

SAFETY DATA SHEET

ABLE Electroporation-Competent Cell Kit, Part Number 200160

Section 1. Identification

1.1 Product identifier

Product name : ABLE Electroporation-Competent Cell Kit, Part Number 200160
Part No. (Chemical Kit) : 200160
Part No. : ABLE C electroporation competent cells 200161-41
 ABLE K electroporation competent cells 200162-41
 pUC 18 DNA Control Plasmid 200231-42
Validation date : 11/27/2017

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

Material uses : Analytical reagent.
 ABLE C electroporation competent cells 5 x 0.1 ml
 ABLE K electroporation competent cells 5 x 0.1 ml
 pUC 18 DNA Control Plasmid 0.01 ml (0.1 ng/µl)

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 : <input checked="" type="checkbox"/> ABLE C electroporation competent cells	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.
ABLE K electroporation competent cells	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.
pUC 18 DNA Control Plasmid	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

Not classified.

Section 2. Hazards identification

Ingredients of unknown toxicity	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 10 - 30%
	: <input checked="" type="checkbox"/> ABLE K electroporation competent cells	Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 10 - 30%

2.2 GHS label elements

Signal word	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No signal word.
	: <input checked="" type="checkbox"/> ABLE K electroporation competent cells	No signal word.
	: <input checked="" type="checkbox"/> pUC 18 DNA Control Plasmid	No signal word.
Hazard statements	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No known significant effects or critical hazards.
	: <input checked="" type="checkbox"/> ABLE K electroporation competent cells	No known significant effects or critical hazards.
	: <input checked="" type="checkbox"/> pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.

Precautionary statements

Prevention	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not applicable.
	: <input checked="" type="checkbox"/> ABLE K electroporation competent cells	Not applicable.
	: <input checked="" type="checkbox"/> pUC 18 DNA Control Plasmid	Not applicable.

Response	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not applicable.
	: <input checked="" type="checkbox"/> ABLE K electroporation competent cells	Not applicable.
	: <input checked="" type="checkbox"/> pUC 18 DNA Control Plasmid	Not applicable.

Storage	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not applicable.
	: <input checked="" type="checkbox"/> ABLE K electroporation competent cells	Not applicable.
	: <input checked="" type="checkbox"/> pUC 18 DNA Control Plasmid	Not applicable.

Disposal	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not applicable.
	: <input checked="" type="checkbox"/> ABLE K electroporation competent cells	Not applicable.
	: <input checked="" type="checkbox"/> pUC 18 DNA Control Plasmid	Not applicable.

Supplemental label elements	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	None known.
	: <input checked="" type="checkbox"/> ABLE K electroporation competent cells	None known.
	: <input checked="" type="checkbox"/> pUC 18 DNA Control Plasmid	None known.

2.3 Other hazards

Hazards not otherwise classified	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	None known.
	: <input checked="" type="checkbox"/> ABLE K electroporation competent cells	None known.
	: <input checked="" type="checkbox"/> pUC 18 DNA Control Plasmid	None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	ABLE C electroporation competent cells	Mixture
		ABLE K electroporation competent cells	Mixture
		pUC 18 DNA Control Plasmid	Mixture

Ingredient name	%	CAS number
ABLE C electroporation competent cells Glycerol	<10	56-81-5
ABLE K electroporation competent cells Glycerol	<10	56-81-5

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	:	ABLE C electroporation competent cells	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.
		ABLE K electroporation competent cells	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.
		pUC 18 DNA Control Plasmid	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	:	ABLE C electroporation competent cells	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		ABLE K electroporation competent cells	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		pUC 18 DNA Control Plasmid	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	:	ABLE C electroporation competent cells	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		ABLE K electroporation competent cells	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		pUC 18 DNA Control Plasmid	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Section 4. First aid measures

Ingestion	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	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.
	ABLE K electroporation competent cells	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.
	pUC 18 DNA Control Plasmid	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No known significant effects or critical hazards.
	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Inhalation	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No known significant effects or critical hazards.
	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Skin contact	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No known significant effects or critical hazards.
	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Ingestion	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No known significant effects or critical hazards.
	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No specific data.
	ABLE K electroporation competent cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
Inhalation	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No specific data.
	ABLE K electroporation competent cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.

Section 4. First aid measures

Skin contact	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No specific data.
	ABLE K electroporation competent cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
Ingestion	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No specific data.
	ABLE K electroporation competent cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.

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

Notes to physician	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	ABLE K electroporation competent cells	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	pUC 18 DNA Control Plasmid	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No specific treatment.
	ABLE K electroporation competent cells	No specific treatment.
	pUC 18 DNA Control Plasmid	No specific treatment.
Protection of first-aiders	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	No action shall be taken involving any personal risk or without suitable training.
	ABLE K electroporation competent cells	No action shall be taken involving any personal risk or without suitable training.
	pUC 18 DNA Control Plasmid	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	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Use an extinguishing agent suitable for the surrounding fire.
	ABLE K electroporation competent cells	Use an extinguishing agent suitable for the surrounding fire.
	pUC 18 DNA Control Plasmid	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	None known.
	ABLE K electroporation competent cells	None known.
	pUC 18 DNA Control Plasmid	None known.

5.2 Special hazards arising from the substance or mixture

Section 5. Fire-fighting measures

Specific hazards arising from the chemical	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells ABLE K electroporation competent cells pUC 18 DNA Control Plasmid	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	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells ABLE K electroporation competent cells pUC 18 DNA Control Plasmid	Decomposition products may include the following materials: carbon dioxide carbon monoxide Decomposition products may include the following materials: carbon dioxide carbon monoxide No specific data.

5.3 Advice for firefighters

Special protective actions for fire-fighters	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells ABLE K electroporation competent cells pUC 18 DNA Control Plasmid	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells ABLE K electroporation competent cells pUC 18 DNA Control Plasmid	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	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells ABLE K electroporation competent cells pUC 18 DNA Control Plasmid	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
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Section 6. Accidental release measures

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.

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".

For emergency responders : ABLE C electroporation competent cells

ABLE K electroporation competent cells

pUC 18 DNA Control Plasmid

6.2 Environmental precautions

ABLE C electroporation competent cells

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).

ABLE K electroporation competent cells

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).

pUC 18 DNA Control Plasmid

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 : ABLE C electroporation competent cells

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.

ABLE K electroporation competent cells

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.

pUC 18 DNA Control Plasmid

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	: A	ABLE C electroporation competent cells	Put on appropriate personal protective equipment (see Section 8).
		ABLE K electroporation competent cells	Put on appropriate personal protective equipment (see Section 8).
		pUC 18 DNA Control Plasmid	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: A	ABLE C electroporation competent cells	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.
		ABLE K electroporation competent cells	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.
		pUC 18 DNA Control Plasmid	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

	: A	ABLE C electroporation competent cells	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.
		ABLE K electroporation competent cells	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.
		pUC 18 DNA Control Plasmid	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

Section 8. Exposure controls/personal protection

- Hygiene measures** : Handle as biohazard material (Biosafety level 1). Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : ABLE C electroporation competent cells Liquid.
 ABLE K electroporation competent cells Liquid.
 pUC 18 DNA Control Plasmid Liquid.
- Color** : ABLE C electroporation competent cells Not available.
 ABLE K electroporation competent cells Not available.
 pUC 18 DNA Control Plasmid Not available.
- Odor** : ABLE C electroporation competent cells Not available.
 ABLE K electroporation competent cells Not available.
 pUC 18 DNA Control Plasmid Not available.
- Odor threshold** : ABLE C electroporation competent cells Not available.
 ABLE K electroporation competent cells Not available.
 pUC 18 DNA Control Plasmid Not available.
- pH** : ABLE C electroporation competent cells Not available.
 ABLE K electroporation competent cells Not available.
 pUC 18 DNA Control Plasmid 7.5

Section 9. Physical and chemical properties

Melting point	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	0°C (32°F)
Boiling point	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	100°C (212°F)
Flash point	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Evaporation rate	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Flammability (solid, gas)	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not applicable.
	ABLE K electroporation competent cells	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.
Lower and upper explosive (flammable) limits	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Vapor pressure	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Vapor density	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Relative density	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Solubility	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Soluble in the following materials: cold water and hot water.
	ABLE K electroporation competent cells	Soluble in the following materials: cold water and hot water.
	pUC 18 DNA Control Plasmid	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: <input checked="" type="checkbox"/> ABLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.

Section 9. Physical and chemical properties

Auto-ignition temperature	: A/BLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Decomposition temperature	: A/BLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Viscosity	: A/BLE C electroporation competent cells	Not available.
	ABLE K electroporation competent cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: A/BLE C electroporation competent cells	No specific test data related to reactivity available for this product or its ingredients.
	ABLE K electroporation competent cells	No specific test data related to reactivity available for this product or its ingredients.
	pUC 18 DNA Control Plasmid	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: A/BLE C electroporation competent cells	The product is stable.
	ABLE K electroporation competent cells	The product is stable.
	pUC 18 DNA Control Plasmid	The product is stable.
10.3 Possibility of hazardous reactions	: A/BLE C electroporation competent cells	Under normal conditions of storage and use, hazardous reactions will not occur.
	ABLE K electroporation competent cells	Under normal conditions of storage and use, hazardous reactions will not occur.
	pUC 18 DNA Control Plasmid	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: A/BLE C electroporation competent cells	No specific data.
	ABLE K electroporation competent cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
10.5 Incompatible materials	: A/BLE C electroporation competent cells	May react or be incompatible with oxidizing materials.
	ABLE K electroporation competent cells	May react or be incompatible with oxidizing materials.
	pUC 18 DNA Control Plasmid	May react or be incompatible with oxidizing materials.

Section 10. Stability and reactivity

10.6 Hazardous decomposition products	: ABE C electroporation competent cells	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	ABLE K electroporation competent cells	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pUC 18 DNA Control Plasmid	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
ABLE C electroporation competent cells Glycerol	LD50 Oral	Rat	12600 mg/kg	-
ABLE K electroporation competent cells Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
ABLE C electroporation competent cells Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-		24 hours 500 milligrams
ABLE K electroporation competent cells Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-		24 hours 500 milligrams

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure	: ABE C electroporation competent cells	Routes of entry anticipated: Oral, Dermal, Inhalation.
	ABLE K electroporation competent cells	Routes of entry anticipated: Oral, Dermal, Inhalation.
	pUC 18 DNA Control Plasmid	Not available.

Potential acute health effects

Eye contact	: ABE C electroporation competent cells	No known significant effects or critical hazards.
	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Inhalation	: ABE C electroporation competent cells	No known significant effects or critical hazards.
	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Skin contact	: ABE C electroporation competent cells	No known significant effects or critical hazards.
	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Ingestion	: ABE C electroporation competent cells	No known significant effects or critical hazards.
	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: ABE C electroporation competent cells	No specific data.
	ABLE K electroporation competent cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
Inhalation	: ABE C electroporation competent cells	No specific data.
	ABLE K electroporation competent cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
Skin contact	: ABE C electroporation competent cells	No specific data.
	ABLE K electroporation competent cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
Ingestion	: ABE C electroporation competent cells	No specific data.
	ABLE K electroporation competent cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.

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

Section 11. Toxicological information

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	:	ABLE C electroporation competent cells	No known significant effects or critical hazards.
	:	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	:	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Carcinogenicity	:	ABLE C electroporation competent cells	No known significant effects or critical hazards.
	:	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	:	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Mutagenicity	:	ABLE C electroporation competent cells	No known significant effects or critical hazards.
	:	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	:	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Teratogenicity	:	ABLE C electroporation competent cells	No known significant effects or critical hazards.
	:	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	:	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Developmental effects	:	ABLE C electroporation competent cells	No known significant effects or critical hazards.
	:	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	:	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Fertility effects	:	ABLE C electroporation competent cells	No known significant effects or critical hazards.
	:	ABLE K electroporation competent cells	No known significant effects or critical hazards.
	:	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
ABLE C electroporation competent cells Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
ABLE K electroporation competent cells Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
ABLE C electroporation competent cells Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
ABLE K electroporation competent cells Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
ABLE C electroporation competent cells Glycerol	-1.76	-	low
ABLE K electroporation competent cells 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

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.

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 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

Section 15. Regulatory information

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : **ABLE C** electroporation competent cells Not applicable.
ABLE K electroporation competent cells Not applicable.
 pUC 18 DNA Control Plasmid Not applicable.

Composition/information on ingredients

Name	%	Classification
ABLE C electroporation competent cells Glycerol	<10	EYE IRRITATION - Category 2A
ABLE K electroporation competent cells Glycerol	<10	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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

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 : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
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.
Malaysia : Not determined.
New Zealand : All components are listed or exempted.
Philippines : All components are listed or exempted.
Republic of Korea : All components are listed or exempted.
Taiwan : All components are listed or exempted.

Section 15. Regulatory information

Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: <input checked="" type="checkbox"/> 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	: 11/27/2017
Date of previous issue	: 08/24/2015.
Version	: 5

Indicates information that has changed from previously issued version.

Notice to reader

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