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

1.1. Product identifier

Product Code
SD2191

Product Name
5X PrimeScript™ RT Master Mix

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

EUH210 - Safety data sheet available on request

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]

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 56-81-5</td>
<td>200-289-5</td>
<td>56-81-5</td>
<td>30 - 60</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Ethylene glycol 107-21-1</td>
<td>203-473-3</td>
<td>107-21-1</td>
<td>10 - 30</td>
<td>Acute Tox. 4 (H302)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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
Ingredients with workplace control parameters.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>European Union</th>
<th>United Kingdom</th>
<th>France</th>
<th>Spain</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 56-81-5</td>
<td></td>
<td>STEL 30 mg/m³</td>
<td>TWA 10 mg/m³</td>
<td>TWA 10 mg/m³</td>
<td>-</td>
</tr>
<tr>
<td>Ethylene glycol 107-21-1</td>
<td>TWA 20 ppm</td>
<td>STEL 40 ppm</td>
<td>TWA 10 mg/m³</td>
<td>TWA 20 ppm</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL 104 mg/m³</td>
<td>TWA 20 ppm</td>
<td>STEL 104 mg/m³</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA 52 mg/m³</td>
<td>P*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
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>Unpleasant</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

9.2. Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Softening point</td>
<td>No information available</td>
<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>
<tr>
<td>Density VALUE</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Bulk Density</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity
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

- **Inhalation**: There is no data available for this product.
- **Eye contact**: There is no data available for this product.
- **Skin contact**: There is no data available for this product.
- **Ingestion**: There is no data available for this product.

The following values are calculated based on chapter 3.1 of the GHS document

- **ATEmix (oral)**: 2,234.00 mg/kg
- **ATEmix (dermal)**: 18,016.00 mg/kg

**Unknown acute toxicity**

- 68.00791 % of the mixture consists of ingredient(s) of unknown toxicity.
- 2.15791 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
- 28.00791 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
- 68.00791 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
- 68.00791 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
- 68.00791 % 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.
Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

5.8558% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>-</td>
<td>51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static</td>
<td>500: 24 h Daphnia magna mg/L EC50</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50</td>
<td>14 - 18: 96 h Oncorhynchus mykiss mL/L LC50 static 40000 - 60000: 96 h Pimephales promelas mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 46300: 48 h Daphnia magna mg/L EC50</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>-1.76</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>-1.93</td>
</tr>
</tbody>
</table>

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

- **14.6 Special Provisions**
  None

- **14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
  No information available

**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**

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>United States Toxic Substances Control Act Section 8(b) Inventory</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Canadian Domestic Substances List/Non-Domestic Substances List</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances</td>
</tr>
<tr>
<td>ENCS</td>
<td>Japan Existing and New Chemical Substances</td>
</tr>
<tr>
<td>IECSC</td>
<td>China Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>KECL</td>
<td>Korean Existing and Evaluated Chemical Substances</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Chemicals and Chemical Substances</td>
</tr>
<tr>
<td>AICS</td>
<td>Australian Inventory of Chemical Substances</td>
</tr>
</tbody>
</table>

**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**

Full text of H-Statements referred to under section 3
H302 - Harmful if swallowed

**Legend**

SVHC: Substances of Very High Concern for Authorization:

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA</td>
<td>Time weighted average</td>
<td>STEL</td>
</tr>
<tr>
<td>Ceiling</td>
<td>Maximum limit value</td>
<td>Skin designation</td>
</tr>
<tr>
<td>**</td>
<td>Hazard Designation</td>
<td></td>
</tr>
</tbody>
</table>

**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