

SAFETY DATA SHEET



ElectroTen-Blue Electroporation-Competent Cells, Part Number 200159

Section 1. Identification

Product identifier	:	ElectroTen-Blue Electroporation-Competent Cells, Part Number 200159		
Part No. (Chemical Kit)	:	200159		
Part No.	:	<input checked="" type="checkbox"/> ElectroTen-Blue Competent Cells		200159-41
		StrataClean Resin		200480-52
		pUC 18 DNA Control Plasmid		200231-42

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

Analytical reagent.

For Research Use Only. Not for use in diagnostic procedures.

<input checked="" type="checkbox"/> ElectroTen-Blue Competent Cells		0.5 ml (5 x 0.1 ml)
StrataClean Resin		0.1 ml
pUC 18 DNA Control Plasmid		0.01 ml (0.1 ng/µl)

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

Not classified.

<input checked="" type="checkbox"/> ElectroTen-Blue Competent Cells	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
---	---

GHS label elements

Signal word : ElectroTen-Blue Competent Cells No signal word.
StrataClean Resin No signal word.
pUC 18 DNA Control Plasmid No signal word.

Hazard statements : ElectroTen-Blue Competent Cells No known significant effects or critical hazards.
StrataClean Resin No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid No known significant effects or critical hazards.

Precautionary statements

Prevention : ElectroTen-Blue Competent Cells Not applicable.
StrataClean Resin Not applicable.
pUC 18 DNA Control Plasmid Not applicable.

Response : ElectroTen-Blue Competent Cells Not applicable.
StrataClean Resin Not applicable.
pUC 18 DNA Control Plasmid Not applicable.

Storage : ElectroTen-Blue Competent Cells Not applicable.
StrataClean Resin Not applicable.
pUC 18 DNA Control Plasmid Not applicable.

Section 2. Hazard(s) identification

Disposal : ElectroTen-Blue Competent Cells Not applicable.
StrataClean Resin Not applicable.
pUC 18 DNA Control Plasmid Not applicable.

Supplemental label elements

Additional warning phrases : ElectroTen-Blue Competent Cells Not applicable.
StrataClean Resin Not applicable.
pUC 18 DNA Control Plasmid Not applicable.

Other hazards which do not result in classification : ElectroTen-Blue Competent Cells None known.
StrataClean Resin None known.
pUC 18 DNA Control Plasmid None known.

Section 3. Composition and ingredient information

Substance/mixture : ElectroTen-Blue Competent Mixture
Cells
StrataClean Resin Mixture
pUC 18 DNA Control Plasmid Mixture

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
ElectroTen-Blue Competent Cells		
Dimethyl sulfoxide	≥10 - ≤30	67-68-5
Glycerol	≤10	56-81-5

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 : ElectroTen-Blue 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.
StrataClean Resin 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 : ElectroTen-Blue Competent Cells Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
StrataClean Resin 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

Section 4. First aid measures

Skin contact	:	ElectroTen-Blue Competent Cells	attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		StrataClean Resin	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.
Ingestion	:	ElectroTen-Blue 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.
		StrataClean Resin	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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
		StrataClean Resin	No known significant effects or critical hazards.
		pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Inhalation	:	ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
		StrataClean Resin	No known significant effects or critical hazards.
		pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Skin contact	:	ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
		StrataClean Resin	No known significant effects or critical hazards.
		pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Ingestion	:	ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
		StrataClean Resin	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	:	ElectroTen-Blue Competent Cells	No specific data.
		StrataClean Resin	No specific data.
		pUC 18 DNA Control Plasmid	No specific data.
Inhalation	:	ElectroTen-Blue Competent Cells	No specific data.
		StrataClean Resin	No specific data.
		pUC 18 DNA Control Plasmid	No specific data.

Section 4. First aid measures

Skin contact	: ElectroTen-Blue Competent Cells	No specific data.
	StrataClean Resin	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
Ingestion	: ElectroTen-Blue Competent Cells	No specific data.
	StrataClean Resin	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.

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

Notes to physician	: ElectroTen-Blue Competent Cells	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	StrataClean Resin	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	: ElectroTen-Blue Competent Cells	No specific treatment.
	StrataClean Resin	No specific treatment.
	pUC 18 DNA Control Plasmid	No specific treatment.
Protection of first-aiders	: ElectroTen-Blue Competent Cells	No action shall be taken involving any personal risk or without suitable training.
	StrataClean Resin	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. Firefighting measures

Extinguishing media

Suitable extinguishing media	: ElectroTen-Blue Competent Cells	Use an extinguishing agent suitable for the surrounding fire.
	StrataClean Resin	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	: ElectroTen-Blue Competent Cells	None known.
	StrataClean Resin	None known.
	pUC 18 DNA Control Plasmid	None known.
Specific hazards arising from the chemical	: ElectroTen-Blue Competent Cells	In a fire or if heated, a pressure increase will occur and the container may burst.
	StrataClean Resin	In a fire or if heated, a pressure increase will occur and the container may burst.
	pUC 18 DNA Control Plasmid	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: ElectroTen-Blue Competent Cells	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides phosphorus oxides

Section 5. Firefighting measures

	StrataClean Resin	Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides
	pUC 18 DNA Control Plasmid	No specific data.
Special protective actions for fire-fighters	: ElectroTen-Blue Competent Cells	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.
	StrataClean Resin	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.
	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.
Special protective equipment for fire-fighters	: ElectroTen-Blue Competent Cells	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	StrataClean Resin	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: ElectroTen-Blue Competent Cells	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 spilt material. Put on appropriate personal protective equipment.
	StrataClean Resin	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 spilt material. Put on appropriate personal protective equipment.
	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 spilt material. Put on appropriate personal protective equipment.
For emergency responders	: ElectroTen-Blue Competent Cells	If specialised 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".
	StrataClean Resin	If specialised 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".
	pUC 18 DNA Control Plasmid	If specialised clothing is required to deal with the

Section 6. Accidental release measures

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	: ElectroTen-Blue Competent Cells	Avoid dispersal of spilt 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).
	StrataClean Resin	Avoid dispersal of spilt 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 spilt 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 material for containment and cleaning up

Methods for cleaning up	: ElectroTen-Blue 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.
	StrataClean Resin	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

Precautions for safe handling

Protective measures	: ElectroTen-Blue Competent Cells	Put on appropriate personal protective equipment (see Section 8).
	StrataClean Resin	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	: ElectroTen-Blue 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.
	StrataClean Resin	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

Section 7. Handling and storage

pUC 18 DNA Control Plasmid before entering eating areas. See also Section 8 for additional information on hygiene measures. 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.

Conditions for safe storage, including any incompatibilities : ElectroTen-Blue 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

StrataClean Resin 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 unlabelled 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 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
ElectroTen-Blue Competent Cells Dimethyl sulfoxide Glycerol	<p>DFG MAC-values list (Germany, 7/2015). Absorbed through skin. PEAK: 320 mg/m³, 4 times per shift, 15 minutes. TWA: 160 mg/m³ 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 50 ppm 8 hours.</p> <p>Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m³ 8 hours.</p>

Section 8. Exposure controls and personal protection

- 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.
- 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** : ElectroTen-Blue Competent Cells Liquid.
StrataClean Resin Liquid.
pUC 18 DNA Control Plasmid Liquid.
- Colour** : ElectroTen-Blue Competent Cells Not available.
StrataClean Resin Not available.
pUC 18 DNA Control Plasmid Not available.
- Odour** : ElectroTen-Blue Competent Cells Not available.
StrataClean Resin Not available.
pUC 18 DNA Control Plasmid Not available.
- Odour threshold** : ElectroTen-Blue Competent Cells Not available.
StrataClean Resin Not available.
pUC 18 DNA Control Plasmid Not available.
- pH** : ElectroTen-Blue Competent Cells 7.5
StrataClean Resin 7.5
pUC 18 DNA Control Plasmid 7.5

Section 9. Physical and chemical properties

Melting point	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. 0°C (32°F)
Boiling point	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. 100°C (212°F)
Flash point	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. Not available.
Evaporation rate	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. Not available.
Flammability (solid, gas)	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not applicable. Not applicable. Not applicable.
Lower and upper explosive (flammable) limits	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. Not available.
Vapour pressure	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. Not available.
Vapour density	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. Not available.
Relative density	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. Not available.
Solubility	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. Not available.
Auto-ignition temperature	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. Not available.
Decomposition temperature	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. Not available.
Viscosity	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Not available. Not available. Not available.

Section 10. Stability and reactivity

Reactivity	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	The product is stable. The product is stable. The product is stable.
Possibility of hazardous reactions	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	No specific data. No specific data. No specific data.
Incompatible materials	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.
Hazardous decomposition products	: ElectroTen-Blue Competent Cells StrataClean Resin pUC 18 DNA Control Plasmid	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ElectroTen-Blue Competent Cells				
Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-
Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
ElectroTen-Blue Competent Cells Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	100 milligrams	-
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitisation

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)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : ElectroTen-Blue Competent Cells Routes of entry anticipated: Oral, Dermal, Inhalation.
StrataClean Resin Not available.
pUC 18 DNA Control Plasmid Not available.

Potential acute health effects

Eye contact : ElectroTen-Blue Competent Cells No known significant effects or critical hazards.
StrataClean Resin No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid No known significant effects or critical hazards.

Inhalation : ElectroTen-Blue Competent Cells No known significant effects or critical hazards.
StrataClean Resin No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid No known significant effects or critical hazards.

Skin contact : ElectroTen-Blue Competent Cells No known significant effects or critical hazards.
StrataClean Resin No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid No known significant effects or critical hazards.

Section 11. Toxicological information

Ingestion	: ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
	StrataClean Resin	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	: ElectroTen-Blue Competent Cells	No specific data.
	StrataClean Resin	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
Inhalation	: ElectroTen-Blue Competent Cells	No specific data.
	StrataClean Resin	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
Skin contact	: ElectroTen-Blue Competent Cells	No specific data.
	StrataClean Resin	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
Ingestion	: ElectroTen-Blue Competent Cells	No specific data.
	StrataClean Resin	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.

Delayed and immediate effects as well as 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

Not available.

General	: ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
	StrataClean Resin	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Carcinogenicity	: ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
	StrataClean Resin	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Mutagenicity	: ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
	StrataClean Resin	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Teratogenicity	: ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
	StrataClean Resin	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Developmental effects	: ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
	StrataClean Resin	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects : ElectroTen-Blue Competent Cells No known significant effects or critical hazards.
 StrataClean Resin 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

Toxicity

Product/ingredient name	Result	Species	Exposure
ElectroTen-Blue Competent Cells	Acute LC50 25000 ppm Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
Dimethyl sulfoxide	Acute LC50 34000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 100 µl/L Marine water	Algae - Ulva lactuca	72 hours
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
ElectroTen-Blue Competent Cells				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
ElectroTen-Blue Competent Cells			
Dimethyl sulfoxide	-1.35	3.16	low
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 minimised 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

Section 13. Disposal considerations

its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

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

Standard Uniform Schedule of Medicine and Poisons



Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

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	: Not determined.
Canada	: Not determined.
China	: Not determined.
Europe	: All components are listed or exempted.
Japan	: <input checked="" type="checkbox"/> Japan inventory (ENCs): Not determined. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
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. Any other relevant information

History

Date of issue/Date of revision : 25/10/2017
Date of previous issue : 31/07/2015.
Version : 5

Key to abbreviations

: ADG = Australian Dangerous Goods
 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)
 NOHSC = National Occupational Health and Safety Commission
 SUSMP = Standard Uniform Schedule of Medicine and Poisons
 UN = United Nations

Procedure used to derive the classification

Classification	Justification
Not classified.	

References : Not available.

✔ 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.