1. Company and Product Identification

1.1 Product Name: CAPA® 2054 (fka 200), 2055, 2085 (fka 205), 2125 (fka 215), 2125A (fka 217), 2204J, 2205 (fka 226) and 2304

Chemical Name: 2-Oxepanone, homopolymer oxydi-2, 1-ethanediyl ester

Synonyms: Polycaprolactone oxydiethylene ester; Polycaprolactone diester with diethylene glycol

Chemical Formula: \((C_6H_{10}O_2 \cdot C_4H_{10}O_3)_x\)

Molecular Weight: CAPA® 2054 and 2055: 550
CAPA® 2085: 830
CAPA® 2215 and 2125A: 1250
CAPA® 2204J, 2205 and 2205W: 2000
CAPA® 2304: 3000

CAS Number: 36890-68-3, Synonym 75035-335

EINECS Number: Not applicable

1.2 Recommended Uses: Polyurethane manufacture; Footwear industry; Paints; Construction; Automotive industry

1.3 Supplier: Solvay Chemicals, Inc.
PO BOX 27328 Houston, TX  77227-7328
3333 Richmond Ave. Houston, Texas 77098

1.4 Emergency Telephone Numbers

Emergencies (USA): 1-800-424-9300 (CHEMTREC®)
Transportation Emergencies (INTERNATIONAL/MARITIME): 1-703-527-3887 (CHEMTREC®)
Transportation Emergencies (CANADA): 1-613-996-6666 (CANUTEC)
Transportation Emergencies (MEXICO-SETIQ): 01-800-00-214-00 (MEX. REPUBLIC)
525-559-1588 (Mexico City and metro area)
CAPA® 2054, 2085, 2125, 2125A, 2204J 2205, 2205W and 2304
Material Safety Data Sheet

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>INGREDIENTS</th>
<th>FORMULA</th>
<th>WT. PERCENT</th>
<th>CAS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Oxepanone polymer with</td>
<td>((C_6H_{10}O_2 \cdot C_4H_{10}O_3)_x)</td>
<td>&gt; 99.00</td>
<td>36890-68-3</td>
</tr>
<tr>
<td>2,2-oxybis[ethanol]</td>
<td></td>
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</tr>
</tbody>
</table>

3. Hazards Identification

Emergency Overview: Under normal use conditions, this material is considered to present minimal human health and environment hazards.

3.1 Route of Entry: Inhalation: Yes  Skin: Yes  Ingestion: Yes

3.2 Potential Effects of exposure:

   - Inhalation: Minimal hazard expected in normal industrial use.
   - Eyes:
     - Decomposition gases may be irritating to the eyes
     - CAPA® 2085 may cause slight irritation to the eyes
   - Skin contact: Decomposition gases may be irritating to the skin.
   - Ingestion: Minimal hazard expected in normal industrial use.
   - Carcinogenicity: See section 11.3

4. First-Aid Measures

General Recommendations: In all cases, if symptoms develop, consult a physician.

4.1 Inhalation: If exposed to excessive levels of decomposition products, remove to fresh air and get medical attention if cough or other symptoms develop.

   - Eyes:
     - Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes.
     - Get medical attention if symptoms develop.
   - Skin:
     - Remove contaminated clothing.
     - Wash skin with soap and water. Get medical attention if symptoms develop.
     - Molten polymer can burn skin.
   - Ingestion:
     - If subject is completely conscious, rinse mouth and administer fresh water.
     - Get medical attention

4.2 Medical Treatment / Notes to Physician: No special precautions.

5. Fire-Fighting Measures

5.1 Flash point: 527°F (275°C)  
[Cleveland Open Cup/ASTM D92]

5.2 Auto-ignition Temperature: No data
5.3 Flammability Limits:
• Combustible
• Formation of dangerous gas/vapors in case of decomposition (see section 10).

5.4 Unusual Fire and Explosion Hazards: None

5.5 Extinguishing Methods
Common:
• Powder
• Foam, AFFF
• CO₂
• Water, water spray

Inappropriate extinguishing means: No restriction.

5.6 Fire Fighting Procedures
Specific hazards: None

Protective measures in case of intervention:
• Evacuate all non-essential personnel.
• Intervention only by capable personnel who are trained and aware of the hazards of the product.
• Wear self-contained breathing apparatus when in close proximity or in confined spaces.

Other precautions:
• If safe to do so, remove exposed containers, or cool with large quantities of water.
• As with any fire, clean and ventilate room before re-entry.

6. Accidental Release Measures

6.1 Precautions:
• Observe the protective measures given in Section 8.
• Spilled material may cause slipping hazard.

6.2 Cleanup methods:
Liquid:
• If possible dam large quantities of liquid with sand or earth.
• Remove the product with an inert absorbent such as sand or vermiculite and place into a closed, labeled container compatible with the product

Molten Solid:
• If possible dam large quantities of molten solid with sand or earth and allow to solidify.
• Place into a closed, labeled container compatible with the product.
• Place the container in a safe and isolated place.
• For disposal methods, refer to Section 13.
• Clean the spill area with large quantities of water.

6.3 Precautions for protection of the environment:
• Avoid discharges into the environment (sewers, rivers, soils, etc.) and take any measure required by applicable federal, state and local laws.
• Immediately notify the appropriate authorities in case of significant discharge or if required by applicable federal, state or local laws.
7. Handling and Storage

7.1 Handling: Keep away from heat source.

7.2 Storage:
- Keep in the original packaging, closed.
- Store in dry area.
- Keep away from ignition and heat sources.

7.3 Specific Uses: See Section 1.2.

7.4 Other precautions:
- Warn personnel of the dangers of the product.
- Follow protective measure given in Section 9.

7.5 Packaging: Lacquered steel drums

8. Exposure Controls/Personal Protection

8.1 Exposure Limit Values: This material does not have established exposure limits.

8.2 Exposure Controls:

8.2.1 Occupational Exposure Controls:
8.2.1.1 Ventilation: Provide local ventilation suitable for the emission risk. (see Section 9.)
8.2.1.2 Respiratory protection: Not required under normal circumstances
8.2.1.3 Hand protection: Where contact is likely, wear chemical resistant gloves.
8.2.1.4 Eye protection: Wear safety goggles.
8.2.1.5 Skin protection: Where contact is likely, wear protective clothing.

8.3 Other precautions:
- Shower and eye wash station.
- Consult your industrial hygienist or safety manager for the selection of personal protective equipment suitable for the working conditions.

9. Physical and Chemical Properties

9.1 Appearance:
- CAPA® 2054 and 2055: Liquid
- CAPA® 2085: Paste
- CAPA® 2215, 2125A, 2204J, 2205 and 2205W: Waxy solid
- CAPA® 2304: Wax

Color:
- CAPA® 2054 and 2055: Colorless
- CAPA® 2085: White
- CAPA® 2215, 2125A, 2204J, 2205 and 2205W: White
- CAPA® 2304: White

Odor: Odorless
9.2 Important Health, Safety and Environmental information:

**pH:** Neutral

**Change of state:**
- **Melting point:** CAPA® 2054 and 2055: 64-73°F (18-23°C)
  - CAPA® 2085: 77-86°F (25-30°C)
  - CAPA® 2215 and 2125A: 95-113°F (35-45°C)
  - CAPA® 2204J, 2205 and 2205W: 104-122°F (50-60°C)
  - CAPA® 2304: 122-140°F (40-50°C)

- **Boiling point:** Not determined

- **Decomposition Temperature:** 392°F (200 °C)

- **Flash Point:** 527°F (275°C) Cleveland Open Cup/ASTM D92

- **Flammability:** Combustible (solid, gas)

- **Explosive Properties:** Non-explosive

- **Oxidizing Properties:** Non-oxidizer

- **Vapor Pressure:** CAPA® 2054 and 2055: <2 mmHg @ 68°F (20°C)
  - CAPA® 2085, 2125, 2125A, 2204J, 2205, 2205W, 2304: Not determined

- **Relative Density:**
  - Specific gravity (H₂O=1): CAPA® 2054 and 2055: 1.05 @ 68°F (20°C)
  - CAPA® 2085, 2215, 2125A, 2204J, 2205, 2205W and 2304: 1.05 at melting point

- **Solubility:**
  - Water: Insoluble in water.
  - Fat: Not Applicable.
  - Soluble in aromatic solvents and chlorinated hydrocarbons.

- **Partition coefficient:** P (n-octanol/water): Not determined

- **Viscosity:**
  - CAPA® 2054 and 2055: 140 mPa s @ 104°F (40°C)
  - CAPA® 2085: 120 mPa s @ 140°F (60°C)
  - CAPA® 2215 and 2125A: 175 mPa·s @ 140°F (60°C)
  - CAPA® 2204J, 2205 and 2205W: 400 mPa·s @ 140°F (60°C)
  - CAPA® 2304: 840 mPa·s @ 140°F (60°C)

- **Vapor Density (air=1):** Not determined

- **Evaporation Rate:** Not Applicable

9.3 Other Information: None
10. Stability and Reactivity

**Stability:** Stable under normal conditions of use.

10.1 **Conditions to avoid:**
- Moisture
- Excessive temperatures

10.2 **Materials and substances to avoid:**
- Acids
- Alkalis

10.3 **Hazardous decomposition products:**
- Carbon monoxide and carbon dioxide when involved in a fire.
- Particulates of carbon.
- Caprolactone monomer (irritant)

10.4 **Hazardous Polymerization:** Will not occur.

11. Toxicological Information

11.1 **Acute toxicity:**
**Inhalation:** No data

**Oral:**
- CAPA® 2054, 2055 and 2085: LD₅₀ in rats is >2000 mg/kg
- CAPA® 2125, 2125ª, 2204J, 2205, 2205W and 2304: No data

**Dermal:** No data

**Irritation:** CAPA® 2054: Rabbit non irritant (eye and skin).

**Sensitization:** No data

11.2 **Chronic toxicity:** No data

11.3 **Carcinogenic Designation:** None

12. Ecological Information

12.1 **Acute ecotoxicity:**
- CAPA® 2054 and 2055: Fish, LC₅₀ 96 hours, 80 mg/L
- CAPA® 2085: Fish, LC₅₀ 96 hours, 82 mg/L
- CAPA® 2125, 2125ª, 2204J, 2205, 2205W and 2304: No data

12.2 **Chronic ecotoxicity:** No data

12.3 **Mobility:** No data

12.4 **Degradation**
  - **Abiotic:** Water, hydrolysis, t₁/₂ ± 50 days (Calculated value, QSAR)
  - Degradation's products: 6-hydroxycaproic acid
  - **Biotic:** No data

12.5 **Potential for bioaccumulation:** No data

12.6 **Other adverse effects /Comments:** Ingestion of pellets by wildlife and fish may cause satiation (fullness) or bowel constriction. Consult the Society of the Plastics Industry’s Clean Sweep Program to assure minimal impact to the environment.
13. Disposal Considerations

13.1 Waste treatment: CAPA® 2054, 2055, 2085, 2125, 2125A, 2204J, 2205, 2205W and 2304 are not considered hazardous waste under Federal Hazardous Waste Regulations (40 CFR 261). Please be advised, however, that federal laws may change and that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult current federal, state and local regulations regarding the proper disposal of this material and its emptied containers.

13.2 Packaging treatment: Consult current federal, state and local regulations regarding the proper disposal of emptied containers.

13.3 RCRA Hazardous Waste: Not listed

14. Transport Information

<table>
<thead>
<tr>
<th>Mode</th>
<th>DOT</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Number</td>
<td>Not a regulated hazardous material</td>
<td>Not a regulated hazardous material</td>
<td>Not a regulated hazardous material</td>
</tr>
<tr>
<td>Other</td>
<td>It is recommended that ERG Guide # 111 be used for all non DOT regulated material.</td>
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<td></td>
</tr>
</tbody>
</table>

15. Regulatory Information

National Regulations (US)

TSCA Inventory 8(b): Yes

SARA Title III Sec. 302/303 Extremely Hazardous Substances (40 CFR355): No

SARA Title III Sec. 311/312 (40 CFR 370): No

SARA Title III Sec. 313 Toxic Chemical Emissions Reporting (40 CFR 372): No

CERCLA Hazardous Substance (40CFR Part 302)

Listed: No

Unlisted Substance: No

State Component Listing:

State Comment: None identified.

National Regulations (Canada)

Canadian DSL Registration: DSL Record No. 13024

WHMIS Classification: Not listed

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Not classified according to Directive 92/32/EEC.
16. Other Information

16.1 Ratings:

**NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)**  
Health = 0  Flammability = 1  Instability = 0  Special = None

**HMIS (HAZARDOUS MATERIAL INFORMATION SYSTEM)**  
Health = 1  Fire = 1  Reactivity = 0  PPE = Supplied by User; dependent on local conditions

16.2 Other Information:

The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. (Unless noted to the contrary, the technical information applies only to pure product).

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16.3 Reason for revision:

Supersedes edition: Solvay Chemicals, Inc. CAPA2054-0605 dated 06/01/05.

Purpose of revision: Add CAPA® 2055.