SAFETY DATA SHEET

1. Identification

Product identifier Anti-HA-tag mAb

Other means of identification
Product code M132-3
Recommended use Research use only.
Recommended restrictions None known.

Manufacturer / Importer / Supplier / Distributor information
Manufacturer and Supplier (Asia) Medical & Biological Laboratories (MBL) Co., Ltd.
4-5-3 Sakae, Naka-ku, Nagoya, Aichi 460-0008, Japan
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
15A Constitution Way, Woburn, MA 01801, USA
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 thoroughly 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.

3. Composition/Information on ingredients

Mixture

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol (Glycerin)</td>
<td>56-81-5</td>
<td>50 - 60</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 discomfort develops or persists.
Skin contact Remove contaminated clothing. Wash with soap and water. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse.
Anti-HA-tag mAb

Immediate flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation develops or persists.

Drink plenty of water. Seek medical advice.

Irritation of eyes and mucous membranes. Mild skin irritation.

Treat symptomatically.

Get medical attention if any discomfort develops.

5. Fire fighting measures


None known.

Fire or high temperatures create: Carbon oxides.

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

Move containers from fire area if you can do that without risk. Use water spray to cool unopened containers. Prevent entry to sewers and public waters.

6. Accidental release measures

Ensure adequate ventilation. Avoid inhalation of mist and contact with skin and eyes. For personal protection, see Section 8 of the SDS.

Dike far ahead of liquid spill for later disposal. Small Spills: Absorb spillage with suitable absorbent material. Clean contaminated surface thoroughly. After removal, flush contaminated area thoroughly with water. Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Provide adequate ventilation. Use work methods which minimize production of vapors and mists. Avoid inhalation of mist and contact with skin and eyes. Wash hands after handling. Observe good industrial hygiene practices.

Keep container tightly closed. Store away from incompatible materials.

8. Exposure controls/personal protection

Ocasional exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol (CAS 56-81-5)</td>
<td>PEL</td>
<td>5 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m3</td>
<td>Total dust.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol (CAS 56-81-5)</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>Mist.</td>
</tr>
</tbody>
</table>

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

No exposure standards allocated.

Provide adequate ventilation and minimize the risk of inhalation of vapors and mists.

Wear safety glasses.
**Hand protection**
Wear protective gloves. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

**Other**
Wear appropriate clothing to prevent repeated or prolonged skin contact. Wear protective gloves. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

**Respiratory protection**
In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment with combination filter (gas filter/dust filter). Seek advice from local supervisor.

**Thermal hazards**
Wear appropriate thermal protective clothing, when necessary.

**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.

### 9. Physical and chemical properties

**Appearance**

- **Physical state**: Liquid.
- **Form**: Viscous liquid.
- **Color**: Colorless.

**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.

### 10. Stability and reactivity

**Reactivity**: The product is non-reactive under normal conditions of use, storage and transport.

**Chemical stability**: Stable at normal conditions.

**Possibility of hazardous reactions**: Hazardous reactions do not occur.

**Conditions to avoid**: Strong heating. Contact with incompatible materials.

**Incompatible materials**: Strong oxidizing agents.

**Hazardous decomposition products**: None known.

### 11. Toxicological information

**Information on likely routes of exposure**

- **Ingestion**: Ingestion may cause irritation and malaise.
- **Inhalation**: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Skin contact  May cause skin irritation. Causes skin irritation.
Eye contact  May cause eye irritation on direct contact. Causes eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics  Irritation of eyes and mucous membranes. Mild skin irritation.

Information on toxicological effects

Acute toxicity  Ingestion may cause irritation and malaise.
Skin corrosion/irritation  May cause skin irritation.
Serious eye damage/eye irritation  May cause eye irritation on direct contact.
Respiratory sensitization  Not classified.
Skin sensitization  Not a skin sensitizer.
Germ cell mutagenicity  Not classified.
Carcinogenicity  IARC not listed.
Reproductive toxicity  Not classified.
Specific target organ toxicity - single exposure  Knowledge about health hazard is incomplete.
Specific target organ toxicity - repeated exposure  Knowledge about health hazard is incomplete.
Aspiration hazard  Not classified.

12. Ecological information
Ecotoxicity  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.
Persistence and degradability  The product is biodegradable.
Bioaccumulative potential  The product is not bioaccumulating.
Partition coefficient n-octanol / water (log Kow)  Glycerol (CAS 56-81-5) -1.76
Mobility in soil  Expected to be highly mobile in soil.
Mobility in general  The product is water soluble and may spread in water systems.
Other adverse effects  No data available.

13. Disposal considerations
Disposal instructions  Dispose of in accordance with all applicable regulations. Do not discharge into drains, water courses or onto the ground.
Local disposal regulations  Dispose of in accordance with local regulations.
Hazardous waste code  Not regulated.
Waste from residues / unused products  Dispose of in accordance with local regulations.
Contaminated packaging  Dispose of in same manner as unused product.

14. Transport information
DOT  Not regulated as a dangerous good.
IATA  Not regulated as a dangerous good.
IMDG  Not regulated as a dangerous good.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  Not applicable.

15. Regulatory information
US federal regulations  This product is hazardous according to OSHA 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)  Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)  Not listed.
Superfund Amendments and Reauthorization Act of 1986 (SARA)
## Hazard categories

<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</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).

## Other federal regulations

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List</td>
<td></td>
<td>Not regulated.</td>
</tr>
<tr>
<td>Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)</td>
<td></td>
<td>Not regulated.</td>
</tr>
<tr>
<td>Safe Drinking Water Act (SDWA)</td>
<td></td>
<td>Not regulated.</td>
</tr>
<tr>
<td>Drug Enforcement Administration (DEA), List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number</td>
<td></td>
<td>Not listed.</td>
</tr>
<tr>
<td>Drug Enforcement Administration (DEA), List 1 &amp; 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))</td>
<td></td>
<td>Not regulated.</td>
</tr>
<tr>
<td>DEA Exempt Chemical Mixtures Code Number</td>
<td></td>
<td>Not regulated.</td>
</tr>
<tr>
<td>Food and Drug Administration (FDA)</td>
<td></td>
<td>Not regulated.</td>
</tr>
</tbody>
</table>

## US state regulations

- This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

## International Inventories

- Massachusetts RTK - Substance List: Glycerol (CAS 56-81-5)
- New Jersey Worker and Community Right-to-Know Act: Not regulated.
- Pennsylvania RTK - Hazardous Substances: Glycerol (CAS 56-81-5)
- Rhode Island RTK: Glycerol (CAS 56-81-5)
- California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Not listed.

## 16. Other information

- **Issue date**: 09/28/2011
- **Revision date**: 09/30/2016
- **Version**: 10
- **Further information**: Not available.
- **References**: IUCLID
- **Disclaimer**: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.