1. IDENTIFICATION

Product Identifier

Product Name
In-Fusion® HD EcoDry™ Mix

Other means of identification

Product Code
ST0347

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

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

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements

Emergency Overview

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance
Lyophilized cake

Physical State
Solid

Odor
Unpleasant

Precautionary Statements - Prevention
Not applicable

Precautionary Statements - Response
Not applicable.

Precautionary Statements - Storage
Not applicable.
Precautionary Statements - Disposal
Not applicable.

Hazards not otherwise classified (HNOC)
Not applicable

Other information
Not applicable.

99.31978 % of the mixture consists of ingredient(s) of unknown toxicity

### 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>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sucrose</td>
<td>57-50-1</td>
<td>30 - 60</td>
</tr>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

#### 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).
- **Eye contact**: Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
- **Skin contact**: Wash off immediately with plenty of water for at least 15 minutes.
- **Inhalation**: Move to fresh air.
- **Ingestion**: Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Not an expected route of exposure

#### Most important symptoms and effects, both acute and delayed

**Main Symptoms**: No information available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician**: Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

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

#### Unsuitable Extinguishing Media
Decomposition by contact with water may generate vapors which can be ignited by heat or open flame.

#### Specific hazards arising from the chemical
No information available.

#### Explosion Data
- **Sensitivity to Mechanical Impact**: None.
- **Sensitivity to Static Discharge**: None.
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Ensure adequate ventilation.

Environmental precautions

Environmental precautions
Do not flush into surface water or sanitary sewer system.

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
Soak up with inert absorbent material.

7. HANDLING AND STORAGE

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

Conditions for safe storage, including any incompatibilities

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

Incompatible products
None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sucrose 57-50-1</td>
<td>TWA: 10 mg/m³ TWA: 15 mg/m³ TWA: 5 mg/m³ (vacated) TWA: 15 mg/m³ (vacated) TWA: 5 mg/m³</td>
<td>TWA: 10 mg/m³ TWA: 5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Glycerol 56-81-5</td>
<td>-</td>
<td>TWA: 15 mg/m³ TWA: 5 mg/m³ (vacated) TWA: 10 mg/m³ (vacated) TWA: 5 mg/m³</td>
<td>-</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
Safety glasses with side-shields.

Skin and body protection
Wear suitable protective clothing. Protective shoes or boots.
Respiratory protection
None required under normal usage.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Lyophilized cake</td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor</td>
<td>Unpleasant</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH VALUE</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No information available /</td>
</tr>
<tr>
<td>Boiling point / boiling range (°C)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No information available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Softening point</td>
<td>No information available</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>No information available</td>
</tr>
<tr>
<td>VOC Content (%)</td>
<td>No information available</td>
</tr>
<tr>
<td>Density VALUE</td>
<td>No information available</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>No information available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions

| Hazardous Reactions                  | None under normal processing.             |
| Hazardous Polymerization             | Hazardous polymerization does not occur.  |
Conditions to Avoid

None known based on information supplied.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sucrose 57-50-1</td>
<td>= 29700 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol 56-81-5</td>
<td>= 12600 mg/kg (Rat)</td>
<td>&gt; 10 g/kg (Rabbit)</td>
<td>&gt; 570 mg/m³ (Rat) 1 h</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms

No information available.

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

Sensitization

No information available.

Mutagenic effects

No information available.

Carcinogenicity

No information available.

Reproductive toxicity

No information available.

STOT - Single Exposure

No information available.

STOT - Repeated Exposure

No information available.

Target Organ Effects

No information available.

Aspiration Hazard

No information available.

Numerical measures of toxicity - Product Information

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

- ATEmix (oral) 6,408.00 mg/kg
- ATEmix (dermal) 15,054.00 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

96.82% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability

No information available.

Bioaccumulation

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>
</tbody>
</table>
Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging
Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT
Not regulated
TDG
Not regulated
MEX
Not regulated
ICAO
Not regulated
ICAO/IATA
Not regulated
IMDG/IMO
Not regulated
RID
Not regulated
ADR/RID
Not regulated
ADN
Not regulated

15. REGULATORY INFORMATION

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
US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 56-81-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Personal protection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

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

Disclaimer:
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Notice to Purchaser:
Our products are to be used for research purposes only. They may not be used for any other purpose, including, but not limited to, use in drugs, in vitro diagnostic purposes, therapeutics, or in humans. Our products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products or to provide a service to third parties without our prior written approval. Your use of this product is also subject to compliance with the licensing requirements described on the product’s web page. It is your responsibility to review, understand and adhere to any restrictions imposed by these statements. All other marks are the property of their respective owners. Certain trademarks may not be registered in all jurisdictions.
End of Safety Data Sheet