Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name          Stellar™ Competent Cells

Other means of identification

Product Code          ST0213
Registration number    No information available

Recommended use of the chemical and restrictions on use

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

Details of the supplier of the safety data sheet

Supplier

Japan:                  Takara Bio Inc.
                        Nojihigashi 7-4-38
                        Kusatsu, Shiga 525-0058, Japan
                        Phone: +81.77.565.6920
                        Web: www.takara-bio.com

China:
                        Takara Biotechnology (Dalian) Co., Ltd.
                        19-No.2 Dongbei Street
                        Dalian Economic and Technical Development Zone
                        Dalian, 116600
                        Phone: +86.411.8761.9944
                        Web: www.takara.com.cn

Korea:
                        Takara Korea Biomedical Inc.
                        601, New T Castle, 429-1, Gasan-dong, Geumcheon-gu
                        Seoul, 153-803
                        Phone: +82.(0)2.2081.2525
                        Web: www.takara.co.kr

Emergency telephone number

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

Section 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Signal Word
None
Hazard Statements

Precautionary Statements - Prevention
• Not applicable

Precautionary Statements - Response
• Not applicable

Precautionary Statements - Storage
• Not applicable

Precautionary Statements - Disposal
• Not applicable

Other information
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)
Hazards not otherwise classified (HNOC) Not applicable

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Pollutant Release and Transfer Register (Class I):</th>
<th>Pollutant Release and Transfer Register (Class II):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Secret</td>
<td>412</td>
<td>-</td>
</tr>
</tbody>
</table>

Section 4: 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 plenty of water for at least 15 minutes.

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.

Notes to physician
Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Flammable Properties
May cause fire.

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

Unsuitable Extinguishing Media
No information available.
Specific hazards arising from the chemical
Keep product and empty container away from heat and sources of ignition.

Special Extinguishing Media
Cool drums with water spray.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions
For personal protection see section 8.

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

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

Methods for cleaning up
Soak up with inert absorbent material.

Prevention of secondary hazards
Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling

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

Storage

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

Section 8: EXPOSURE CONTROLS/PERSOAL PROTECTION

Exposure Guidelines

Other information
These recommendations apply to the product as supplied.

Engineering Measures
Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Respiratory protection
None under normal use conditions.

Hand Protection
Latex gloves.

Eye/Face Protection
Tightly fitting safety goggles.

Skin and body protection
Wear suitable protective equipment. Boots.

Hygiene measures
When using, do not eat, drink or smoke, Handle in accordance with good industrial hygiene and safety practice

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State
Liquid
Section 10: STABILITY AND REACTIVITY

Reactivity
No dangerous reaction known under conditions of normal use

Stability
Stable under normal conditions.

Explosion Data
Sensitivity to Mechanical Impact
None.

Sensitivity to Static Discharge
None.

Hazardous Reactions
None under normal processing

Conditions to Avoid
None known based on information supplied

Hazardous Decomposition Products
None under normal use conditions

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Numerical measures of toxicity - Product Information

Unknown acute toxicity

2.52 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

2.52 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

16.47 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

16.47 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

16.47 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
The following values are calculated based on chapter 3.1 of the GHS document

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEmix (oral)</td>
<td>97,365.00 mg/kg</td>
</tr>
<tr>
<td>ATEmix (dermal)</td>
<td>No information available</td>
</tr>
<tr>
<td>ATEmix (inhalation-gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>ATEmix (inhalation-dust/mist)</td>
<td>No information available</td>
</tr>
<tr>
<td>ATEmix (inhalation-vapor)</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**Numerical measures of toxicity - Component Information**

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>No information available</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>No information available</td>
</tr>
<tr>
<td>Sensitization</td>
<td>No information available</td>
</tr>
<tr>
<td>mutagenic effects</td>
<td>No information available</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No information available</td>
</tr>
<tr>
<td>STOT - Single Exposure</td>
<td>No information available</td>
</tr>
<tr>
<td>STOT - Repeated Exposure</td>
<td>No information available</td>
</tr>
<tr>
<td>Neurological effects</td>
<td>No information available</td>
</tr>
<tr>
<td>Target Organ Effects</td>
<td>No information available</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity**

3.51 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>No information available</td>
</tr>
<tr>
<td>Bioaccumulation</td>
<td>No information available</td>
</tr>
<tr>
<td>Mobility</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**Section 13: DISPOSAL CONSIDERATIONS**

**Waste from Residues / Unused Products**

Dispose of as hazardous waste in compliance with local and national regulations.

**Contaminated packaging**

Dispose of in accordance with local regulations.

**Section 14: TRANSPORT INFORMATION**
IMDG/IMO  Not regulated
ICAO  Not regulated
ADR/RID  Not regulated
ICAO/IATA  Not regulated
Japan

Section 15: REGULATORY INFORMATION

International Inventories  For research use only

| TSCA          | Complies          |
| DSL/NDSL      | -                 |
| EINECS/ELINCS | -                 |
| ENCS          | -                 |
| IECSC         | Complies          |
| KECL          | -                 |
| PICCS         | -                 |
| AICS          | Complies          |

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

Industrial Safety and Health Law:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Dangerous Substances</th>
<th>organic solvents</th>
<th>Harmful Substances Whose Names Are to be Indicated on the Label</th>
<th>ISHL - Prevention of Hazards Due to Specified Chemical Substances (Class 2)</th>
<th>Prevention of Lead Poisoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Secret</td>
<td>&gt;=0.1 %</td>
<td>Not Applicable</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Pollutant Release and Transfer Register (Class II):</th>
<th>Pollutant Release and Transfer Register (Class I):</th>
<th>Poisonous and Deleterious Substances Control Law</th>
<th>Restrictions on use</th>
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</thead>
<tbody>
<tr>
<td>Dimethyl sulfoxide</td>
<td>Not Applicable</td>
<td>-</td>
<td>Not Applicable</td>
<td>Group</td>
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<tr>
<td>67-68-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade Secret</td>
<td>Not Applicable</td>
<td>-</td>
<td>Not Applicable</td>
<td>Group</td>
</tr>
<tr>
<td>Trade Secret</td>
<td>Not Applicable</td>
<td>412</td>
<td>Not Applicable</td>
<td></td>
</tr>
</tbody>
</table>

Section 16: OTHER INFORMATION

Issuing Date  2016-07-21
Revision Date  2016-07-21
Revision Note
No information available.

Key or legend to abbreviations and acronyms used in the safety data sheet
• No information available

Disclaimer
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End of Safety Data Sheet