SAFETY DATA SHEET

1. Identification

Product identifier: HLA-A*24:02 survivin-2B Tetramer-AYACNTSTL-PE

Other means of identification

- Product code: TS-M025-1
- Recommended use: Research use only.
- Recommended restrictions: None known.

Manufacturer / Importer / Supplier / Distributor information

- Manufacturer and Supplier (Asia): Medical & Biological Laboratories (MBL) Co., Ltd.
  - Telephone number: +81-52-238-1901 (Monday to Friday, 9 AM to 5 PM JST)
  - Fax: +81-52-238-1440
  - E-mail: sds-support@mbl.co.jp
  - URL: http://www.mbl.co.jp/e/index.html
  - Contact person: SDS Support
- Supplier: MBL International Corporation
  - Telephone number: +1-800-200-5459, option 3
  - Fax: +1-781-939-6963
  - E-mail: tech@mblintl.com
  - URL: http://www.mblintl.com/
  - Contact person: Technical Service

2. Hazard(s) identification

Physical hazards: Not classified.
Health hazards: Not classified.
OSHA hazard(s): Not classified.

Label elements

- Hazard symbol: None.
- Signal word: None.
- Hazard statement: None.

Precautionary statement

- Prevention: Observe good industrial hygiene practices.
- Response: Wash hands after handling.
- Storage: Store away from incompatible materials.
- Disposal: Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC): None.

Supplemental information: None.

3. Composition/Information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>26628-22-8</td>
<td>&lt; 0.1</td>
</tr>
</tbody>
</table>

Composition comments: All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation: Move to fresh air. Get medical attention if any discomfort continues.
Skin contact
Remove contaminated clothing. Wash skin with soap and water. Get medical attention if irritation develops or persists.

Eye contact
Rinse immediately with plenty of water, also under the eyelids. Get medical attention if irritation develops or persists.

Ingestion
Rinse mouth thoroughly. Get medical attention if any discomfort occurs.

Most important symptoms/effects, acute and delayed
Dry skin.

Indication of immediate medical attention and special treatment needed
Treat symptomatically.

General information
Get medical attention if any discomfort develops.

5. Fire-fighting measures

Suitable extinguishing media
Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media
None known.

Specific hazards arising from the chemical
None known.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions
Move containers from fire area if you can do it without risk. Use water spray to cool unopened containers. Prevent entry to sewers and public waters.

General fire hazards
The product is non-combustible.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Avoid inhalation of mist and contact with skin and eyes. For personal protection, see Section 8 of the SDS.

Methods and materials for containment and cleaning up
Absorb spillage with suitable absorbent material. After removal, flush contaminated area thoroughly with water. For waste disposal, see Section 13 of the SDS.

Environmental precautions
Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling
Avoid contact with eyes and prolonged skin contact. Wash hands after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Keep container tightly closed. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide (CAS 26628-22-8)</td>
<td>Ceiling</td>
<td>0.29 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.11 ppm</td>
</tr>
</tbody>
</table>

US NIOSH Pocket Guide to Chemical Hazards: Ceiling Limit Value and Time Period (if specified)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide (CAS 26628-22-8)</td>
<td>Ceiling</td>
<td>0.3 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 ppm</td>
</tr>
</tbody>
</table>

Biological limit values
No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
Provide adequate ventilation. Provide easy access to water supply and eye wash facilities.

Individual protection measures, such as personal protective equipment

Eye/face protection
Risk of splashes: Wear safety glasses with side shields.

Skin protection
None mentioned.
**Hand protection**
Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

**Other**

**Respiratory protection**
Wear appropriate clothing to prevent repeated or prolonged skin contact.

**Thermal hazards**
No special precautions. Seek advice from local supervisor.

**General hygiene considerations**
Handle in accordance with good industrial hygiene and safety practice. Wash hands after handling. Routinely wash work clothing and protective equipment to remove contaminants.

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### 9. Physical and chemical properties

**Appearance**

- **Physical state**: Liquid.
- **Form**: Liquid.
- **Color**: Colored, dependent on the conjugates. (Alexa Fluor® 488; yellowish green, Alexa Fluor® 594; purple, Alexa Fluor® 647; pale blue, APC; light blue, Azami-Green; pale green, FITC; yellowish green, PE; pink)

**Odor**
Odorless.

**Odor threshold**
Not available.

**pH**
Neutral.

**Melting point/freezing point**
Not available.

**Initial boiling point and boiling range**
Not available.

**Flash point**
Not available.

**Evaporation rate**
Not available.

**Flammability (solid, gas)**
Not applicable.

**Upper/lower flammability or explosive limits**
- **Flammability limit - lower (%)**
  Not available.
- **Flammability limit - upper (%)**
  Not available.

**Vapor pressure**
Not available.

**Vapor density**
Not available.

**Relative density**
Not available.

**Solubility(ies)**
Soluble in water.

**Partition coefficient (n-octanol/water)**
Not available.

**Auto-ignition temperature**
Not available.

**Decomposition temperature**
Not available.

**Viscosity**
Not available.

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### 10. Stability and reactivity

**Reactivity**
The product is stable and non reactive under normal conditions of use, storage and chemical stability.

**Stable at normal conditions.**

**Possibility of hazardous reactions**
Sodium azide: Reacts with copper, lead, silver, mercury and carbon disulfide to form particularly shock-sensitive compounds. Reacts with acids, forming toxic and explosive hydrogen azide.

**Conditions to avoid**
None known.

**Incompatible materials**
Heavy metals. Acids.

**Hazardous decomposition products**
None known.

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### 11. Toxicological information

**Information on likely routes of exposure**

- **Ingestion**: Large quantities: May cause discomfort if swallowed.
- **Inhalation**: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
- **Skin contact**: Prolonged contact may cause dryness of the skin.
- **Eye contact**: Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics

Information on toxicological effects

Acute toxicity
Skin corrosion/irritation
Serious eye damage/eye irritation
Respiratory sensitization
Skin sensitization
Germ cell mutagenicity
Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity
NTP Report on Carcinogens
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Reproductive toxicity
Specific target organ toxicity
- single exposure
Specific target organ toxicity
- repeated exposure
Aspiration hazard
Chronic effects

12. Ecological information

Ecotoxicity
Persistence and degradability
Bioaccumulative potential
Mobility in soil
Mobility in general
Other adverse effects

13. Disposal considerations

Disposal instructions
Local disposal regulations
Hazardous waste code
Waste from residues / unused products
Contaminated packaging

14. Transport information

DOT
IATA
IMDG

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

US federal regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
CERCLA Hazardous Substance List (40 CFR 302.4)

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Dry skin.
Large quantities: May cause discomfort if swallowed.
May cause mild skin irritation.
May cause eye irritation.
Based on available data, the classification criteria are not met.
Based on available data, the classification criteria are not met.
No data available.
Not listed.
Not listed.
Not listed.
No data available.
No data available.
No data available.
Based on available data, the classification criteria are not met.
Based on available data, the classification criteria are not met.

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills have a harmful or damaging effect on the environment.
No data available.
No data available.
The product is water soluble and may spread in water systems.
The environmental hazard of the product is considered to be limited.

Dispose of in accordance with all applicable regulations. Do not discharge into drains, water courses or onto the ground.
Dispose of in accordance with local regulations.
Not regulated.
Dispose of in accordance with local regulations.
Dispose of in same manner as unused product.
Not regulated as dangerous goods.
Not regulated as dangerous goods.
Not regulated as dangerous goods.
Not applicable.

This product is not hazardous according to OSHA 29CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
Not regulated.
Not listed.
Not listed.
16. Other information

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>EC Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).