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Certified Company

# Speciality Products Research Group

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## TECHNICAL DATA SHEET

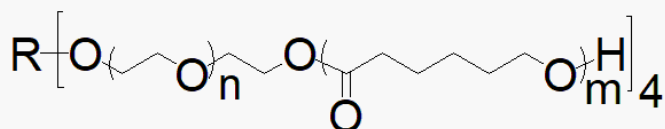
### Pentaerythritol-polycaprolactone prepolymer (Pe-PCP)

PE-PCP is a 4-arm star-shaped polyester polyol commonly used as a specialty binder in solid propellants and high-performance polyurethane systems. PE-PCP is used in advanced solid propellants, often plasticized with materials such as nitroglycerin (NG) to create binder systems.

Synonyms:	2-Oxepanone, polymer with 2,2-bis(hydroxymethyl)-1,3-propanediol
CAS No.:	35484-93-6
Molecular Formula:	(C <sub>6</sub> H <sub>10</sub> O <sub>2</sub> .C <sub>5</sub> H <sub>12</sub> O <sub>4</sub> ) <sub>x</sub>
Avg Mass:	250.29 g/mol
IUPAC Name:	2-Oxepanone, polymer with 2,2-bis(hydroxymethyl)-1,3-propanediol

### SPECIFICATIONS FOR Pentaerythritol-polycaprolactone prepolymer (Pe-PCP)

Sr. No.	Characteristics	Specified Value
1.	Appearance	White waxy solid milled or granulated
2.	Softening Point, °C	52 – 62
3.	Density @ 30°C, g/cc	1.14 – 1.18
4.	Viscosity @ 60°C	6000 – 9000
5.	Hydroxyl value, mg KOH/g	30 – 45
6.	Average Molecular weight, GPC relative to polystyrene in THF @ room temperature, Mn	8000 - 12000
7.	Polydispersity Index, Mw/Mn	1.7 – 2.0



R = Pentaerythritol core structure



PENTAERYTHRITOL -  
POLYCAPROLACTONE  
PREPOLYMER  
CAS NO: 35484-93-6



For Speciality Products Research Group

Proprietor

