SAFETY DATA SHEET

1. Identification

Product identifier Anti-Hemoglobin F (Human) pAb

Other means of identification

Product code PM078
Recommended use Research use only.
Recommended restrictions None known.

Manufacturer and Supplier

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

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.

3. Composition/Information on ingredients

MIXTURES

Chemical name Sodium azide
CAS number 26628-22-8
% < 0.1

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
  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
No special precautions. Seek advice from local supervisor.
Thermal hazards
Wear appropriate thermal protective clothing, when necessary.
General hygiene
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

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Neutral.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Upper/lower flammability or explosive limits

<table>
<thead>
<tr>
<th>Flammability limit</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- lower (%)</td>
<td></td>
</tr>
<tr>
<td>- upper (%)</td>
<td></td>
</tr>
</tbody>
</table>

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 stable and non reactive under normal conditions of use, storage and transportation.
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.

11. Toxicological information

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Route</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>Large quantities: May cause discomfort if swallowed.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Under normal conditions of intended use, this material is not expected to be an inhalation hazard.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Prolonged contact may cause dryness of the skin.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Direct contact with eyes may cause temporary irritation.</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry skin</td>
<td></td>
</tr>
</tbody>
</table>

Information on toxicological effects
### Acute toxicity
Large quantities: May cause discomfort if swallowed.

### Skin corrosion/irritation
May cause mild skin irritation.

### Serious eye damage/eye irritation
May cause eye irritation.

### Respiratory sensitization
Based on available data, the classification criteria are not met.

### Skin sensitization
Based on available data, the classification criteria are not met.

### Germ cell mutagenicity
No data available.

### Carcinogenicity
- **IARC Monographs. Overall Evaluation of Carcinogenicity**
  - Not listed.
- **NTP Report on Carcinogens**
  - Not listed.
  - Not listed.

### Reproductive toxicity
No data available.

### Specific target organ toxicity
- **- single exposure**
  - No data available.
- **- repeated exposure**
  - No data available.

### Aspiration hazard
Based on available data, the classification criteria are not met.

### Chronic effects
Prolonged inhalation may be harmful.

### 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
No data available.

#### Bioaccumulative potential
No data available.

#### Mobility in soil
No data available.

#### Mobility in general
The product is water soluble and may spread in water systems.

#### Other adverse effects
The environmental hazard of the product is considered to be limited.

### 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 dangerous goods.

#### IATA
Not regulated as dangerous goods.

#### IMDG
Not regulated as dangerous goods.

#### 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 not hazardous according to OSHA 29CFR 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.
  - Not listed.
- **CERCLA Hazardous Substance List (40 CFR 302.4)**
  - Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**
Hazard categories

- Immediate Hazard - No
- Delayed Hazard - No
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

SARA 302 Extremely hazardous substance
- No

SARA 311/312 Hazardous chemical
- No

SARA 313 (TRI reporting)
- Not regulated.

Other federal regulations
- Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated.
- Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated.
- Food and Drug Administration (FDA): Not regulated.

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.

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

International Inventories

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

* 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).

16. Other information

Issue date | 09/03/2014
Revision date | 09/30/2016
Version | 10
Further information | Not available.
References | Registry of Toxic Effects of Chemical Substances (RTECS)
| HSDB® - Hazardous Substances Data Bank

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.