

SAFETY DATA SHEET

ExAssist Interference-Resistant Helper Phage, Part Number 200253

Section 1. Identification

Product identifier	: 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
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
Supplier/Manufacturer	: Agilent Technologies, Inc. 5301 Stevens Creek Blvd Santa Clara, CA 95051, USA 800-227-9770
Emergency telephone number (with hours of operation)	: CHEMTREC®: 1-800-424-9300

Section 2. Hazard identification

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

GHS label elements

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

Section 2. Hazard identification

Prevention	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	P280 - Wear eye or face protection. P280 - Wear eye or face protection. Not applicable.
Response	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	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. 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. Not applicable.
Storage	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not applicable. Not applicable. Not applicable.
Disposal	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not applicable. Not applicable. Not applicable.
Supplemental label elements	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	None known. None known. None known.
Other hazards which do not result in classification	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	None known. None known. None known.

Section 3. Composition/information on ingredients

Substance/mixture	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Mixture Mixture Mixture
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Ingredient name	% (w/w)	CAS number
SOLR Bacterial Strain		
Glycerol	10 - 30	56-81-5
Sodium chloride	0.1 - 1	7647-14-5
XL1-Blue MRF' E.coli Strain		
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	: 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 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.
	ExAssist Interference-Resistant Helper Phage	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

Section 4. First-aid measures

XL1-Blue MRF' E.coli Strain	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 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 medical attention if symptoms occur.

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

Section 4. First-aid measures

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.

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

Notes to physician	: SOLR Bacterial Strain	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	XL1-Blue MRF' E.coli Strain	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	ExAssist Interference-Resistant Helper Phage	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: SOLR Bacterial Strain	No specific treatment.
	XL1-Blue MRF' E.coli Strain	No specific treatment.
	ExAssist Interference-Resistant Helper Phage	No specific treatment.
Protection of first-aiders	: SOLR Bacterial Strain	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	XL1-Blue MRF' E.coli Strain	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	ExAssist Interference-Resistant Helper Phage	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: SOLR Bacterial Strain	Use an extinguishing agent suitable for the surrounding fire.
	XL1-Blue MRF' E.coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	ExAssist Interference-Resistant Helper Phage	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: SOLR Bacterial Strain	None known.
	XL1-Blue MRF' E.coli Strain	None known.
	ExAssist Interference-Resistant Helper Phage	None known.
Specific hazards arising from the chemical	: SOLR Bacterial Strain	In a fire or if heated, a pressure increase will occur and the container may burst.
	XL1-Blue MRF' E.coli Strain	In a fire or if heated, a pressure increase will occur and the container may burst.
	ExAssist Interference-Resistant Helper Phage	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: SOLR Bacterial Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	XL1-Blue MRF' E.coli Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	ExAssist Interference-Resistant Helper Phage	No specific data.
Special protective actions for fire-fighters	: SOLR Bacterial 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.
	XL1-Blue MRF' 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.
	ExAssist Interference-Resistant Helper Phage	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	: SOLR Bacterial Strain	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	XL1-Blue MRF' 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.
	ExAssist Interference-Resistant Helper Phage	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	: SOLR Bacterial 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.
	XL1-Blue MRF' 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.
	ExAssist Interference-Resistant Helper Phage	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	: SOLR Bacterial 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".
	XL1-Blue MRF' 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".
	ExAssist Interference-Resistant Helper Phage	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".
Environmental precautions	: SOLR Bacterial 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).
	XL1-Blue MRF' 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).
	ExAssist Interference-Resistant Helper Phage	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

Section 6. Accidental release measures

Methods for cleaning up	: SOLR Bacterial 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.
	XL1-Blue MRF' 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.
	ExAssist Interference-Resistant Helper Phage	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

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

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : SOLR Bacterial Strain

XL1-Blue MRF' E.coli Strain

ExAssist Interference-Resistant Helper Phage

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.

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.


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.

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> SOLR Bacterial Strain Glycerol</p>	<p>CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 10 mg/m³ 8 hours. Form: Mist CA Quebec Provincial (Canada, 7/2019). TWAEV: 10 mg/m³ 8 hours. Form: mist CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m³ 15 minutes. Form: mist TWA: 10 mg/m³ 8 hours. Form: mist CA Ontario Provincial (Canada, 6/2019). TWA: 10 mg/m³ 8 hours. Form: mist CA British Columbia Provincial (Canada,</p>

Section 8. Exposure controls/personal protection

XL1-Blue MRF' E.coli Strain
Glycerol

10/2019).

TWA: 3 mg/m³ 8 hours. Form: respirable mist

TWA: 10 mg/m³ 8 hours. Form: total mist

CA Alberta Provincial (Canada, 6/2018).

8 hrs OEL: 10 mg/m³ 8 hours. Form: Mist

CA Quebec Provincial (Canada, 7/2019).

TWAEV: 10 mg/m³ 8 hours. Form: mist

CA Saskatchewan Provincial (Canada, 7/2013).

STEL: 20 mg/m³ 15 minutes. Form: mist

TWA: 10 mg/m³ 8 hours. Form: mist

CA Ontario Provincial (Canada, 6/2019).

TWA: 10 mg/m³ 8 hours. Form: mist

CA British Columbia Provincial (Canada, 10/2019).

TWA: 3 mg/m³ 8 hours. Form: respirable mist

TWA: 10 mg/m³ 8 hours. Form: total mist

Appropriate engineering controls

: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Handle as biohazard material (Biosafety level 1). Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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.

Section 8. Exposure controls/personal protection

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

Appearance

Physical state	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Liquid. Liquid. Liquid.
Color	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not available. Not available. Not available.
Odor	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not available. Not available. Not available.
Odor threshold	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not available. Not available. Not available.
pH	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	7 7 7.5
Melting point	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not available. Not available. 0°C (32°F)
Boiling point	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not available. Not available. 100°C (212°F)
Flash point	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not available. Not available. Not available.
Evaporation rate	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not available. Not available. Not available.
Flammability (solid, gas)	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not applicable. Not applicable. Not applicable.
Lower and upper explosive (flammable) limits	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not available. Not available. Not available.
Vapor pressure	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Not available. Not available. Not available.

Section 9. Physical and chemical properties

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.
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

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.
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.
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.
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.

Section 10. Stability and reactivity

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.

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

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

Section 11. Toxicological information

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	: SOLR Bacterial Strain XL1-Blue MRF' E.coli Strain ExAssist Interference-Resistant Helper Phage	Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available.
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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.

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.

Section 11. Toxicological information

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.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : 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.

Carcinogenicity : 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.

Mutagenicity : 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.

Reproductive toxicity : 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.

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)

Section 11. Toxicological information

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

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
	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
XL1-Blue MRF' E.coli 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
	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

Persistence and degradability

Section 12. Ecological information

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	-	-

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

Mobility in soil

Soil/water partition coefficient (K_{oc}) : 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.

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.

Republic of Korea : Not determined.

Taiwan : All components are listed or exempted.

Thailand : Not determined.

Turkey : Not determined.

United States : All components are active or exempted.

Viet Nam : Not determined.

Section 16. Other information

History

Date of issue/Date of revision : 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
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)

Section 16. Other information

N/A = Not available
UN = United Nations

Procedure used to derive the classification

Classification	Justification
SOLR Bacterial Strain EYE IRRITATION - Category 2A	Calculation method
XL1-Blue MRF' E.coli Strain EYE IRRITATION - Category 2A	Calculation method

References : Not available.

▣ Indicates information that has changed from previously issued version.

Notice to reader

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