


Section 2. Hazards identification

| | | |
|---|---|---|
| Hazard pictograms | : VCS257 E. coli Strain |  |
| Signal word | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | No signal word. No signal word. Warning |
| Hazard statements | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | No known significant effects or critical hazards. No known significant effects or critical hazards. H319 - Causes serious eye irritation. |
| <u>Precautionary statements</u> | | |
| Prevention | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not applicable. Not applicable. P280 - Wear eye or face protection. P264 - Wash hands thoroughly after handling. |
| Response | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 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 attention. |
| Storage | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not applicable. Not applicable. Not applicable. |
| Disposal | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not applicable. Not applicable. Not applicable. |
| Supplemental label elements | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | None known. None known. None known. |
| <u>2.3 Other hazards</u> | | |
| Hazards not otherwise classified | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | None known. None known. None known. |

Section 3. Composition/information on ingredients

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

| Ingredient name | % | CAS number |
|------------------------------|-----------|------------|
| VCS257 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

| | | |
|--------------------|--|--|
| Eye contact | : 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. |
| | 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. |
| | VCS257 E. coli Strain | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. |
| Inhalation | : 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. |
| | 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. |
| | VCS257 E. coli Strain | Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |

Section 4. First aid measures

| | | |
|---------------------|--|---|
| Skin contact | : Gigapack III XL - 11 packaging extract | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| | 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. |
| | VCS257 E. coli Strain | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| Ingestion | : 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. |
| | 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. |
| | VCS257 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. |

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

| | | |
|--------------------|--|---|
| Eye contact | : Gigapack III XL - 11 packaging extract | No known significant effects or critical hazards. |
| | Wild-Type Lambda DNA c1857ind 1 Sam7 | No known significant effects or critical hazards. |
| | VCS257 E. coli Strain | Causes serious eye irritation. |
| Inhalation | : Gigapack III XL - 11 packaging extract | No known significant effects or critical hazards. |
| | Wild-Type Lambda DNA c1857ind 1 Sam7 | No known significant effects or critical hazards. |
| | VCS257 E. coli Strain | No known significant effects or critical hazards. |

Section 4. First aid measures

| | | |
|---------------------|--|---|
| Skin contact | : Gigapack III XL - 11 packaging extract | No known significant effects or critical hazards. |
| | Wild-Type Lambda DNA c1857ind 1 Sam7 | No known significant effects or critical hazards. |
| | VCS257 E. coli Strain | No known significant effects or critical hazards. |
| Ingestion | : Gigapack III XL - 11 packaging extract | No known significant effects or critical hazards. |
| | Wild-Type Lambda DNA c1857ind 1 Sam7 | No known significant effects or critical hazards. |
| | VCS257 E. coli Strain | No known significant effects or critical hazards. |

Over-exposure signs/symptoms

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

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

| | | |
|----------------------------|--|---|
| Notes to physician | : Gigapack III XL - 11 packaging extract | 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. |
| | VCS257 E. coli Strain | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| Specific treatments | : Gigapack III XL - 11 packaging extract | No specific treatment. |
| | Wild-Type Lambda DNA c1857ind 1 Sam7 | No specific treatment. |
| | VCS257 E. coli Strain | No specific treatment. |

Section 4. First aid measures

| | | |
|-----------------------------------|--|--|
| Protection of first-aiders | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 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. |
|-----------------------------------|--|--|

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture

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

5.3 Advice for firefighters

| | | |
|---|--|--|
| Special protective actions for fire-fighters | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. 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

Special protective equipment for fire-fighters

: Gigapack III XL - 11 packaging extract

Wild-Type Lambda DNA c1857ind 1 Sam7

VCS257 E. coli Strain

from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: Gigapack III XL - 11 packaging extract

Wild-Type Lambda DNA c1857ind 1 Sam7

VCS257 E. coli Strain

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : Gigapack III XL - 11 packaging extract

Wild-Type Lambda DNA c1857ind 1 Sam7

VCS257 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". If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

6.2 Environmental precautions

| | |
|--|---|
| 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). |
| 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). |
| VCS257 E. coli Strain | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

| | |
|--|---|
| 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. |
| 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. |
| VCS257 E. coli Strain | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures

| | |
|--|---|
| Gigapack III XL - 11 packaging extract | Put on appropriate personal protective equipment (see Section 8). |
| Wild-Type Lambda DNA c1857ind 1 Sam7 | Put on appropriate personal protective equipment (see Section 8). |
| VCS257 E. coli Strain | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |

Section 7. Handling and storage

| | | |
|---|--|--|
| Advice on general occupational hygiene | : 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. |
| | 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. |
| | VCS257 E. coli Strain | Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| 7.2 Conditions for safe storage, including any incompatibilities | : 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. |
| | 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. |
| | VCS257 E. coli Strain | Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. |

7.3 Specific end use(s)

Section 7. Handling and storage

| | | |
|---|---|---|
| Recommendations | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. |
| Industrial sector specific solutions | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not applicable. Not applicable. Not applicable. |

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|--|--|
| VCS257 E. coli Strain Glycerol Sodium chloride | OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 6/2016). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust None. |

8.2 Exposure controls

| | |
|---|--|
| Appropriate engineering controls | : Good general ventilation should be sufficient to control worker exposure to airborne contaminants. |
| Environmental exposure controls | : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |

Individual protection measures

| | |
|----------------------------|--|
| Hygiene measures | : Handle as biohazard material (Biosafety level 1). Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Eye/face protection | : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. |
| 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. 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

| | | |
|-----------------------|----------------------------------|----------------|
| Physical state | : Gigapack III XL - 11 packaging | Liquid. |
| | extract | |
| | Wild-Type Lambda DNA c1857ind | Liquid. |
| | 1 Sam7 | |
| | VCS257 E. coli Strain | Liquid. |
| Color | : Gigapack III XL - 11 packaging | Not available. |
| | extract | |
| | Wild-Type Lambda DNA c1857ind | Not available. |
| | 1 Sam7 | |
| | VCS257 E. coli Strain | Not available. |
| Odor | : Gigapack III XL - 11 packaging | Not available. |
| | extract | |
| | Wild-Type Lambda DNA c1857ind | Not available. |
| | 1 Sam7 | |
| | VCS257 E. coli Strain | Not available. |
| Odor threshold | : Gigapack III XL - 11 packaging | Not available. |
| | extract | |
| | Wild-Type Lambda DNA c1857ind | Not available. |
| | 1 Sam7 | |
| | VCS257 E. coli Strain | Not available. |
| pH | : Gigapack III XL - 11 packaging | 8 |
| | extract | |
| | Wild-Type Lambda DNA c1857ind | 7 |
| | 1 Sam7 | |
| | VCS257 E. coli Strain | 7 |
| Melting point | : Gigapack III XL - 11 packaging | Not available. |
| | extract | |
| | Wild-Type Lambda DNA c1857ind | 0°C (32°F) |
| | 1 Sam7 | |
| | VCS257 E. coli Strain | Not available. |
| Boiling point | : Gigapack III XL - 11 packaging | Not available. |
| | extract | |
| | Wild-Type Lambda DNA c1857ind | 100°C (212°F) |
| | 1 Sam7 | |
| | VCS257 E. coli Strain | Not available. |
| Flash point | : Gigapack III XL - 11 packaging | Not available. |
| | extract | |
| | Wild-Type Lambda DNA c1857ind | Not available. |
| | 1 Sam7 | |
| | VCS257 E. coli Strain | Not available. |

Section 9. Physical and chemical properties

| | | |
|---|---|--|
| Evaporation rate | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not available. Not available. Not available. |
| Flammability (solid, gas) | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not applicable. Not applicable. Not applicable. |
| Lower and upper explosive (flammable) limits | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not available. Not available. Not available. |
| Vapor pressure | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not available. Not available. Not available. |
| Vapor density | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not available. Not available. Not available. |
| Relative density | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not available. Not available. Not available. |
| Solubility | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. |
| Partition coefficient: n-octanol/water | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not available. Not available. Not available. |
| Auto-ignition temperature | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not available. Not available. Not available. |
| Decomposition temperature | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not available. Not available. Not available. |
| Viscosity | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | Not available. Not available. Not available. |

Section 10. Stability and reactivity

| | | |
|--|--|--|
| 10.1 Reactivity | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | 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. |
| 10.2 Chemical stability | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | The product is stable. The product is stable. The product is stable. |
| 10.3 Possibility of hazardous reactions | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | 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. |
| 10.4 Conditions to avoid | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | No specific data. No specific data. No specific data. |
| 10.5 Incompatible materials | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 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. |
| 10.6 Hazardous decomposition products | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 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. |

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------|---------|-------------|----------|
| VCS257 E. coli Strain | | | | |
| Glycerol | LD50 Oral | Rat | 12600 mg/kg | - |
| Sodium chloride | LD50 Oral | Rat | 3000 mg/kg | - |

Irritation/Corrosion

Section 11. Toxicological information

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--------------------------|---------|-------|-------------------------|-------------|
| VCS257 E. coli Strain | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| Glycerol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 10 milligrams | - |
| Sodium chloride | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | | | | | |

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Gigapack III XL - 11 packaging extract Not available.
 Wild-Type Lambda DNA c1857ind 1 Sam7 Not available.
 VCS257 E. coli Strain Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Gigapack III XL - 11 packaging extract No known significant effects or critical hazards.
 Wild-Type Lambda DNA c1857ind 1 Sam7 No known significant effects or critical hazards.
 VCS257 E. coli Strain Causes serious eye irritation.

Inhalation : Gigapack III XL - 11 packaging extract No known significant effects or critical hazards.
 Wild-Type Lambda DNA c1857ind 1 Sam7 No known significant effects or critical hazards.
 VCS257 E. coli Strain No known significant effects or critical hazards.

Skin contact : Gigapack III XL - 11 packaging extract No known significant effects or critical hazards.
 Wild-Type Lambda DNA c1857ind 1 Sam7 No known significant effects or critical hazards.
 VCS257 E. coli Strain No known significant effects or critical hazards.

Section 11. Toxicological information

| | | |
|------------------|--|---|
| Ingestion | : Gigapack III XL - 11 packaging extract | No known significant effects or critical hazards. |
| | Wild-Type Lambda DNA c1857ind 1 Sam7 | No known significant effects or critical hazards. |
| | VCS257 E. coli Strain | No known significant effects or critical hazards. |

Symptoms related to the physical, chemical and toxicological characteristics

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

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

| | | |
|------------------------|--|---|
| General | : Gigapack III XL - 11 packaging extract | No known significant effects or critical hazards. |
| | Wild-Type Lambda DNA c1857ind 1 Sam7 | No known significant effects or critical hazards. |
| | VCS257 E. coli Strain | No known significant effects or critical hazards. |
| Carcinogenicity | : Gigapack III XL - 11 packaging extract | No known significant effects or critical hazards. |
| | Wild-Type Lambda DNA c1857ind 1 Sam7 | No known significant effects or critical hazards. |
| | VCS257 E. coli Strain | No known significant effects or critical hazards. |

Section 11. Toxicological information

| | | |
|------------------------------|---|---|
| Mutagenicity | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Teratogenicity | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Developmental effects | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Fertility effects | : Gigapack III XL - 11 packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain | No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. |

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|-------------------------------|--------------|
| VCS257 E. coli Strain Oral | 300000 mg/kg |

Section 12. Ecological information

12.1 Toxicity

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

12.3 Bioaccumulative potential

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

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a 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 : Gigapack III XL - 11 packaging extract Not applicable.
Wild-Type Lambda DNA c1857ind 1 Sam7 Not applicable.
VCS257 E. coli Strain EYE IRRITATION - Category 2A

Composition/information on ingredients

| Name | % | Classification |
|--|-----------|------------------------------|
| Gigapack III XL - 11 packaging extract | | |
| Sucrose | ≤10 | COMBUSTIBLE DUSTS |
| VCS257 E. coli Strain | | |
| Glycerol | ≥10 - ≤25 | EYE IRRITATION - Category 2A |
| Sodium chloride | ≤3 | EYE IRRITATION - Category 2A |

State regulations

Massachusetts : The following components are listed: SUCROSE DUST; GLYCERINE MIST

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: .ALPHA.-D-GLUCOPYRANOSIDE, .BETA.-D-FRUCTOFURANOSYL; 1,2,3-PROPANETRIOL

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Section 15. Regulatory information

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

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

Section 16. Other information

History

| | |
|-------------------------------|--------------|
| Date of issue | : 02/16/2018 |
| Date of previous issue | : 02/29/2016 |
| Version | : 5 |

Procedure used to derive the classification

| Classification | Justification |
|---|--------------------|
| VCS257 E. coli Strain EYE IRRITATION - Category 2A | Calculation method |

Indicates information that has changed from previously issued version.

Notice to reader

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