Educational Innovations®

MATERIAL SAFETY DATA SHEET
Thermoplastic Polymer

1. Identification of the Substance and Company Undertaking

Product Name(s): Caprolactone Polymer Product Average Molecular Weight Min 80,000
Chemical Family Polymer
Intended Use Bioabsorbable polymer

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The following MSDS applies to the finished product only (as a polymer granule or pellet). If handling the monomers to form the final polymeric product, consult the MSDS for the individual components and take appropriate precautions.

2. Hazards Identification
Substance non classified according to directive 67/548/EEC.

Product Composition
Ingredient CAS No.
Poly(ε-caprolactone) 24980-41-4
Assay >99.5%

3. Application of the substance
Recommended uses Pharmaceuticals
Automotive industry
Construction
Footwear industry
Film
For other particular use, please contact the supplier.

4. Physical and Chemical Properties
Appearance White Granules/Pellets
Odor Odorless
PH Not applicable
Boiling Point Not applicable
Flash Point 275°C
Density 1.1( at 60°C)
Solubility Insoluble in water
Soluble in Aromatic solvents, chlorinated hydrocarbons.
Viscosity 1,500,000mPa.S( at 100°C)
Freezing point Ca. 35 °C
Melting Point/range 60-62°C
Decomposition temperature Ca. 200°C
5. Quality Index

<table>
<thead>
<tr>
<th>Item</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polydispersity exponent</td>
<td>Max 1.8</td>
</tr>
<tr>
<td>Moisture(%)</td>
<td>Max 0.05%</td>
</tr>
<tr>
<td>Colority(Pt-Co)</td>
<td>Max 250</td>
</tr>
<tr>
<td>Assay(%)</td>
<td>Min 99.5</td>
</tr>
<tr>
<td>Melting Point(°C)</td>
<td>60</td>
</tr>
</tbody>
</table>

6. Toxicological Information
The product is biologically inert.

7. Occupational Exposure Controls

**Respiratory protection**
Use only respiratory protection that conforms to international/national standards.

**Eye protection**
Protective goggles/face shield, if appropriate.

**Hand protection**
Protective gloves for protection against hot material.

**Skin protection**
Loose-fitting and long sleeved coverall.

**Other precautions**
Consult the industrial hygienist or the safety manager for the selection of personal protective equipment suitable for the working conditions.

8. Emergency and First Aid.

**Eyes Contact**
Flush eyes with running water for several minutes, while keeping the eyelids wide open.

**Skin contact**
In case of contact with molten polymer: cool rapidly with cold water without attempting to peel it from skin, obtain medical treatment for burns.

**Inhalation**
Remove the subject from dusty environment and let him blow his nose.
9. Disposal Considerations

Waste Treatment
Dispose in compliance with local and national regulations.
It is recommended to contact the producer for recycling/recovery.
If not possible.
Send the product to an authorized industrial waste incinerator or dispose it at a land fill authorized for industrial waste.

10. Accidental Release Measures

Personal Precautions
Follow the protective measures given above, spilled material can be a slipping hazard.

Methods for cleaning up
Collect the product with suitable means avoiding dust formation.
Place material into a closed and labeled container.
For disposal methods, refer to following disposal consideration.

Environmental precautions
Prevent discharges into the environment( sewers, rivers, soils etc.)

11. Fire-fighting Measures

Suitable extinguishing media
Powder, Foam, AFFF, CO2, , water spray, large quantities of water.

12. Handling, storage and transportation.

Handling      Avoid heating the product above the decomposition temperature( Ca. 200°C)
Storage       Keep in original packaging, closed in a dry area, keep away from ignition and heat sources.

Transportation  Not subject