

epsilon-Caprolactone Capromer™ Polycaprolactones



 **BASF**

We create chemistry

epsilon-Caprolactone

Capromer™ Polycaprolactones

At BASF, we create chemistry. Our portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. As the world's leading chemical company, we combine economic success with environmental protection and social responsibility. Through science and innovation, we enable our customers in nearly every industry to meet the current and future needs of society. Our products and solutions contribute to conserving resources, ensuring nutrition and improving quality of life. We have summed up this contribution in our corporate purpose: We create chemistry for a sustainable future.

Top intermediates supplier

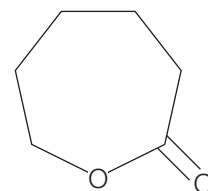
The BASF Group's Chemical Intermediates division develops, produces and markets a comprehensive portfolio of about 700 intermediates around the world. Its most important product groups include amines, diols, polyalcohols, acids and specialties. Intermediates are for example used as starting materials for coatings, plastics,

pharmaceuticals, textiles, detergents and crop protectants. Innovative intermediates from BASF help to improve both the properties of final products and the efficiency of production processes. The ISO 9001 certified Intermediates division operates plants at production sites in Europe, Asia and North America.

epsilon-Caprolactone

BASF is the sole producer of high purity, low color epsilon-Caprolactone monomer in North America, which can be polymerized with various initiators to produce polyols with the desired properties and molecular weights.

Formula C₆H₁₀O₂
Molecular Weight 114.1
Density @ 20°C, g/cm³ 1.07
CAS Registry Number 502-44-3



Product Specifications	Value	Test Method
Assay, % minimum	99.8	GC (BASF)
Acid value, mg KOH/g maximum	0.3	ASTM D-1613
Water (%)	0.05	ASTM D-1364
Color, APHA, maximum	15	ASTM D-5386

Physical Properties	
Melting point, °C	-2
Boiling point, °C	241
Flash point, °C	111
Autoignition, °C	384

Capromer™ polycaprolactones are specialty polyols for high-performance polyurethane (PUR) applications. BASF's manufacturing process results in polyols of high quality with low catalyst levels for consistent reactivity of the PUR reaction. Low-viscosity di- and trifunctional polyols are available as components for isocyanate-based formulation systems. Capromer polyols offer outstanding low-temperature flexibility for thermoplastic elastomers used in technical applications and coatings.

BASF's Capromer polyols are used where high hydrolytic stability is required together with good light-fastness. They exhibit a very low melting viscosity for easy processing of PUR elastomers. Capromer-based PUR dispersions are an excellent choice for many textile and leather applications. For coatings applications the low viscosity facilitates high-solids and solvent-free formulations. Such coatings offer excellent weatherability and chemical resistance.

BASF Name*	Molecular Weight [g/mol]	Initiator Type**	Hydroxyl Value [mg KOH/g]	Viscosity @ 60°C [mPas]	Melting Point [°C]
Capromer™ PD1-10	1000	NPG	108 - 116	100 - 200	30 – 45
Capromer™ PD1-10A	1000	NPG	108 - 116	100 - 200	30 – 45
Capromer™ PD1-20	2000	NPG	52 - 60	400 - 550	40 – 50
Capromer™ PD1-20A	2000	NPG	52 - 60	400 - 550	40 – 50
Capromer™ PT1-05	550	TMP	300 - 320	135 - 160	0 – 10
Capromer™ PD4-05	550	DEG	200 - 208	50 - 70	18 – 23

* A-Grade denotes low acid (0.05 mg KOH/g max.)

** NPG = Neopentyl glycol TMP = Trimethylolpropane DEG = Diethylene glycol

BASF Polycaprolactones listed in the table above have a minimum purity of 99% with a boiling point that exceeds 250°C. Common applications include elastomers, adhesive shoe soles and TPU coatings. These Capromer products are TSCA compliant, REACH exempt (except PD4-05) and comply with ENCS/IS.



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