in the following materials: cold water and hot water.  
 Y1088 E. coli Strain Easily soluble in the following materials: cold water and hot water.  
 Y1089r- E. coli Strain Easily soluble in the following materials: cold water and hot water.  
 Y1090r- E. coli Strain Easily soluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/water** : Lambda gt11 Vector Not applicable.  
 Digested With EcoR I And Dephosphorylated  
 pRheo/EcoR I Test Insert Not applicable.  
 Y1088 E. coli Strain Not applicable.  
 Y1089r- E. coli Strain Not applicable.  
 Y1090r- E. coli Strain Not applicable.

**Auto-ignition temperature** :

Ingredient name	°C	°F	Method
<b>Lambda gt11 Vector Digested With EcoR I And Dephosphorylated</b>			
Edetic acid	>400	>752	VDI 2263
<b>pRheo/EcoR I Test Insert</b>			
Edetic acid	>400	>752	VDI 2263
<b>Y1088 E. coli Strain</b>			
Glycerol	370	698	
<b>Y1089r- E. coli Strain</b>			
Glycerol	370	698	
<b>Y1090r- E. coli Strain</b>			
Glycerol	370	698	

## Section 9. Physical and chemical properties and safety characteristics

**Decomposition temperature** : Lambda gt11 Vector Not available.  
 Digested With EcoR I And  
 Dephosphorylated  
 pRheo/EcoR I Test Insert Not available.  
 Y1088 E. coli Strain Not available.  
 Y1089r- E. coli Strain Not available.  
 Y1090r- E. coli Strain Not available.

**Viscosity** : Lambda gt11 Vector Not available.  
 Digested With EcoR I And  
 Dephosphorylated  
 pRheo/EcoR I Test Insert Not available.  
 Y1088 E. coli Strain Not available.  
 Y1089r- E. coli Strain Not available.  
 Y1090r- E. coli Strain Not available.

### Particle characteristics

**Median particle size** : Lambda gt11 Vector Not applicable.  
 Digested With EcoR I And  
 Dephosphorylated  
 pRheo/EcoR I Test Insert Not applicable.  
 Y1088 E. coli Strain Not applicable.  
 Y1089r- E. coli Strain Not applicable.  
 Y1090r- E. coli Strain Not applicable.

## Section 10. Stability and reactivity

**Reactivity** : Lambda gt11 Vector No specific test data related to reactivity available for  
 Digested With EcoR I And this product or its ingredients.  
 Dephosphorylated  
 pRheo/EcoR I Test Insert No specific test data related to reactivity available for  
 this product or its ingredients.  
 Y1088 E. coli Strain No specific test data related to reactivity available for  
 this product or its ingredients.  
 Y1089r- E. coli Strain No specific test data related to reactivity available for  
 this product or its ingredients.  
 Y1090r- E. coli Strain No specific test data related to reactivity available for  
 this product or its ingredients.

**Chemical stability** : Lambda gt11 Vector The product is stable.  
 Digested With EcoR I And  
 Dephosphorylated  
 pRheo/EcoR I Test Insert The product is stable.  
 Y1088 E. coli Strain The product is stable.  
 Y1089r- E. coli Strain The product is stable.  
 Y1090r- E. coli Strain The product is stable.

**Possibility of hazardous reactions** : Lambda gt11 Vector Under normal conditions of storage and use,  
 Digested With EcoR I And hazardous reactions will not occur.  
 Dephosphorylated  
 pRheo/EcoR I Test Insert Under normal conditions of storage and use,  
 hazardous reactions will not occur.  
 Y1088 E. coli Strain Under normal conditions of storage and use,  
 hazardous reactions will not occur.  
 Y1089r- E. coli Strain Under normal conditions of storage and use,  
 hazardous reactions will not occur.  
 Y1090r- E. coli Strain Under normal conditions of storage and use,  
 hazardous reactions will not occur.

## Section 10. Stability and reactivity

<b>Conditions to avoid</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No specific data.  No specific data. No specific data. No specific data. No specific data.
<b>Incompatible materials</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	May react or be incompatible with oxidizing materials.  May react or be incompatible with oxidizing materials. 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>Hazardous decomposition products</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert  Y1088 E. coli Strain  Y1089r- E. coli Strain  Y1090r- E. coli Strain	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. 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

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>Y1088 E. coli Strain</b>				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>Y1089r- E. coli Strain</b>				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>Y1090r- E. coli Strain</b>				
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	
<b>Y1088 E. coli Strain</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
		Eyes - Moderate irritant	Rabbit	-	10 mg	-
		Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
<b>Y1089r- E. coli Strain</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
		Eyes - Moderate irritant	Rabbit	-	10 mg	-
		Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
<b>Y1090r- E. coli Strain</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
		Eyes - Moderate irritant	Rabbit	-	10 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.

## Section 11. Toxicological information

<b>Information on the likely routes of exposure</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	Not available.  Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation.
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### Potential acute health effects

<b>Eye contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards.  No known significant effects or critical hazards. Causes serious eye irritation. Causes serious eye irritation. Causes serious eye irritation.
<b>Inhalation</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards.
<b>Ingestion</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards.  No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Eye contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain	No specific data.
	Y1089r- E. coli Strain	No specific data. Adverse symptoms may include the following: pain or irritation watering redness
	Y1090r- E. coli Strain	Adverse symptoms may include the following: pain or irritation watering redness

## Section 11. Toxicological information

<b>Inhalation</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No specific data. No specific data. No specific data. No specific data. No specific data.
<b>Skin contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No specific data. No specific data. No specific data. No specific data.
<b>Ingestion</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No specific data. 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

<b>General</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards. 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

<b>Reproductive toxicity</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain	No known significant effects or critical hazards.  No known significant effects or critical hazards. 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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### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>Y1088 E. coli Strain</b>					
Y1088 E. coli Strain	300000	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Sodium chloride	3000	N/A	N/A	N/A	N/A
<b>Y1089r- E. coli Strain</b>					
Y1089r- E. coli Strain	300000	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Sodium chloride	3000	N/A	N/A	N/A	N/A
<b>Y1090r- E. coli Strain</b>					
Y1090r- E. coli Strain	300000	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Sodium chloride	3000	N/A	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
<b>Y1088 E. coli Strain</b>			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute EC50 402.6 mg/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
<b>Y1089r- E. coli Strain</b>			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours

## Section 12. Ecological information

<b>Y1090r- E. coli Strain</b> Glycerol Sodium chloride	Acute EC50 402.6 mg/l Fresh water Acute IC50 6.87 g/L Fresh water Acute LC50 1000000 µg/l Fresh water Chronic LC10 781 mg/l Fresh water	Daphnia - Daphnia magna Aquatic plants - Lemna minor Fish - Morone saxatilis - Larvae Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 96 hours 96 hours 3 weeks
	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks
	Acute LC50 54000 mg/l Fresh water Acute EC50 2430000 µg/l Fresh water Acute EC50 519.6 mg/l Fresh water	Fish - Oncorhynchus mykiss Algae - Navicula seminulum Crustaceans - Cypris subglobosa	96 hours 96 hours 48 hours
	Acute EC50 402.6 mg/l Fresh water Acute IC50 6.87 g/L Fresh water Acute LC50 1000000 µg/l Fresh water Chronic LC10 781 mg/l Fresh water	Daphnia - Daphnia magna Aquatic plants - Lemna minor Fish - Morone saxatilis - Larvae Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 96 hours 96 hours 3 weeks
	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks

### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<b>Y1088 E. coli Strain</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
<b>Y1089r- E. coli Strain</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
<b>Y1090r- E. coli Strain</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

### Bioaccumulative potential

## Section 12. Ecological information

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Y1088 E. coli Strain Glycerol	-1.76	-	low
Y1089r- E. coli Strain Glycerol	-1.76	-	low
Y1090r- E. coli Strain Glycerol	-1.76	-	low

### Mobility in soil

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

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

## Section 13. Disposal considerations

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

## Section 14. Transport information

**TDG / IMDG / IATA** : Not regulated.

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

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### Canadian lists

**Canadian NPRI** : None of the components are listed.

**CEPA Toxic substances** : None of the components are listed.

### International regulations

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

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

## Section 15. Regulatory information

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: All components are listed or exempted.
<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (CSCL)</b> : Not determined. <b>Japan inventory (ISHL)</b> : All components are listed or exempted.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: <input checked="" type="checkbox"/> All components are active or exempted.
<b>Viet Nam</b>	: Not determined.

## Section 16. Other information

### History

**Date of issue/Date of revision** : 04/01/2022

**Date of previous issue** : 08/20/2019

**Version** : 6

**Key to abbreviations** : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
HPR = Hazardous Products Regulations  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
N/A = Not available  
UN = United Nations

### Procedure used to derive the classification

Classification	Justification
<input checked="" type="checkbox"/> <b>Y1088 E. coli Strain</b> EYE IRRITATION - Category 2A	Calculation method
<b>Y1089r- E. coli Strain</b> EYE IRRITATION - Category 2A	Calculation method
<b>Y1090r- E. coli Strain</b> EYE IRRITATION - Category 2A	Calculation method

**References** : Not available.

## Section 16. Other information

✔ Indicates information that has changed from previously issued version.

### [Notice to reader](#)

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