Conforms to Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals

SAFETY DATA SHEET

Agilent Technologies

pCAL-n Vector, Part Number 214302

Section 1. Identification

Product identifier : pCAL-n Vector, Part Number 214302

Part no. (chemical kit) : 214302

Part no. :

pCAL-N Vector	204302-51
pTC 12 Control Vector	214407-56
XL1-Blue E. coli Strain	200268-81

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

Material uses : Analytical reagent.

pCAL-N Vector	20 µl (20 µg 1 µg/µl)
pTC 12 Control Vector	10 µl (10 µg 1 µg/µl)
XL1-Blue E. coli Strain	500 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.

XL1-Blue E. coli Strain	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%

GHS label elements

Signal word :

pCAL-N Vector	No signal word.
pTC 12 Control Vector	No signal word.
XL1-Blue E. coli Strain	No signal word.

Hazard statements :

pCAL-N Vector	No known significant effects or critical hazards.
pTC 12 Control Vector	No known significant effects or critical hazards.
XL1-Blue E. coli Strain	No known significant effects or critical hazards.

Precautionary statements

Prevention :

pCAL-N Vector	Not applicable.
pTC 12 Control Vector	Not applicable.
XL1-Blue E. coli Strain	Not applicable.

Response :

pCAL-N Vector	Not applicable.
pTC 12 Control Vector	Not applicable.
XL1-Blue E. coli Strain	Not applicable.

Storage :

pCAL-N Vector	Not applicable.
pTC 12 Control Vector	Not applicable.
XL1-Blue E. coli Strain	Not applicable.

Disposal :

pCAL-N Vector	Not applicable.
pTC 12 Control Vector	Not applicable.
XL1-Blue E. coli Strain	Not applicable.

Supplemental label elements

Section 2. Hazard(s) identification

Additional warning phrases :

pCAL-N Vector	Not applicable.
pTC 12 Control Vector	Not applicable.
XL1-Blue E. coli Strain	Not applicable.

Other hazards which do not result in classification :

pCAL-N Vector	None known.
pTC 12 Control Vector	None known.
XL1-Blue E. coli Strain	None known.

Section 3. Composition and ingredient information

Substance/mixture :

pCAL-N Vector	Mixture
pTC 12 Control Vector	Mixture
XL1-Blue E. coli Strain	Mixture

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
XL1-Blue E. coli Strain Glycerol	≥10 - ≤30	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 :

pCAL-N Vector	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.
pTC 12 Control Vector	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.
XL1-Blue E. coli Strain	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 :

pCAL-N Vector	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
pTC 12 Control Vector	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
XL1-Blue E. coli Strain	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact :

pCAL-N Vector	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
pTC 12 Control Vector	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
XL1-Blue E. coli Strain	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Section 4. First aid measures

Ingestion : pCAL-N Vector — 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.

pTC 12 Control Vector — 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.

XL1-Blue E. coli Strain — 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	: pCAL-N Vector	No known significant effects or critical hazards.
	pTC 12 Control Vector	No known significant effects or critical hazards.
	XL1-Blue E. coli Strain	No known significant effects or critical hazards.
Inhalation	: pCAL-N Vector	No known significant effects or critical hazards.
	pTC 12 Control Vector	No known significant effects or critical hazards.
	XL1-Blue E. coli Strain	No known significant effects or critical hazards.
Skin contact	: pCAL-N Vector	No known significant effects or critical hazards.
	pTC 12 Control Vector	No known significant effects or critical hazards.
	XL1-Blue E. coli Strain	No known significant effects or critical hazards.
Ingestion	: pCAL-N Vector	No known significant effects or critical hazards.
	pTC 12 Control Vector	No known significant effects or critical hazards.
	XL1-Blue E. coli Strain	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: pCAL-N Vector	No specific data.
	pTC 12 Control Vector	No specific data.
	XL1-Blue E. coli Strain	No specific data.
Inhalation	: pCAL-N Vector	No specific data.
	pTC 12 Control Vector	No specific data.
	XL1-Blue E. coli Strain	No specific data.
Skin contact	: pCAL-N Vector	No specific data.
	pTC 12 Control Vector	No specific data.
	XL1-Blue E. coli Strain	No specific data.
Ingestion	: pCAL-N Vector	No specific data.
	pTC 12 Control Vector	No specific data.
	XL1-Blue E. coli Strain	No specific data.

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

Notes to physician : pCAL-N Vector — Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

pTC 12 Control Vector — Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

XL1-Blue E. coli Strain — Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been

Section 4. First aid measures

ingested or inhaled.

Specific treatments	:	pCAL-N Vector	No specific treatment.
		pTC 12 Control Vector	No specific treatment.
		XL1-Blue E. coli Strain	No specific treatment.
Protection of first-aiders	:	pCAL-N Vector	No action shall be taken involving any personal risk or without suitable training.
		pTC 12 Control Vector	No action shall be taken involving any personal risk or without suitable training.
		XL1-Blue E. coli Strain	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	:	pCAL-N Vector	Use an extinguishing agent suitable for the surrounding fire.
		pTC 12 Control Vector	Use an extinguishing agent suitable for the surrounding fire.
		XL1-Blue E. coli Strain	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	pCAL-N Vector	None known.
		pTC 12 Control Vector	None known.
		XL1-Blue E. coli Strain	None known.
Specific hazards arising from the chemical	:	pCAL-N Vector	In a fire or if heated, a pressure increase will occur and the container may burst.
		pTC 12 Control Vector	In a fire or if heated, a pressure increase will occur and the container may burst.
		XL1-Blue E. coli Strain	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	:	pCAL-N Vector	No specific data.
		pTC 12 Control Vector	No specific data.
		XL1-Blue E. coli Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
Special protective actions for fire-fighters	:	pCAL-N Vector	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.
		pTC 12 Control Vector	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 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.
Special protective equipment for fire-fighters	:	pCAL-N Vector	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		pTC 12 Control Vector	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive

Section 5. Firefighting measures

		pressure mode.
	XL1-Blue 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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	pCAL-N Vector	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.
		pTC 12 Control Vector	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.
		XL1-Blue 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 spilt material. Put on appropriate personal protective equipment.
For emergency responders	:	pCAL-N Vector	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".
		pTC 12 Control Vector	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".
		XL1-Blue E. coli Strain	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".
Environmental precautions	:	pCAL-N Vector	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).
		pTC 12 Control Vector	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).
		XL1-Blue E. coli Strain	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

Section 6. Accidental release measures

Methods for cleaning up	:	pCAL-N Vector	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.
		pTC 12 Control Vector	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 E. coli Strain	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	:	pCAL-N Vector	Put on appropriate personal protective equipment (see Section 8).
		pTC 12 Control Vector	Put on appropriate personal protective equipment (see Section 8).
		XL1-Blue E. coli Strain	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	:	pCAL-N Vector	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.
		pTC 12 Control Vector	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 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.
Conditions for safe storage, including any incompatibilities	:	pCAL-N Vector	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.
		pTC 12 Control Vector	Store in accordance with local regulations. Store in

Section 7. Handling and storage

XL1-Blue E. coli Strain	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. 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
XL1-Blue E. coli Strain Glycerol	**Safe Work Australia (Australia, 1/2014).** TWA: 10 mg/m³ 8 hours.

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.

Section 8. Exposure controls and personal protection

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 :	pCAL-N Vector	Liquid.
	pTC 12 Control Vector	Liquid.
	XL1-Blue E. coli Strain	Liquid.
Colour :	pCAL-N Vector	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Odour :	pCAL-N Vector	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Odour threshold :	pCAL-N Vector	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
pH :	pCAL-N Vector	7.5
	pTC 12 Control Vector	7.5
	XL1-Blue E. coli Strain	7.5
Melting point :	pCAL-N Vector	0°C (32°F)
	pTC 12 Control Vector	0°C (32°F)
	XL1-Blue E. coli Strain	Not available.
Boiling point :	pCAL-N Vector	100°C (212°F)
	pTC 12 Control Vector	100°C (212°F)
	XL1-Blue E. coli Strain	Not available.
Flash point :	pCAL-N Vector	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Evaporation rate :	pCAL-N Vector	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Flammability (solid, gas) :	pCAL-N Vector	Not applicable.
	pTC 12 Control Vector	Not applicable.
	XL1-Blue E. coli Strain	Not applicable.
Lower and upper explosive (flammable) limits :	pCAL-N Vector	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Vapour pressure :	pCAL-N Vector	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Vapour density :	pCAL-N Vector	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Relative density :	pCAL-N Vector	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Solubility :	pCAL-N Vector	Easily soluble in the following materials: cold water and hot water.
	pTC 12 Control Vector	Easily soluble in the following materials: cold water and hot water.
	XL1-Blue E. coli Strain	Soluble in the following materials: cold water and hot water.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water	:	pCAL-N Vector	Not available.
		pTC 12 Control Vector	Not available.
		XL1-Blue E. coli Strain	Not available.
Auto-ignition temperature	:	pCAL-N Vector	Not available.
		pTC 12 Control Vector	Not available.
		XL1-Blue E. coli Strain	Not available.
Decomposition temperature	:	pCAL-N Vector	Not available.
		pTC 12 Control Vector	Not available.
		XL1-Blue E. coli Strain	Not available.
Viscosity	:	pCAL-N Vector	Not available.
		pTC 12 Control Vector	Not available.
		XL1-Blue E. coli Strain	Not available.

Section 10. Stability and reactivity

Reactivity	:	pCAL-N Vector	No specific test data related to reactivity available for this product or its ingredients.
		pTC 12 Control Vector	No specific test data related to reactivity available for this product or its ingredients.
		XL1-Blue E. coli Strain	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	pCAL-N Vector	The product is stable.
		pTC 12 Control Vector	The product is stable.
		XL1-Blue E. coli Strain	The product is stable.
Possibility of hazardous reactions	:	pCAL-N Vector	Under normal conditions of storage and use, hazardous reactions will not occur.
		pTC 12 Control Vector	Under normal conditions of storage and use, hazardous reactions will not occur.
		XL1-Blue E. coli Strain	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	pCAL-N Vector	No specific data.
		pTC 12 Control Vector	No specific data.
		XL1-Blue E. coli Strain	No specific data.
Incompatible materials	:	pCAL-N Vector	May react or be incompatible with oxidising materials.
		pTC 12 Control Vector	May react or be incompatible with oxidising materials.
		XL1-Blue E. coli Strain	May react or be incompatible with oxidising materials.
Hazardous decomposition products	:	pCAL-N Vector	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		pTC 12 Control Vector	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		XL1-Blue E. coli Strain	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
XL1-Blue E. coli Strain				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
XL1-Blue E. coli Strain					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitisation

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 likely routes of exposure :

pCAL-N Vector	Not available.
pTC 12 Control Vector	Not available.
XL1-Blue E. coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact :

pCAL-N Vector	No known significant effects or critical hazards.
pTC 12 Control Vector	No known significant effects or critical hazards.
XL1-Blue E. coli Strain	No known significant effects or critical hazards.

Inhalation :

pCAL-N Vector	No known significant effects or critical hazards.
pTC 12 Control Vector	No known significant effects or critical hazards.
XL1-Blue E. coli Strain	No known significant effects or critical hazards.

Skin contact :

pCAL-N Vector	No known significant effects or critical hazards.
pTC 12 Control Vector	No known significant effects or critical hazards.
XL1-Blue E. coli Strain	No known significant effects or critical hazards.

Ingestion :

pCAL-N Vector	No known significant effects or critical hazards.
pTC 12 Control Vector	No known significant effects or critical hazards.
XL1-Blue E. coli Strain	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact :

pCAL-N Vector	No specific data.
pTC 12 Control Vector	No specific data.
XL1-Blue E. coli Strain	No specific data.

Inhalation :

pCAL-N Vector	No specific data.
pTC 12 Control Vector	No specific data.
XL1-Blue E. coli Strain	No specific data.

Skin contact :

pCAL-N Vector	No specific data.
pTC 12 Control Vector	No specific data.
XL1-Blue E. coli Strain	No specific data.

Section 11. Toxicological information

Ingestion : pCAL-N Vector — No specific data.
pTC 12 Control Vector — No specific data.
XL1-Blue E. coli Strain — 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

General :	pCAL-N Vector	No known significant effects or critical hazards.
	pTC 12 Control Vector	No known significant effects or critical hazards.
	XL1-Blue E. coli Strain	No known significant effects or critical hazards.
Carcinogenicity :	pCAL-N Vector	No known significant effects or critical hazards.
	pTC 12 Control Vector	No known significant effects or critical hazards.
	XL1-Blue E. coli Strain	No known significant effects or critical hazards.
Mutagenicity :	pCAL-N Vector	No known significant effects or critical hazards.
	pTC 12 Control Vector	No known significant effects or critical hazards.
	XL1-Blue E. coli Strain	No known significant effects or critical hazards.
Teratogenicity :	pCAL-N Vector	No known significant effects or critical hazards.
	pTC 12 Control Vector	No known significant effects or critical hazards.
	XL1-Blue E. coli Strain	No known significant effects or critical hazards.
Developmental effects :	pCAL-N Vector	No known significant effects or critical hazards.
	pTC 12 Control Vector	No known significant effects or critical hazards.
	XL1-Blue E. coli Strain	No known significant effects or critical hazards.
Fertility effects :	pCAL-N Vector	No known significant effects or critical hazards.
	pTC 12 Control Vector	No known significant effects or critical hazards.
	XL1-Blue E. coli Strain	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
XL1-Blue E. coli Strain Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

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

Section 12. Ecological information

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
XL1-Blue 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 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 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

Not regulated.

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

Section 15. Regulatory information

Not listed.

Inventory list

Australia : All components are listed or exempted.

Canada : Not determined.

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 : Not determined.

Republic of Korea : All components are listed or exempted.

Taiwan : All components are listed or exempted.

Thailand : Not determined.

Turkey : Not determined.

United States : All components are listed or exempted.

Viet Nam : Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision : 24/09/2018

Date of previous issue : 29/03/2017

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.