SAFETY DATA SHEET

Agilent Technologies

pCAL-n-EK Vector, Part Number 214310

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name : pCAL-n-EK Vector, Part Number 214310

Part no. (chemical kit) : 214310

Part no. :

pCal-n-EK	214310-51
pTC 12 Control Vector	214407-56
XL1-Blue E. coli Strain	200268-81

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

Material uses : Analytical reagent.

pCal-n-EK	0.02 ml (20 µg 1 µg/µl)
pTC 12 Control Vector	0.01 ml (10 µg 1 µg/µl)
XL1-Blue E. coli Strain	0.5 ml

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition :

pCal-n-EK	Mixture
pTC 12 Control Vector	Mixture
XL1-Blue E. coli Strain	Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

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

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Signal word :

pCal-n-EK	No signal word.
pTC 12 Control Vector	No signal word.
XL1-Blue E. coli Strain	No signal word.

Hazard statements :

pCal-n-EK	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.

SECTION 2: Hazards identification

Precautionary statements

Prevention	:	pCal-n-EK	Not applicable.
		pTC 12 Control Vector	Not applicable.
		XL1-Blue E. coli Strain	Not applicable.
Response	:	pCal-n-EK	Not applicable.
		pTC 12 Control Vector	Not applicable.
		XL1-Blue E. coli Strain	Not applicable.
Storage	:	pCal-n-EK	Not applicable.
		pTC 12 Control Vector	Not applicable.
		XL1-Blue E. coli Strain	Not applicable.
Disposal	:	pCal-n-EK	Not applicable.
		pTC 12 Control Vector	Not applicable.
		XL1-Blue E. coli Strain	Not applicable.
Hazardous ingredients	:	XL1-Blue E. coli Strain	Not applicable.
Supplemental label elements	:	pCal-n-EK	Not applicable.
		pTC 12 Control Vector	Not applicable.
		XL1-Blue E. coli Strain	Safety data sheet available on request.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	:	pCal-n-EK	Not applicable.
		pTC 12 Control Vector	Not applicable.
		XL1-Blue E. coli Strain	Not applicable.

Special packaging requirements

Tactile warning of danger	:	pCal-n-EK	Not applicable.
		pTC 12 Control Vector	Not applicable.
		XL1-Blue E. coli Strain	Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII	:	pCal-n-EK	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
		pTC 12 Control Vector	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
		XL1-Blue E. coli Strain	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Other hazards which do not result in classification	:	pCal-n-EK	None known.
		pTC 12 Control Vector	None known.
		XL1-Blue E. coli Strain	None known.

SECTION 3: Composition/information on ingredients

3.1 Substances	:	pCal-n-EK	Mixture
		pTC 12 Control Vector	Mixture
		XL1-Blue E. coli Strain	Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
XL1-Blue E. coli Strain				
Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥10 - ≤25	Not classified.	[2]
Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≤3	Eye Irrit. 2, H319	[1]
			See Section 16 for the full text of the H statements declared above.	

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.

SECTION 3: Composition/information on ingredients

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern
[6] Additional disclosure due to company policy

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	:	pCal-n-EK	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-EK	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-EK	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.
Ingestion	:	pCal-n-EK	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.
Protection of first-aiders	:	pCal-n-EK	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.

SECTION 4: First aid measures

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	:	pCal-n-EK	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 ingested or inhaled.
Specific treatments	:	pCal-n-EK	No specific treatment.
		pTC 12 Control Vector	No specific treatment.
		XL1-Blue E. coli Strain	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	pCal-n-EK	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-EK	None known.
		pTC 12 Control Vector	None known.
		XL1-Blue E. coli Strain	None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	:	pCal-n-EK	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.

SECTION 5: Firefighting measures

Hazardous combustion products	:	pCal-n-EK	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

5.3 Advice for firefighters

Special precautions for fire-fighters	:	pCal-n-EK	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-EK	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
		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 pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
		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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	pCal-n-EK	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-EK	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".

SECTION 6: Accidental release measures

	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".

6.2 Environmental precautions

:	pCal-n-EK	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).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up

:	pCal-n-EK	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.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures

:	pCal-n-EK	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-EK	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

SECTION 7: Handling and storage

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

Storage	:	pCal-n-EK	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 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.
		XL1-Blue E. coli Strain	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from 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.

7.3 Specific end use(s)

Recommendations	:	pCal-n-EK	Industrial applications, Professional applications.
		pTC 12 Control Vector	Industrial applications, Professional applications.
		XL1-Blue E. coli Strain	Industrial applications, Professional applications.
Industrial sector specific solutions	:	pCal-n-EK	Not available.
		pTC 12 Control Vector	Not available.
		XL1-Blue E. coli Strain	Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
XL1-Blue E. coli Strain Glycerol	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** TWA: 10 mg/m³ 8 hours. Form: Mist

SECTION 8: Exposure controls/personal protection

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
XL1-Blue E. coli Strain					
Sodium chloride	DNEL	Short term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	443.28 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	443.28 mg/m³	General population	Systemic
	DNEL	Short term Inhalation	2068.62 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	2068.62 mg/m³	Workers	Systemic

PNECs

No PNECs available

8.2 Exposure controls

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

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/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.

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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state :	pCal-n-EK	Liquid.
	pTC 12 Control Vector	Liquid.
	XL1-Blue E. coli Strain	Liquid.
Colour :	pCal-n-EK	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Odour :	pCal-n-EK	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Odour threshold :	pCal-n-EK	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
pH :	pCal-n-EK	7.5
	pTC 12 Control Vector	7.5
	XL1-Blue E. coli Strain	7.5
Melting point/freezing point :	pCal-n-EK	0°C
	pTC 12 Control Vector	0°C
	XL1-Blue E. coli Strain	Not available.
Initial boiling point and boiling range :	pCal-n-EK	100°C
	pTC 12 Control Vector	100°C
	XL1-Blue E. coli Strain	Not available.
Flash point :	pCal-n-EK	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Evaporation rate :	pCal-n-EK	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Flammability (solid, gas) :	pCal-n-EK	Not applicable.
	pTC 12 Control Vector	Not applicable.
	XL1-Blue E. coli Strain	Not applicable.
Upper/lower flammability or explosive limits :	pCal-n-EK	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Vapour pressure :	pCal-n-EK	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Vapour density :	pCal-n-EK	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.
Relative density :	pCal-n-EK	Not available.
	pTC 12 Control Vector	Not available.
	XL1-Blue E. coli Strain	Not available.

SECTION 9: Physical and chemical properties

Solubility(ies)	:	pCal-n-EK	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	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	pCal-n-EK	Not available.
		pTC 12 Control Vector	Not available.
		XL1-Blue E. coli Strain	Not available.
Auto-ignition temperature	:	pCal-n-EK	Not available.
		pTC 12 Control Vector	Not available.
		XL1-Blue E. coli Strain	Not available.
Decomposition temperature	:	pCal-n-EK	Not available.
		pTC 12 Control Vector	Not available.
		XL1-Blue E. coli Strain	Not available.
Viscosity	:	pCal-n-EK	Not available.
		pTC 12 Control Vector	Not available.
		XL1-Blue E. coli Strain	Not available.
Explosive properties	:	pCal-n-EK	Not available.
		pTC 12 Control Vector	Not available.
		XL1-Blue E. coli Strain	Not available.
Oxidising properties	:	pCal-n-EK	Not available.
		pTC 12 Control Vector	Not available.
		XL1-Blue E. coli Strain	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	pCal-n-EK	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.
10.2 Chemical stability	:	pCal-n-EK	The product is stable.
		pTC 12 Control Vector	The product is stable.
		XL1-Blue E. coli Strain	The product is stable.
10.3 Possibility of hazardous reactions	:	pCal-n-EK	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.
10.4 Conditions to avoid	:	pCal-n-EK	No specific data.
		pTC 12 Control Vector	No specific data.
		XL1-Blue E. coli Strain	No specific data.
10.5 Incompatible materials	:	pCal-n-EK	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.

SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products

pCal-n-EK	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

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
XL1-Blue E. coli Strain Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
XL1-Blue E. coli Strain Sodium chloride	3000	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
XL1-Blue E. coli Strain Sodium chloride	Eyes - Moderate irritant Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit Rabbit	- - -	24 hours 100 mg 10 mg 24 hours 500 mg	- - -

Sensitiser

Conclusion/Summary : 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-EK	Not available.
pTC 12 Control Vector	Not available.
XL1-Blue E. coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Inhalation

pCal-n-EK	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.

SECTION 11: Toxicological information

Ingestion	:	pCal-n-EK	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-EK	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.
Eye contact	:	pCal-n-EK	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

Inhalation	:	pCal-n-EK	No specific data.
		pTC 12 Control Vector	No specific data.
		XL1-Blue E. coli Strain	No specific data.
Ingestion	:	pCal-n-EK	No specific data.
		pTC 12 Control Vector	No specific data.
		XL1-Blue E. coli Strain	No specific data.
Skin contact	:	pCal-n-EK	No specific data.
		pTC 12 Control Vector	No specific data.
		XL1-Blue E. coli Strain	No specific data.
Eye contact	:	pCal-n-EK	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-EK	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-EK	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-EK	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.
Reproductive toxicity	:	pCal-n-EK	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.

SECTION 12: Ecological information

12.1 Toxicity

SECTION 12: Ecological information

Product/ingredient name	Result	Species	Exposure
XL1-Blue E. coli Strain			
Sodium chloride	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : 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.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : 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

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

14.6 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.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Label :

pCal-n-EK	Not applicable.
pTC 12 Control Vector	Not applicable.
XL1-Blue E. coli Strain	Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

SECTION 15: Regulatory information

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	:	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.
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 active or exempted.
Viet Nam	:	Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

Full text of abbreviated H statements

XL1-Blue E. coli Strain H319	Causes serious eye irritation.

Full text of classifications [CLP/GHS]

XL1-Blue E. coli Strain Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

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Date of previous issue : 25/09/2018

SECTION 16: Other information

Version : 3

Notice to reader

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