1. Identification

Product identifier

Product Name
Human Heart, Auricle Sinistra (left) Poly A+ RNA

Other means of identification

Product Code
636172

Synonyms
No information available

Recommended use of the chemical and restrictions on use

Identified uses
No information available

Restrictions on use
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.takarabio.com

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).

2. Hazard(s) identification

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

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

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

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

Appearance
Clear, colorless

Physical state
Liquid

Odor
None
Other information
No information available.

### 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance</th>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNA, Poly A+, Auricle Sinistra</td>
<td>CAS-RNA</td>
<td>&lt; 0.1</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

### 4. First-aid measures

**Description of first aid measures**

**Inhalation**
Remove to fresh air.

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

**Skin contact**
Wash skin with soap and water.

**Ingestion**
Clean mouth with water and drink afterwards plenty of water.

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

**Symptoms**
No information available.

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

**Note to physicians**
Treat symptomatically.

### 5. Fire-fighting measures

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

- **Large Fire**
CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media**
Do not scatter spilled material with high pressure water streams.

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

**Explosion Data**

- **Sensitivity to mechanical impact**
None.

- **Sensitivity to static discharge**
None.

**Special protective equipment for fire-fighters**
Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions
Ensure adequate ventilation.

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
Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Appropriate engineering controls

Engineering controls
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection
No special protective equipment required.

Skin and body protection
No special protective equipment required.

Respiratory protection
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations
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>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, colorless</td>
</tr>
<tr>
<td>Color</td>
<td>Clear</td>
</tr>
</tbody>
</table>
Odor: None
Odor Threshold: No information available

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling point / boiling range (°C)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
<td>Open cup</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>no data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>no data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>no data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Relative density</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>no data available</td>
<td>None known</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
<td>no data available</td>
<td>None known</td>
</tr>
</tbody>
</table>

Other information:
- Explosive properties: No information available
- Oxidizing properties: No information available
- Softening point: No information available
- Molecular Weight: No information available
- VOC Content (%): No information available
- Liquid Density: No information available
- Bulk Density: No information available

10. Stability and reactivity

Reactivity: No information available.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: None under normal processing.

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:
- Inhalation: Specific test data for the substance or mixture is not available.
- Eye contact: Specific test data for the substance or mixture is not available.
- Skin contact: Specific test data for the substance or mixture is not available.
- Ingestion: Specific test data for the substance or mixture is not available.
Symptoms related to the physical, chemical and toxicological characteristics

Symptoms
No information available.

Acute toxicity

Numerical measures of toxicity
No information available

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.

Respiratory or skin sensitization
No information available.

Germ cell mutagenicity
No information available.

Carcinogenicity
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.

Other adverse effects
No information available.

Interactive effects
No information available.

12. Ecological information

Ecotoxicity
The environmental impact of this product has not been fully investigated.

Persistence and degradability
No information available.

Bioaccumulation
There is no data for this product.

Other adverse effects
No information available.
13. Disposal considerations

Waste treatment methods

<table>
<thead>
<tr>
<th>Waste from residues/unused products</th>
<th>Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contaminated packaging</td>
<td>Do not reuse empty containers.</td>
</tr>
</tbody>
</table>

14. Transport information

<table>
<thead>
<tr>
<th>DOT</th>
<th>Not regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDG</td>
<td>Not regulated</td>
</tr>
<tr>
<td>MEX</td>
<td>Not regulated</td>
</tr>
<tr>
<td>ICAO (air)</td>
<td>Not regulated</td>
</tr>
<tr>
<td>IATA</td>
<td>Not regulated</td>
</tr>
<tr>
<td>IMDG</td>
<td>Not regulated</td>
</tr>
<tr>
<td>RID</td>
<td>Not regulated</td>
</tr>
<tr>
<td>ADR</td>
<td>Not regulated</td>
</tr>
<tr>
<td>ADN</td>
<td>Not regulated</td>
</tr>
</tbody>
</table>

15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>TSCA</th>
<th>-</th>
</tr>
</thead>
</table>

*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

<table>
<thead>
<tr>
<th>DSL/NDSL</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS/ELINCS</td>
<td>-</td>
</tr>
<tr>
<td>ENCS</td>
<td>-</td>
</tr>
<tr>
<td>IECSC</td>
<td>-</td>
</tr>
<tr>
<td>KECL</td>
<td>-</td>
</tr>
<tr>
<td>PICCS</td>
<td>-</td>
</tr>
<tr>
<td>AICS</td>
<td>-</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

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**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**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**

This product does not contain any substances regulated under applicable state right-to-know regulations

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**16. Other information**

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special hazards</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

**HMIS**

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

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

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

- **TWA** Time weighted average
- **STEL** Short term exposure limit
- **Ceiling** Maximum limit value
- **Skin designation**

**Key literature references and sources for data used to compile the SDS**

- Agency for Toxic Substances and Disease Registry (ATSDR)
- U.S. Environmental Protection Agency ChemView Database
- European Food Safety Authority (EFSA)
- EPA (Environmental Protection Agency)
- Acute Exposure Guideline Level(s) (AÉGL(s))
- U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
- U.S. Environmental Protection Agency High Production Volume Chemicals
- Food Research Journal
- Hazardous Substance Database
- International Uniform Chemical Information Database (IUCLID)
- Japan GHS Classification
- Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
- NIOSH (National Institute for Occupational Safety and Health)
- National Library of Medicine's ChemID Plus (NLM CIP)
- National Library of Medicine's PubMed database (NLM PUBMED)
- National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision Date: 2021-02-05
Revision Note: No information available.

Disclaimer
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End of Safety Data Sheet