Section 1 - CHEMICALS AND COMPANY IDENTIFICATION

Chemical Identifier: CELLOXIDE 2081 [CEL 2081]
Product Code: ODP–OH–CEL2081–01
Reference Number: yuuki258–7

Manufacturer
Company Name: DAICEL CORPORATION
Address: 2–18–1, Konan, Minato-ku, Tokyo 108–8230, Japan
Company Contact: Organic Chemical Products Company
Phone Number: +81–3–6711–8211
Fax Number: +81–3–6711–8218
Emergency Phone Number: +81–3–6711–8211

Responsible company for supply
Company Name: DAICEL (U.S.A.), INC.
Address: One Parker Plaza, 400 Kelby Street Fort Lee, New Jersey 07024
Phone Number: +1–201–461–4466
Fax Number: +1–201–461–2776
Email: inquiry@us.daicel.com
Recommended Use and Restriction on Use: General industrial

ID: CEL2081_US01_JP07

Section 2 - HAZARDS IDENTIFICATION

GHS Classification
Physicochemical Hazards: Flammable liquids Not classified
Pyrophoric liquids Not classified
Health Hazards: Sensitization – skin Category 1
Other hazards than mentioned above are Not applicable or No data available.

GHS Label Elements
Symbols

Signal Word: Warning
Hazard Statements: H317 May cause an allergic skin reaction
Precautionary Statements
Prevention: P261 Avoid breathing mist, vapors and spray.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.

Response: Take off contaminated clothing and wash it before reuse.
Precautionary Statements: P362+P364 IF ON SKIN: Wash with plenty of soap and water.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs, get medical advice and attention.
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>Cycloaliphatic epoxide</td>
<td>≧99%</td>
<td>Closed</td>
<td>Closed</td>
</tr>
</tbody>
</table>

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

Section 4 – FIRST AID MEASURES

Inhalation
Remove person to fresh air and keep comfortable for breathing.
Immediately call a doctor.
IF exposed or concerned: Get medical advice and attention.

Skin Contact
Take off or dispose of all polluted clothes.
Rinse skin with water or shower.
Immediately call a doctor.
Get medical advice and attention.

Eye Contact
Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
Continue rinsing.
Immediately call a doctor.
Get medical advice and attention.

Ingestion
Rinse mouth. Do NOT induce vomiting.
Immediately call a doctor.
Get medical advice and attention.

Section 5 – FIRE FIGHTING MEASURES

Extinguishing Media
Small fires: Dry chemical, dry sand, alcohol-resistant foam.
Large fire: Dry chemicals, alcohol-resistance foam extinguishing agents and water sprinkling.

Unsuitable Extinguishing Media
Straight streams.

Specific Hazards
Fire may produce irritating, corrosive and/or toxic gases.
Contaminated fire fighting water or dilution water are corrosive and/or toxic and may cause damage to a person concerned with fire extinguishing.
May be ignited by heat, sparks or flames.

Specific Fire Fighting
Use extinguishing agent suitable for type of surrounding fire.
Move containers from fire area if you can do it without risk.

Protection of Fire Fighter
In fire fighting, wear respiratory protection and chemical protective clothing.

Section 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Keep unauthorized personnel away.
Wear appropriate personal protective equipment (Refer to “Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION”) and avoid inhalation or contact with eyes and skin.
Environmental Precautions

Prevent Handling of Incompatible Substances or Mixtures

Methods and Equipment for Containment and Cleaning up

Do not handle containers with such manners as tumbling down, falling, exposing to shock, or dragging.

Refer to "Section 10 - STABILITY AND REACTIVITY".

Specific Hygiene Measures

Do not contact, breathe or swallow.

Do not expose to temperatures exceeding appropriate temperature.

Do not breathe dust and fume.

Do not handle containers with such manners as tumbling down, falling, exposing to shock, or dragging.

Wash hand thoroughly after handling.

Section 7 – HANDLING AND STORAGE

Handling

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 get in eyes, on skin or on clothing.

Ventilate the exhaust to keep the concentration in the air below the exposure limit.

Obtain special instructions before use.

Use properly by reading "Precautions for Use" labeled on the container before use or disposal.

Wash hand thoroughly after handling.

Prohibit use of heat, sparks, and fire in the surrounding area.

Do not contact, breathe or swallow.

Do not expose to temperatures exceeding appropriate temperature.

Do not breathe dust and fume.

Do not handle containers with such manners as tumbling down, falling, exposing to shock, or dragging.

Provide ventilation system and use necessary personal protective equipment as described in "Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION".

Prevention Measures for Secondary Accidents

Removes all ignition sources promptly. (Prohibition of smoking, sparks, and flames in the surrounding area).

Isolate flammables (such as wood, paper, and oil) from the leakage.

Prevent flowing into drain, sewage, basement, and closed area.

Isolate the site as a leak area by providing a zone that has an appropriate width to all directions.

Keep out of low areas.

Stay upwind.

Do not touch or walk through spilled material.

Pay attention not to cause the influence on the environment by discharging into rivers.

Stop leak if you can do it without risk.

A vapor suppressing foam may be used to reduce vapors.

All equipment used when handling the product must be grounded.

Small spills; absorb or cover with dry earth, sand or other non-combustible material and transfer to containers for later disposal.

Small spills; Use clean non-sparking tools to collect absorbed material.

Large spills; prevent flowing out with a dike and collect it at a safe place.

Ventilate the exhaust to keep the concentration in the air below the exposure limit.

Obtain special instructions before use.

Use clean non-sparking tools to collect absorbed material.

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### Technical Measures

**Material Used in Packaging/Containers**

- Use containers prescribed in the “Fire Service Law (Japan)” and the “UN Transport Regulations”.

**Engineering Controls**

- Use explosion-proof electrical, ventilating and lighting equipment.
- Install explosion-proof local ventilation equipment.
- Ground or bond container and receiving equipment.
- Use process enclosures, local exhaust ventilation, or other engineering controls.
- Install ventilation system to keep exposure to airborne contaminants below the exposure limit if vapor, fume, mist generates in the process handling at elevated temperature.
- Take precautionary measures against static discharge.
- Store in a well-ventilated and cool place keeping container tightly closed.
- Have containers keep away from direct sunlight and heat.
- Store away from incompatible materials.
- Store locked up.
- Store in a well-ventilated and cool place keeping container tightly closed.
- Use containers prescribed in the “Fire Service Law (Japan)” and the “UN Transport Regulations”.

**Transportation**

- Use containers prescribed in the “Fire Service Law (Japan)” and the “UN Transport Regulations”.

**Exposure Limits**

<table>
<thead>
<tr>
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<th>Exposure Limits (ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycloaliphatic epoxide</td>
<td>Not established</td>
</tr>
</tbody>
</table>

### Storage Precautionary Statements

- The storage facility should be provided with necessary lighting, lighting equipment, and ventilator to store and handle dangerous goods.
- The storage floor should have penetration-proof construction against dangerous goods and be inclined adequately. A proper sump should be provided to catch any spills.
- The roof of a storage facility should be made of a non-combustible material and use metals or other lightweight non-combustible materials. No ceiling should be installed.
- The storage facility should be designed with fire-proof construction and beams should use a non-combustible material.
- Refer to “Section 10 – STABILITY AND REACTIVITY”.
- Store away from incompatible materials.
- Have containers keep away from direct sunlight and heat.
- Store in a well-ventilated and cool place keeping container tightly closed.
- Perform necessary ventilation and documentation.

### Personal Protective Equipment

- **Respiratory Protection**
  - Wear NIOSH certified respirator.
- **Hand Protection**
  - Wear impervious gloves.
- **Eye Protection**
  - Protection glasses (ordinary glasses, ordinary glasses with side shields, and goggles).
- **Skin and Body Protection**
  - Wear protective clothing and face protection.

### Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance**
  - Form: Liquid
  - Color: Colorless or light yellow
Odor: Slight odor
Odor threshold: No data available
pH: No data available
Melting Point/Freezing Point: No data available
Initial Boiling Point and Boiling Ranges: No data available
Flash Point: 220°C (unknown)
Evaporation Rate: No data available
Flammability (solid, gas): No data available
Flammability or Explosive Limits: No data available
Vapor Pressure: No data available
Vapor Density: No data available
Specific Gravity (Density): No data available
Solubility: No data available
Partition Coefficient: No data available
n-Octanol/Water: No data available
Auto-Ignition Temperature: It’s not self-ignite in contact with air at ambient temperature.
Decomposition Temperature: No data available
Viscosity: No data available
Kinematic viscosity: No data available

Section 10 – STABILITY AND REACTIVITY
Reactivity: No information available
Chemical stability: Stable under ordinary conditions of use and storage.
Possibility of Hazardous Reaction: Contact with strong oxidizers, strong alkalis or strong acids may cause fire and explosions.
Conditions to Avoid: Fire, heat, incompatibles.
Incompatible Substances or Mixtures: Strong oxidizers, strong alkalis, or strong acids
Hazardous Decomposition Products: Carbon dioxide and carbon monoxide may form when heated to decomposition.

Section 11 – TOXICOLOGICAL INFORMATION
Acute Toxicity: No data available
Skin Corrosion/Irritation: No data available
Serious eye damage/eye irritation: No data available
Respiratory or Skin Sensitization: Category 1 (Skin sensitization); It was set as Category 1 based on containing epoxy groups which sensitization results have been reported.
Germ Cell Mutagenicity: Ames test; positive (as data of similar compound)
Carcinogenicity: No data available
Reproductive Toxicity: No data available
Specific target organ toxicity (single exposure): No data available
Specific target organ toxicity (repeated exposure): No data available
Aspiration Hazard: No data available

Section 12 – ECOLOGICAL INFORMATION
Hazard to the aquatic environment (acute hazard): No data available
Hazard to the aquatic environment (long-term hazard): No data available
Ecotoxicity: No information available
Hazard to the ozone layer: No data available
Section 13 – DISPOSAL CONSIDERATIONS
Residual Waste
Commission a waste disposal company, or a local public body who are licensed by local or regional government, to dispose of the material.
Disposal should be in accordance with applicable regulations and standards by the respective local governments.
When commissioning the disposal to a disposal company, notify the danger and toxicity thoroughly to the company.

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
International Regulations
Regulatory Information by Sea
Marine Pollutant
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC code
Not applicable
Not applicable
Not applicable

Regulatory Information by Air
Not applicable

Emergency Response
Guide Number
Not applicable

Section 15 – REGULATORY INFORMATION
Details of international registration status:
ENCS(JP)
ECN(TW)

Section 16 – OTHER INFORMATION
Information Contact
See Sec.1 (Company identification)
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