MATERIAL SAFETY DATA SHEET

Created: September 28, 2011
Revised: February 1, 2012

1. Identification of the Substance/Mixture of the Company/Undertaken

Product Name: Anti-IL-18 (Human) mAb
Catalog No.: D043-3
Manufacturer: Medical & Biological Laboratories (MBL) Co., Ltd.
KDX Nagoya Sakae Bldg. 10F
4-5-3 Sakae, Naka-ku, Nagoya 460-0008, Japan
TEL: +81-265-76-4999 (9 AM to 5 PM JST; Hiroshi Takatoya)
FAX: +81-265-76-1964
E-mail: takatoya.hiroshi@mbl.co.jp
Supplier: MBL International Co.
4 H Constitution Way
Woburn, MA 01801, USA
TEL: +1-800-200-5459 x1113 (Dr. Bindi M. Doshi: Technical Service Manager)
FAX: +1-781-939-6963
E-mail: bindi.doshi@mblintl.com

Intended Use: For Research Use Only

2. Hazards Identification

GHS Classification: N/A
Symbol: No Symbol
Signal Word: N/A
Hazard Statement: N/A

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

3. Composition/Information on Ingredients

Chemical Identity

<table>
<thead>
<tr>
<th>Substance/ Mixture</th>
<th>Hazardous/ Non-hazardous</th>
<th>Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixture</td>
<td>Glycerol</td>
<td></td>
</tr>
<tr>
<td>Synonyms</td>
<td>Glycerin; 1,2,3-Propantriol</td>
<td></td>
</tr>
<tr>
<td>Concentration</td>
<td>50% (Not hazardous at this concentration)</td>
<td></td>
</tr>
<tr>
<td>Formula</td>
<td>C3H8O3</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>92.09</td>
<td></td>
</tr>
<tr>
<td>CAS No.</td>
<td>56-81-5</td>
<td></td>
</tr>
<tr>
<td>EC No. (EINECS)</td>
<td>200-289-5</td>
<td></td>
</tr>
<tr>
<td>EC Index No.</td>
<td>Not listed</td>
<td></td>
</tr>
<tr>
<td>TSCA Inventory</td>
<td>Listed</td>
<td></td>
</tr>
</tbody>
</table>

4. First-aid Measures

After Inhalation: Supply fresh air, consult doctor in case of complaints.
After Skin Contact: Immediately wash skin with plenty of water.
After Eye Contact: Immediately rinse opened eye for at least 15 minutes under running water.
After Ingestion: Rinse mouth with water. Seek medical attention and appropriate follow-up.

5. Fire-fighting Measures

Suitable Extinguishing Agents: Dry chemical powder, carbon dioxide, foam, water spray.
Protective Equipment: No special measures

6. Accidental Release Measures

Personal Precautions: Use standard laboratory practices including proper personal protective equipment.

Procedures for Cleaning/absorption: Absorb liquid with inert liquid-binding material.
Ventilation: No special ventilation is necessary.
Environmental Precautions: N/A

7. Handling and Storage

Handling: No special measures required. No special precautions are necessary if used correctly.
Storage
Store at -20°C preferably in the dark.

8. Exposure Controls and Personal Protection

Control Parameters
OSHA PEL (TWA), 15 mg/m³ total dust, 5 mg/m³ respirable fraction; ACGIH OEL (TWA) 10 mg/m³.

Protective Equipments
Follow usual standard laboratory practices including proper personal protective equipments (protective gloves, safety glasses, lightweight

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or store food and beverages in areas where chemicals are used. Wash hands before breaks and at the end of the work shift.

9. Physical and Chemical Properties

Physical Data
Form
Solution
Color
Colorless
Odor
Odorless
pH
Neutral

Boiling Point/Boiling Range
Not available.

Flash Point
Not available.

Flammability
Not flammable.

Explosive Properties
No explosion hazard.

Oxidizing Properties
Not available.

Vapor Pressure
Not available.

Evaporation Rate
Not available.

Relative Density
Not available.

Solubility in /Miscibility with Water
Soluble/miscible.

Partition Coefficient
Not available.

Viscosity
Not available.

10. Stability and Reactivity

Chemical Stability
Stable at -20°C or less (for antibody).

Thermal Decomposition/Conditions to be Avoided
No decomposition if used according to specification.

Incompatible Materials to be Avoided
Not known.

Hazardous Decomposition Products
No dangerous decomposition products known.

Hazardous Polymerization
Hazardous polymerization does not occur.

11. Toxicological Information

Acute Toxicity (Glycerol, 100%)
TDLo (oral, human): 1,428 mg/kg; headache, nausea or vomiting (RTECS)
LD₅₀ (oral, rat): 12,600 mg/kg (RTECS)
LD₅₀ (dermal, rabbit): 10,000 mg/kg
LD₅₀ (inhalation, rat): 570 mg/m³

Skin Irritant Effect
Not known.

Eye Irritant Effect
Not known.

Chronic Toxicity
Not known.

Sensitization
Not known.

Mutagenicity
Not known.

Teratogenicity
Not known.

Reproduction Toxicity
Not known.

Target Organ Effects
Not known.

*The product is not subject to classification according to GHS ver. 3.

12. Ecological Information

Ecotoxicity (Glycerol, 100%)
LC₅₀ (fish): 184,000 mg/L/96 hr SIDS; LC₅₀ (goldfish): >5,000 mg/L/24 hr SIDS.

Biodegradability
Biodegradable.

Mobility
Not information available.

Bioaccumulation
Not information available.

13. Disposal Considerations

Waste
Dispose in compliance with applicable national, regional or local laws and regulations.

Empty Packaging
Dispose in compliance with applicable national, regional or local laws and regulations.
### 14. Transport Information

<table>
<thead>
<tr>
<th>IATA</th>
<th>Not restricted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>Not classified as dangerous in the meaning of transport regulations.</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>No information available.</td>
</tr>
<tr>
<td>Subsidiary Class</td>
<td>No information available.</td>
</tr>
<tr>
<td>Packing Group</td>
<td>No information available.</td>
</tr>
<tr>
<td>UN-No.</td>
<td>No information available.</td>
</tr>
<tr>
<td>DOT (Dept. of Transportation, US)</td>
<td>Not a hazardous material for DOT shipping.</td>
</tr>
<tr>
<td>Indicate Precaution</td>
<td>Store at -20°C (for antibody).</td>
</tr>
<tr>
<td>Other Information</td>
<td>Protect from direct sunlight and high temperature. Avoid damaging containers.</td>
</tr>
</tbody>
</table>

### 15. Regulatory Information

**<Glycerol>**

**EU REGULATIONS:**
- Labelling according to EC Directives: See Section 2.

**US REGULATIONS:**
- EPA : CERCLA RQ= Not listed. EPCRA TPQ= Not listed
- OSHA : TQ= Not listed
- NFPA : HR= health-1, flam.-0, react.-0
- HMIS : HR= health-1, flam.-0, react.-0

### 16. Other Information

The information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. The information in this document is intended only as a guide to the appropriate precautionary handling of this material by a person trained in, or supervised by a person trained in chemical handling. The user is responsible for determining the precautions and danger of this chemical material in his application. MBL shall not be held responsible for any damage resulting from the use of the above product or the information contained in this Material Safety Data Sheet. Since conditions and manner of use are outside of our control, MBL can assume no liability in connection with any use of this information.