

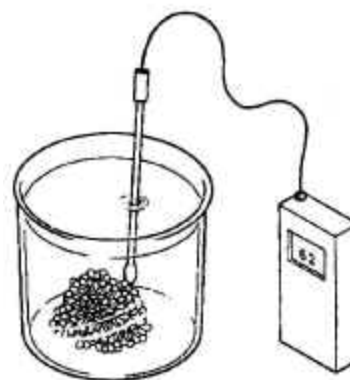
# POLYMORPH

Polymorph is one of a new generation of commercial polymers set to have a major impact on Design and Technology. This polymer has all the characteristics of a tough engineering material yet it fuses and becomes easily mouldable at just 62C. It can be heated with just hot water or a hairdryer and moulded by hand to create prototypes and solve manufacturing problems currently outside the capacity of pupils and students.

## Uses for Polymorph includes:

- Moulding of handles and orthopaedic aids
- Vacuum forming moulds
- Moulds for batch producing other mouldings
- Prototype mechanical parts
- Armatures / frames for models
- Inserts for compliant products
- Specialised components - e.g. motor mountings
- Moulding of complete products

To prepare a small amount of Polymorph for moulding, place it in a cup or beaker and pour over hot water between at 62- 70 C. The Polymorph granules will change from opaque to clear and adhere together.



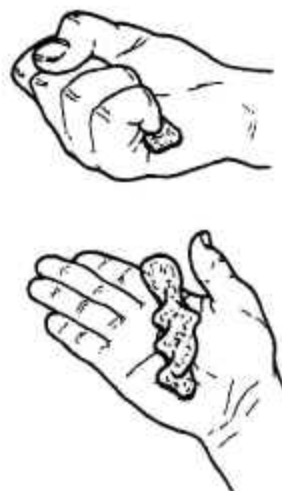
*Carefully remove the Polymorph mass using tongs or wire hook, and then squeeze out the water when the temperature is comfortable.*



*The Polymorph can now be hand moulded into different shapes*

### Polymorph is:

- Non-hazardous
- Biodegradable
- Immensely strong and tough
- Mouldable between 62C and 30C.
- Machinable



**DO NOT REMOVE POLYMORPH FROM BOILING WATER. THIS MAY RESULT IN SCALDING BOTH TRAPPED WATER AND HOT PLASTIC. USE A THERMOMETER TO MONITOR TEMPERATURE.**

## 1. Identification of the substance or the preparation

Product name	CAPA ( R) 6400Polycaprolactone
Chemical name	Oxepanone, homopolymer
Synonym(s)	epsilon-caprolactone, homopolymer
Formula:	(C <sub>6</sub> H <sub>10</sub> O <sub>2</sub> ) <sub>x</sub>
Molecular Weight	25,000

## 2. Composition/Information on Ingredients

Oxepanone, homopolymer	
Cas Number	24980-41-4
Concentration	>99,00%

## 3. Hazards Identification

Under normal use conditions considered to present minimal hazard from a human health and environmental standpoint

#### **4. First-aid Measures**

Effects:

Main effects

Hazard due to contact with product at high temperature.

Inhalation.

Negligible

Eye contact

Mechanical irritation from the particulates generated by the product.

Skin contact

Negligible

Ingestion

Negligible

First –aid:

Inhalation

Remove the subject from dusty environment and let him blow his nose.

Eye 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.

Ingestion

If the subject is completely conscious: negligible

If unconscious: not applicable

#### **5. Fire-fighting Measures**

Common extinguishing means

Power

Foam, AFFF

C02

Large quantities of water. Water spray.

#### **6. Physical and Chemical Properties**

Appearance: granules/ pellets

Colour: white

Odour: odourless

Change of state  
Freezing point: ca 35 Cel  
Melting point: from 58-60 cel  
Boiling point : ( 1013 mbars)

Flash point  
= 275 Cel  
Remark : Decomposition products  
Method : open cup

Density  
Specific gravity  
1.1  
temperature 60 cel

Solubility  
Insoluble in water  
Soluble in Aromatic solvents  
Chlorinated hydrocarbons

## **7. Toxicological information**

Comments  
The Compound is biodegradable and not dangerous

## **8. Ecological Information**

Comments  
Product is not significantly hazardous for the environment

## **9. Regulatory Information**

EEC Labelling  
Not classified according to Directive 92/32/EEC