Safety Data Sheet (SDS)

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: MabXpure suspended in ethanol aqueous solution
Product Code: CPI-AR-MXP-01
Reference Number: cpi4232-1
Company Name (Japan): DAICEL CORPORATION
Address: JR SHINAGAWA EAST BLDG. 2-18-1, Konan, Minato-ku, Tokyo 180-8230, Japan
Company Contact: Marketing & Development (CPI Company)
Phone Number: +81-3-6711-8221
Fax Number: +81-3-6711-8228

Company Name (U.S.A.): CHIRAL TECHNOLOGIES, INC.
Address: 800 North Five Points Road, West Chester, PA 19380, U.S.A.
Phone Number: +1-610-594-2100
Fax Number: +1-610-594-2325

Company Name (France): CHIRAL TECHNOLOGIES EUROPE S.A.S.
Address: Parc d’ Innovation – 160, Bd Gonthier d’ Andernach – CS 80140, 67404 Illkirch Cedex, France
Phone Number: +33 3 88 79 50 00
Fax Number: +33 3 88 66 71 66

Company Name (China): DAICEL CHIRAL TECHNOLOGIES (CHINA) CO., LTD.
Address: 3F, No.32, HeXiang Rd, WaiGaoQiao Pilot Free trade zone, Shanghai, 200131, China
Phone Number: +86-21-5046-0086
Fax Number: +86-21-5046-2321

Company Name (India): DAICEL CHIRAL TECHNOLOGIES (INDIA) PVT. LTD.
Address: Lab No. 4A, Phase III, IKP Knowledge Park
Genome Valley, Turkapally, Shameerpet, Ranga Reddy
Dist. Hydabad-500 078, Telangana, India
Phone Number: +91-40-2338-3700
Fax Number: +91-40-2348-0104

Recommended Use and Restriction on Use: Purification of biomolecules
(For research and industrial use)

Section 2 - HAZARDS IDENTIFICATION

GHS Classification: Classification of the substance
Flammable liquids – Category 3

Hazard statements:
H226: Flammable liquid and vapor

Label elements: Hazard pictograms

Precautionary statements:
P210: Keep away from heat, hot surfaces, open flames, sparks.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name or Generic Name</th>
<th>Concentration or Its Ranges</th>
<th>Formula</th>
<th>CAS RN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified silica gel</td>
<td>15–23%</td>
<td></td>
<td>Not available</td>
</tr>
<tr>
<td>Ethanol</td>
<td>15–20%</td>
<td>CH3CH2OH</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>57–70%</td>
<td>H2O</td>
<td>7732–18–5</td>
</tr>
</tbody>
</table>

*Ethanol is used as a preservative.

Impurities and/or Stabilizing Additives which Contribute to the Classification: No information available

Section 4 - FIRST AID MEASURES

Inhalation:
Move affected person to the open air. Keep him or her at rest to allow easier breathing.
Call a doctor.
Skin Contact
Wash the skin immediately.
If skin irritation or rash occurs: Get medical advice and attention.

Eye Contact
If it reaches the eyes: Irrigate eyes immediately and continue to do at least 15 minutes with copious amounts of water.
Call a doctor.

Ingestion
Call a doctor.

Section 5 — FIRE FIGHTING MEASURES

Extinguishing Media
Dry chemicals, carbon dioxide, and water sprinkling

Specific Hazards
May burn but will not ignite easily.
Burns if heated intensely.

Specific Fire Fighting
Use water extinguishers, dry chemical fire extinguishers, carbon dioxide fire extinguishers if extinguish a fire at an early stage.

Protection of Fire Fighter
Wear protective clothes, self contained breathing apparatus, oxygen rebreather, rubber boots, latex gloves, and goggles or full face shield.

Section 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Wear appropriate personal protective equipment (Refer to "Section 8 — EXPOSURE CONTROLS / PERSONAL PROTECTION") and avoid inhalation or contact with eyes and skin.

Environmental Precautions
Isolate the site as a leak area by providing a zone that has an appropriate width to all directions.
Do not touch the leakage, and do not walk on it.

Decontamination/Absorption/Sweeping/Vacuuming/Neutralization
Prevent release to environment if possible.

Methods and Equipment for Containment and Cleaning up
In case of small quantity of dry spill put the spilled material in a clean and dry container with a clean shovel, and cover the container loosely.
Collect the leakage by scraping up and put it into an empty container that can be closed tightly. Dispose of it later.

Prevention Measures for Secondary Accidents
If possible, first secure container to stop leakage.

Section 7 — HANDLING AND STORAGE

Handling
Technical Measures
Provide ventilation system and Use necessary personal protective equipment as described in "8. EXPOSURE CONTROLS AND PERSONAL PROTECTION."

Local and General Ventilation
Provide local ventilations and a full ventilation system as described in "8. EXPOSURE CONTROLS AND PERSONAL PROTECTION."

Precautions for Safe Handling
Do not handle until all safety precautions have been read and understood.
Handle at a well-ventilated place.
Avoid release to the environment.
Do not let it contact eyes and the skin, or the clothes.
Ventilate the exhaust to keep the concentration in the air below the exposure limit.
Get the manual before use.
Use properly by reading “Precautions for Use” labeled on the container before use or disposal.
Wash hands thoroughly after handling.
Prohibit the use of heat, sparks, and fire in the surrounding area.
Do not touch, inhale, or swallow.
Use at the cool place where can maintain the appropriate temperature.
Do not breathe dust and fume.
Do not handle containers roughly such as rolling or dragging around.

Prevent Handling of Incompatible Substances or Mixtures
Refer to “10. STABILITY AND REACTIVITY”
MabXpure suspended in ethanol aqueous solution, DAICEL CORPORATION, cpi4232-1, 3/5

**Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering Controls**
- If dust is generated, install a local ventilation equipment.
- Take preventive measures for electrostatic discharge.
- A workplace to store or handle this substance should be provided with an eye washing station and an emergency shower station.

**Personal Protective Equipment**
- Respiratory Protection: If dust is generated, wear a NIOSH or EN approved respirator for respiratory organs.
- Hand Protection: Wear adequate personal protective gloves.
- Eye Protection: Goggles (ANSI approved)
- Skin and Body Protection: Wear the adequate personal protective clothing and face protection equipment.

**Specific Hygiene Measures**
- Wash hands thoroughly after handling.

**Section 9 – PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance**
- Physical State: liquid (viscous)

**Initial Boiling Point and Boiling Ranges**
- NA

**Flash Point**
- NA

**Auto-Ignition Temperature**
- NA

**Specific Gravity (Density)**
- NA

**Dust Explosive Lower Limit**
- NA

**Decomposition Temperature**
- NA

(as Ethanol)

**Initial Boiling Point and Boiling Ranges**
- 78.3°C

**Flash Point**
- 14°C

**Vapor Pressure**
- 57.3hPa (19.6°C)

**Specific Gravity (Density)**
- 0.7864g/cm³ (25°C)

**Solubility**
- 1.00×10⁻⁶mg/L (in Water)

**Partition Coefficient : n-Octanol/Water**
- log Kow=-0.31 (25°C)

**Auto-Ignition Temperature**
- 363°C

**Section 10 – STABILITY AND REACTIVITY**

**Stability**
- No data available

**Possibility of Hazardous Reaction**
- No data available

**Reagents to Avoid**
- Keep away from heat, sparks, open flames and hot surfaces.

**Conditions to Avoid**
- Store away from oxidants.

**Incompatible Substances or Mixtures**
- Store away from incompatible materials.

**Hazardous Decomposition Products**
- No data available

**Section 11 – TOXICOLOGICAL INFORMATION**

**Acute Toxicity**
- No data available

**Skin Corrosion/Irritation**
- No data available

**Germ Cell Mutagenicity**
- No data available

(as Ethanol)

**Acute Toxicity**
- Acute oral toxicity (LD50 in rat): 6000~17800 mg/kg.

**Skin Corrosion/Irritation**
- Non-irritant (rabbit)

**Germ Cell Mutagenicity**
- Ames test: negative
Section 12 - ECOLOGICAL INFORMATION
Environmental Hazards
Ecotoxicity

<as Ethanol> LC50 (96hr in fathead minnow) >100mg/L

Section 13 - DISPOSAL CONSIDERATIONS
Residual Waste
Contract an authorized waste disposal company, or a local public body who conducts the disposal, to dispose of the material.
For disposal, conform with the standards provided by related laws and local public bodies.
When commissioning the disposal to a disposal company, notify the danger and toxicity thoroughly.
In case of disposal of empty containers, remove the content thoroughly.
Recycle containers after cleansing, or carry out the disposal under the related laws and regulations and the standards of the local governments.

Contaminated Container and Packaging
In case of disposal of empty containers, remove the content thoroughly.
Recycle containers after cleansing, or carry out the disposal under the related laws and regulations and the standards of the local governments.

Section 14 - TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>International Regulations</th>
<th>Regulatory Information</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>by Sea</td>
<td>Not applicable</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>UN No.</td>
<td>Not applicable</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Marine Pollutant</td>
<td>Not applicable</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Regulatory Information by Air</td>
<td>Not applicable</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>UN No.</td>
<td>Not applicable</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

ADR/RID  IMDG  IATA
Not regulated aqueous solution
An aqueous solution containing not more than 24% alcohol by volume is not subjected to the requirements.

| UN number | NA | NA | NA |
| UN proper shipping name | NA | NA | NA |
| Transport hazard class  | NA | NA | NA |
| Packaging group         | NA | NA | NA |

Section 15 - REGULATORY INFORMATION
Safety, health and environmental regulations / legislation specific for the substance or mixture <as MabXpure>

Industrial Safety and Health Act
Dangerous or Harmful Substances Subject to Be Indicated their Names
Dangerous Articles and Harmful Substances Whose Names, etc. Should Be Notified
Air Pollution Control Act
Volatile Organic Compound
Act for the Prevention of Marine Pollution and Maritime Disasters
Hazardous liquid
Foreign Exchange and Foreign Trade Act
Catch-All Controls
Act on Control of Export, Import and Others of Specified Hazardous Wastes and Other Wastes
Act 2, Paragraph 1, Item 1(f)

Chemical Safety Assessment
For this substance a chemical safety assessment was not carried out.
Section 16 - OTHER INFORMATION

Other Property

Notice to Reader: To the best of our knowledge, the information contained herein is accurate.

However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of information contained herein.

Final determination of suitability of any material is the sole responsibility of the information contained herein.

All materials may present unknown hazards and should be used with caution.

Although certain hazards are described herein, we cannot guarantee See Sec.1 (Company identification)