Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code: ST0010
Product Name: pUC19 Control Vector, linearized

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

Identified uses: For research use only. Not for use in diagnostic procedures
Uses advised against: No information available

1.3. Details of the supplier of the safety data sheet

Supplier:
USA:
Takara Bio USA, Inc.
1290 Terra Bella Avenue
Mountain View, CA 94043
Phone: 800.662.2566/888.251.6618
Web: www.clontech.com

Europe:
Takara Bio Europe S.A.S.
2, avenue du president Kennedy
78100 Saint-Germain-en-Laye France
Phone: +33.(1).39.04.68.80
Web: www.takara-bio.eu

Europe:
Takara Bio Europe AB
Arvid Wallgrens backe 20
41346 Goteborg, Sweden
Phone: +46 (0) 31 758 0972
Web: www.takara-bio.eu

India:
DSS Takara Bio India Pvt. Ltd.
A-5 Mohan Co-op Industrial Estate
New Delhi 110044 India
Phone: +91.11.30886717

For further information, please contact:
Technical Support: +33.(1).39.04.68.80

1.4. Emergency telephone number

In case of emergency, call PERS (Professional Emergency Resource Services) 1-800-633-8253 (US) or 801-629-0667 (international).
Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.2. Label elements

Product Identifier
This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Signal Word
None

2.3. Other hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances / 3.2 Mixtures

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice
In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Inhalation
Move to fresh air.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Eye contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Ingestion
Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Not an expected route of exposure

4.2. Most important symptoms and effects, both acute and delayed

Main Symptoms
No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician
Treat symptomatically.
Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media  Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media  No information available

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions  Ensure adequate ventilation.

For emergency responders  Use personal protection recommended in Section 8.

6.2. Environmental precautions

Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas

6.3. Methods and material for containment and cleaning up

Methods for Containment  Prevent further leakage or spillage if safe to do so.

Methods for cleaning up  Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling  Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.

Hygiene measures  Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions  Keep container tightly closed in a dry and well-ventilated place.

Incompatible products  None known based on information supplied.

7.3. Specific end use(s)

Risk Management Methods (RMM)  The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1. Control parameters

Exposure limits

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Measures

Apply technical measures to comply with the occupational exposure limits. For rescue and maintenance work in storage tanks use self-contained breathing apparatus.

Personal Protective Equipment

Eye/Face Protection

If splashes are likely to occur, wear: Safety glasses with side-shields

Hand Protection

Protective gloves.

Skin and body protection

Wear suitable protective equipment, Boots

Respiratory protection

None under normal use conditions.

Environmental Exposure Controls

The product should not be allowed to enter drains, water courses or the soil.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear, colorless solution</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Clear</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH VALUE</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling point/boiling range (°C)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
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<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
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<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
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<td></td>
</tr>
<tr>
<td>Softening point</td>
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<td></td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>VOC Content (%)</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>
Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

None under normal use conditions.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information
Product does not present an acute toxicity hazard based on known or supplied information

<table>
<thead>
<tr>
<th>Route</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>There is no data available for this product.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>There is no data available for this product.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>There is no data available for this product.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>There is no data available for this product.</td>
</tr>
</tbody>
</table>

Unknown acute toxicity

0.995 % of the mixture consists of ingredient(s) of unknown toxicity.
0.995 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
0.995 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
0.995 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
0.995 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
0.995 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Skin corrosion/irritation No information available.

Serious Eye Damage/Eye Irritation No information available.
Sensitization  No information available.
mutagenic effects  No information available.
Carcinogenic effects  No information available.
Reproductive toxicity  No information available.
STOT - Single Exposure  No information available.
STOT - Repeated Exposure  No information available.
Aspiration Hazard  No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity
1 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

12.2. Persistence and degradability
No information available.

12.3. Bioaccumulative potential
No information available.

12.4. Mobility in soil
Mobility in soil
No information available.

Mobility
No information available.

12.5. Results of PBT and vPvB assessment
No information available.

12.6. Other adverse effects
No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Waste from Residues / Unused Products  Dispose of in accordance with the European Directives on waste and hazardous waste.
Contaminated packaging  Dispose of in accordance with local regulations.

Section 14: TRANSPORT INFORMATION
IMDG/IMO
14.1 UN/ID no Not regulated
14.2 Proper Shipping Name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing group Not regulated
14.5 Environmental Hazard Not Applicable
  Marine pollutant Not regulated
14.6 Special Provisions None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

RID
14.1 UN/ID no Not regulated
14.2 Proper Shipping Name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing group Not regulated
14.5 Environmental Hazard Not Applicable
14.6 Special Provisions None

ADR/RID
14.1 UN/ID no Not regulated
14.2 Proper Shipping Name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing group Not regulated
14.5 Environmental Hazard Not Applicable
14.6 Special Provisions None

ICAO/IATA
14.1 UN/ID no Not regulated
14.2 Proper Shipping Name Not regulated
14.3 Hazard Class Not regulated
14.4 Packing group Not regulated
14.5 Environmental Hazard Not Applicable
14.6 Special Provisions None

Section 15: REGULATORY INFORMATION

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

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorizations and/or restrictions on use:
This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants
Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

International Inventories For research use only
TSCA -
DSL/NDSL -
EINECS/ELINCS -
ENCS -
IECSC -
KECL -
PICCS -
AICS -

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Assessment: No information available

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend
SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
TWA  Time weighted average  STEL  Short term exposure limit
Ceiling  Maximum limit value  *  Skin designation

Issuing Date  2016-07-21
Revision Date  2016-07-21
Reason for revision: Not Applicable.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer
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End of Safety Data Sheet