

SAFETY DATA SHEET



ExAssist Interference-Resistant Helper Phage, Part Number 200253

Section 1. Identification

1.1 Product identifier

Product name : ExAssist Interference-Resistant Helper Phage, Part Number 200253
Part no. (chemical kit) : 200253
Part no. : SOLR Bacterial Strain 200298-81
 XL1-Blue MRF' E.coli Strain 200301-81
 ExAssist Interference-Resistant Helper Phage 200253-81
Validation date : 11/2/2020

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

Material uses : Analytical reagent.
 SOLR Bacterial Strain 0.5 ml
 XL1-Blue MRF' E.coli Strain 0.5 ml
 ExAssist Interference-Resistant Helper Phage 1 ml >1 X E10 pfu/ml

1.3 Details of the supplier of the safety data sheet

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

1.4 Emergency telephone number

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

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status	: SOLR Bacterial Strain	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	XL1-Blue MRF' E.coli Strain	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	ExAssist Interference-Resistant Helper Phage	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture

SOLR Bacterial Strain
 H319 EYE IRRITATION - Category 2A

XL1-Blue MRF' E.coli Strain
 H319 EYE IRRITATION - Category 2A

2.2 GHS label elements

Section 2. Hazards identification

Hazard pictograms : SOLR Bacterial Strain



XL1-Blue MRF' E.coli Strain



Signal word : SOLR Bacterial Strain Warning
 XL1-Blue MRF' E.coli Strain Warning
 ExAssist Interference-Resistant Helper Phage No signal word.

Hazard statements : SOLR Bacterial Strain H319 - Causes serious eye irritation.
 XL1-Blue MRF' E.coli Strain H319 - Causes serious eye irritation.
 ExAssist Interference-Resistant Helper Phage No known significant effects or critical hazards.

Precautionary statements

Prevention : SOLR Bacterial Strain P280 - Wear eye or face protection.
 XL1-Blue MRF' E.coli Strain P280 - Wear eye or face protection.
 ExAssist Interference-Resistant Helper Phage Not applicable.

Response : SOLR Bacterial 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.
 XL1-Blue MRF' 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.
 ExAssist Interference-Resistant Helper Phage Not applicable.

Storage : SOLR Bacterial Strain Not applicable.
 XL1-Blue MRF' E.coli Strain Not applicable.
 ExAssist Interference-Resistant Helper Phage Not applicable.

Disposal : SOLR Bacterial Strain Not applicable.
 XL1-Blue MRF' E.coli Strain Not applicable.
 ExAssist Interference-Resistant Helper Phage Not applicable.

Supplemental label elements : SOLR Bacterial Strain None known.
 XL1-Blue MRF' E.coli Strain None known.
 ExAssist Interference-Resistant Helper Phage None known.

2.3 Other hazards

Hazards not otherwise classified : SOLR Bacterial Strain None known.
 XL1-Blue MRF' E.coli Strain None known.
 ExAssist Interference-Resistant Helper Phage None known.

Section 3. Composition/information on ingredients

Substance/mixture	: SOLR Bacterial Strain	Mixture
	XL1-Blue MRF' E.coli Strain	Mixture
	ExAssist Interference-Resistant Helper Phage	Mixture

Ingredient name	%	CAS number
SOLR Bacterial Strain		
Glycerol	≥10 - ≤25	56-81-5
Sodium chloride	≤3	7647-14-5
XL1-Blue MRF' 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	: SOLR Bacterial 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.
	XL1-Blue MRF' 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.
	ExAssist Interference-Resistant Helper Phage	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: SOLR Bacterial 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.
	XL1-Blue MRF' 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

Section 4. First aid measures

	ExAssist Interference-Resistant Helper Phage	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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	: SOLR Bacterial 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.
	XL1-Blue MRF' 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.
	ExAssist Interference-Resistant Helper Phage	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: SOLR Bacterial 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.
	XL1-Blue MRF' 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.
	ExAssist Interference-Resistant Helper Phage	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

Section 4. First aid measures

medical attention if symptoms occur.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Causes serious eye irritation. Causes serious eye irritation. No known significant effects or critical hazards.
Inhalation	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Adverse symptoms may include the following: pain or irritation watering redness Adverse symptoms may include the following: pain or irritation watering redness No specific data.
Inhalation	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	No specific data. No specific data. No specific data.
Skin contact	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	No specific data. No specific data. No specific data.
Ingestion	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	No specific data. No specific data. No specific data.

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

Notes to physician	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	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.
---------------------------	---	---

Section 4. First aid measures

Specific treatments	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	No specific treatment. No specific treatment. No specific treatment.
Protection of first-aiders	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	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 resuscitation. No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	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	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	None known. None known. None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	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	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data.

5.3 Advice for firefighters

Section 5. Fire-fighting measures

<p>Special protective actions for fire-fighters</p>	<p>: SOLR Bacterial Strain</p> <p>XL1-Blue MRF' E.coli Strain</p> <p>ExAssist Interference-Resistant Helper Phage</p>	<p>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.</p> <p>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.</p> <p>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.</p>
<p>Special protective equipment for fire-fighters</p>	<p>: SOLR Bacterial Strain</p> <p>XL1-Blue MRF' E.coli Strain</p> <p>ExAssist Interference-Resistant Helper Phage</p>	<p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p> <p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p> <p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p>

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

<p>For non-emergency personnel</p>	<p>: SOLR Bacterial Strain</p> <p>XL1-Blue MRF' E.coli Strain</p> <p>ExAssist Interference-Resistant Helper Phage</p>	<p>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</p> <p>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</p> <p>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.</p>
---	---	--

Section 6. Accidental release measures

<p>For emergency responders : SOLR Bacterial Strain</p> <p style="padding-left: 40px;">XL1-Blue MRF' E.coli Strain</p> <p style="padding-left: 40px;">ExAssist Interference-Resistant Helper Phage</p>	<p>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".</p> <p>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".</p> <p>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".</p>
<p>6.2 Environmental precautions : SOLR Bacterial Strain</p> <p style="padding-left: 40px;">XL1-Blue MRF' E.coli Strain</p> <p style="padding-left: 40px;">ExAssist Interference-Resistant Helper Phage</p>	<p>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).</p> <p>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).</p> <p>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).</p>
<p>6.3 Methods and materials for containment and cleaning up</p> <p>Methods for cleaning up : SOLR Bacterial Strain</p> <p style="padding-left: 40px;">XL1-Blue MRF' E.coli Strain</p> <p style="padding-left: 40px;">ExAssist Interference-Resistant Helper Phage</p>	<p>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.</p> <p>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.</p> <p>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.</p>

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures : SOLR Bacterial 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.

XL1-Blue MRF' 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.

ExAssist Interference-Resistant
Helper Phage

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

Advice on general occupational hygiene : SOLR Bacterial 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.

XL1-Blue MRF' 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.

ExAssist Interference-Resistant
Helper Phage

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 : SOLR Bacterial 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.

XL1-Blue MRF' 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

Section 7. Handling and storage

ExAssist Interference-Resistant Helper Phage

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. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not available. Not available. Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
SOLR Bacterial 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, 5/2018). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust None.
XL1-Blue MRF' 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, 5/2018). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust None.

Section 8. Exposure controls/personal protection

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.

- 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 | : SOLR Bacterial Strain | Liquid. |
| | : XL1-Blue MRF' E.coli Strain | Liquid. |
| | : ExAssist Interference-Resistant Helper Phage | Liquid. |
| Color | : SOLR Bacterial Strain | Not available. |
| | : XL1-Blue MRF' E.coli Strain | Not available. |
| | : ExAssist Interference-Resistant Helper Phage | Not available. |
| Odor | : SOLR Bacterial Strain | Not available. |
| | : XL1-Blue MRF' E.coli Strain | Not available. |
| | : ExAssist Interference-Resistant Helper Phage | Not available. |

Section 9. Physical and chemical properties

Odor threshold	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	Not available.
pH	: SOLR Bacterial Strain	7
	XL1-Blue MRF' E.coli Strain	7
	ExAssist Interference-Resistant Helper Phage	7.5
Melting point	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	0°C (32°F)
Boiling point	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	100°C (212°F)
Flash point	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	Not available.
Evaporation rate	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	Not available.
Flammability (solid, gas)	: SOLR Bacterial Strain	Not applicable.
	XL1-Blue MRF' E.coli Strain	Not applicable.
	ExAssist Interference-Resistant Helper Phage	Not applicable.
Lower and upper explosive (flammable) limits	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	Not available.
Vapor pressure	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	Not available.
Vapor density	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	Not available.
Relative density	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	Not available.
Solubility	: SOLR Bacterial Strain	Soluble in the following materials: cold water and hot water.
	XL1-Blue MRF' E.coli Strain	Soluble in the following materials: cold water and hot water.
	ExAssist Interference-Resistant Helper Phage	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	Not available.

Section 9. Physical and chemical properties

Auto-ignition temperature	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	Not available.
Decomposition temperature	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	Not available.
Viscosity	: SOLR Bacterial Strain	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	ExAssist Interference-Resistant Helper Phage	Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: SOLR Bacterial Strain	No specific test data related to reactivity available for this product or its ingredients.
	XL1-Blue MRF' E.coli Strain	No specific test data related to reactivity available for this product or its ingredients.
	ExAssist Interference-Resistant Helper Phage	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: SOLR Bacterial Strain	The product is stable.
	XL1-Blue MRF' E.coli Strain	The product is stable.
	ExAssist Interference-Resistant Helper Phage	The product is stable.
10.3 Possibility of hazardous reactions	: SOLR Bacterial Strain	Under normal conditions of storage and use, hazardous reactions will not occur.
	XL1-Blue MRF' E.coli Strain	Under normal conditions of storage and use, hazardous reactions will not occur.
	ExAssist Interference-Resistant Helper Phage	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: SOLR Bacterial Strain	No specific data.
	XL1-Blue MRF' E.coli Strain	No specific data.
	ExAssist Interference-Resistant Helper Phage	No specific data.
10.5 Incompatible materials	: SOLR Bacterial Strain	May react or be incompatible with oxidizing materials.
	XL1-Blue MRF' E.coli Strain	May react or be incompatible with oxidizing materials.
	ExAssist Interference-Resistant Helper Phage	May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	: SOLR Bacterial Strain	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	XL1-Blue MRF' E.coli Strain	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	ExAssist Interference-Resistant Helper Phage	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
SOLR Bacterial Strain				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
XL1-Blue MRF' E.coli Strain				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
SOLR Bacterial Strain					
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	-
XL1-Blue MRF' E.coli Strain					
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

Information on the likely routes of exposure	: SOLR Bacterial Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.
	XL1-Blue MRF' E.coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.
	ExAssist Interference-Resistant Helper Phage	Not available.
<u>Potential acute health effects</u>		
Eye contact	: SOLR Bacterial Strain	Causes serious eye irritation.
	XL1-Blue MRF' E.coli Strain	Causes serious eye irritation.
	ExAssist Interference-Resistant Helper Phage	No known significant effects or critical hazards.
Inhalation	: SOLR Bacterial Strain	No known significant effects or critical hazards.
	XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards.
	ExAssist Interference-Resistant Helper Phage	No known significant effects or critical hazards.
Skin contact	: SOLR Bacterial Strain	No known significant effects or critical hazards.
	XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards.
	ExAssist Interference-Resistant Helper Phage	No known significant effects or critical hazards.
Ingestion	: SOLR Bacterial Strain	No known significant effects or critical hazards.
	XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards.
	ExAssist Interference-Resistant Helper Phage	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: SOLR Bacterial Strain	Adverse symptoms may include the following: pain or irritation watering redness
	XL1-Blue MRF' E.coli Strain	Adverse symptoms may include the following: pain or irritation watering redness
	ExAssist Interference-Resistant Helper Phage	No specific data.
Inhalation	: SOLR Bacterial Strain	No specific data.
	XL1-Blue MRF' E.coli Strain	No specific data.
	ExAssist Interference-Resistant Helper Phage	No specific data.
Skin contact	: SOLR Bacterial Strain	No specific data.
	XL1-Blue MRF' E.coli Strain	No specific data.
	ExAssist Interference-Resistant Helper Phage	No specific data.
Ingestion	: SOLR Bacterial Strain	No specific data.
	XL1-Blue MRF' E.coli Strain	No specific data.
	ExAssist Interference-Resistant Helper Phage	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.

Section 11. Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Reproductive toxicity	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	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

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
SOLR Bacterial Strain					
SOLR Bacterial 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
XL1-Blue MRF' E.coli Strain					
XL1-Blue MRF' 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

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
SOLR Bacterial Strain			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Sodium chloride	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 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

Section 12. Ecological information

XL1-Blue MRF' E.coli Strain Glycerol Sodium chloride	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 4.74 g/L Fresh water	Fish - Oncorhynchus mykiss Algae - Chlamydomonas reinhardtii	96 hours 96 hours
	Acute EC50 519.6 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	Crustaceans - Cypris subglobosa 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

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
SOLR Bacterial Strain Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
XL1-Blue MRF' E.coli Strain Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
SOLR Bacterial Strain Glycerol	-1.76	-	low
XL1-Blue MRF' 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.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean 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

Section 15. Regulatory information

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : SOLR Bacterial Strain EYE IRRITATION - Category 2A
 XL1-Blue MRF' E.coli Strain EYE IRRITATION - Category 2A
 ExAssist Interference-Resistant Helper Phage Not applicable.

Composition/information on ingredients

Name	%	Classification
SOLR Bacterial Strain		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B
Sodium chloride	≤3	EYE IRRITATION - Category 2A
XL1-Blue MRF' E.coli Strain		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B
Sodium chloride	≤3	EYE IRRITATION - Category 2A

State regulations

Massachusetts : The following components are listed: 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: 1,2,3-PROPANETRIOL

California Prop. 65

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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Europe : All components are listed or exempted.

Japan : **Japan inventory (ENCS)**: All components are listed or exempted.
Japan inventory (ISHL): All components are listed or exempted.

New Zealand : Not determined.

Philippines : Not determined.

Section 15. Regulatory information

Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: <input checked="" type="checkbox"/> All components are active or exempted.
Viet Nam	: Not determined.

Section 16. Other information

History

Date of issue	: 11/02/2020
Date of previous issue	: 08/30/2018
Version	: 7

Key to abbreviations

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

Procedure used to derive the classification

Classification	Justification
<input checked="" type="checkbox"/> SOLR Bacterial Strain EYE IRRITATION - Category 2A	Calculation method
XL1-Blue MRF' E.coli Strain EYE IRRITATION - Category 2A	Calculation method

Indicates information that has changed from previously issued version.

Notice to reader

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