Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name
SMARTer® II A Oligonucleotide

Other means of identification

Product Code
ST0549

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)

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

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

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.
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/PERSONAL PROTECTION

Exposure Guidelines
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

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

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, colorless solution</td>
</tr>
<tr>
<td>Color</td>
<td>Clear</td>
</tr>
<tr>
<td>Odor</td>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Property</td>
<td>Values</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>pH VALUE</td>
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</tr>
<tr>
<td>Melting point / freezing point</td>
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</tr>
<tr>
<td>Boiling point/boiling range (°C)</td>
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<tr>
<td>Flash point</td>
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</tr>
<tr>
<td>Evaporation Rate</td>
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</tr>
<tr>
<td>Flammability (solid, gas)</td>
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</tr>
<tr>
<td>Flammability Limit in Air</td>
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</tr>
<tr>
<td>Upper flammability limit</td>
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<tr>
<td>Lower flammability limit</td>
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<td>Vapor pressure</td>
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</tr>
<tr>
<td>Vapor density</td>
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<tr>
<td>Relative density</td>
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<td>Water Solubility</td>
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<tr>
<td>Solubility in other solvents</td>
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<tr>
<td>Partition coefficient</td>
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<tr>
<td>Autoignition temperature</td>
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<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Viscosity, kinematic</td>
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<tr>
<td>Viscosity, dynamic</td>
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<tr>
<td>Explosive properties</td>
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<tr>
<td>Oxidizing Properties</td>
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Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC Content (%)</td>
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<td></td>
</tr>
<tr>
<td>Bulk Density</td>
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</tr>
</tbody>
</table>

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

- 0.85549 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0.85549 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 0.85549 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 0.85549 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 0.85549 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

ATEmix (oral) No information available
ATEmix (dermal) No information available
ATEmix (inhalation-gas)  No information available
ATEmix (inhalation-dust/mist)  No information available
ATEmix (inhalation-vapor)  No information available

Numerical measures of toxicity - Component Information

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

Skin corrosion/irritation  No information available.
Serious Eye Damage/Eye Irritation  No information available.
Sensitization  No information available.
mutagenic effects  No information available.
Reproductive toxicity  No information available.
STOT - Single Exposure  No information available.
STOT - Repeated Exposure  No information available.
Neurological effects  No information available.
Target Organ Effects  No information available.
Aspiration Hazard  No information available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity
1 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and degradability  No information available.
Bioaccumulation  No information available.
Mobility  No information available.

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
Section 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

Section 16: OTHER INFORMATION

Issuing Date  
2016-07-22

Revision Date  
2016-07-22

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