



# DELIVERING CONSISTENT QUALITY AND EXCEPTIONAL RELIABILITY

## Discover World-Class Caprolactam

Caprolactam from AdvanSix is used in a variety of applications worldwide. As one of the largest and most experienced suppliers of merchant-grade caprolactam, AdvanSix offers industry-leading quality, consistency and reliability of supply.

### Customer Commitment

For more than 60 years, AdvanSix has been producing merchant-grade caprolactam at its Hopewell, Virginia, plant. AdvanSix is a key strategic partner to customers around the world due to an unrelenting commitment to consistent quality, exceptional reliability and customer success.

### Consistent Quality

AdvanSix caprolactam is produced using stringent manufacturing processes to ensure industry-leading quality and consistency, making it the first and only choice for many customers. The Hopewell plant's three state-of-the-art quality assurance labs conduct ongoing tests throughout the manufacturing process to meet specifications for quality control, process control, the environment and the final product. This, combined with Six Sigma methodologies and ISO 9001:2008 certification for all caprolactam operations, enables AdvanSix to deliver a product that meets and exceeds industry standards.

### Exceptional Reliability

AdvanSix is uniquely positioned as one of the world's most stable and reliable caprolactam suppliers. The Hopewell plant is among the largest single-site producers of caprolactam globally, with an annual production capacity of more than 800 million pounds.

Product reliability is assured through backward integration, scale, operational excellence, access to state-of-the-art transportation systems, and continued investments for the future.

AdvanSix also operates under the principles of the American Chemistry Council's Responsible Care® program, which forms the foundation of our AdvanSix Caring™ commitment to health, safety and environmental excellence.

Please see page 2 for technical data, including product properties and specifications. For more information about caprolactam, contact your AdvanSix representative today.

## Physical and Chemical Properties

Typical Properties	Specifications
CAS Number	105-60-2
Chemical Formula	$\text{CH}_2\text{-(CH}_2\text{)}_4\text{-(CO)-NH}$
Other/Generic Names	Hexahydro-2H-azepin-2-one; 2-oxohexamethylenimine
Appearance	Solid: white flakes; Molten: colorless liquid.
Physical State	Solid at ambient temperature
Molecular Weight	113.16
Odor	Mildly disagreeable
Specific Gravity @ 20°C (68°F)	1.02 @ 77°C (170.6°F); (H <sub>2</sub> O = 1.0)
Water Solubility (miscibility), Weight % (Wt. %)	~525g /100g H <sub>2</sub> O @ 25°C (77°F)
Boiling Point	270°C (518°F)
Melting Point	69°C (156°F)
Vapor Pressure	<0.001 mmHg @ 20°C (68°F)
Vapor Density	3.91 (Air = 1.0)
Evaporation Rate	<1 (compared to butyl acetate)
% Volatiles	100
Flash Point	142°C (288°F), Open cup
Storage	Store in moisture-tight containers in a cool, dry area. Store molten material at 70-80°C (158-176°F) under nitrogen cushion containing less than 5 ppm oxygen.

## Product Specifications

Assay	Specifications	Test Method
Water, Wt. %	0.10 max.	QALAC-0005
Free Alkalinity, meg/kg	0.05 max.	QALAC-0006
Free Acidity, meg/kg	0.05 max.	QALAC-0006
Color, APHA, 50% solution at 390 nm	5 max.	QALAC-0001
Permanganate Index (ISO)	5 max.	QALAC-0002
Permanganate Number, seconds	20,000 min.	QALAC-0009
Volatile Base (as ammonia), ppm	10 max.	QALAC-0012
Volatile Base (as ammonia), meg/kg	0.59	QALAC-0012
Ash, ppm	10 max.	QALAC-0007
Iron (as Fe), ppm	0.5 max.	QALAC-0011
Transmittance @ 290 nm, %	90 min.	QALAC-0033

The values presented in this data sheet are typical values and are not to be interpreted as product specifications.

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### Contact AdvanSix

To learn more about caprolactam, visit [AdvanSix.com/chemicalintermediates](http://AdvanSix.com/chemicalintermediates) or call:

**1-844-890-8949** (toll free, U.S./Can.)  
**+1-973-526-1800** (international)

### AdvanSix

300 Kimball Drive, Suite 101  
 Parsippany, NJ 07054



### AdvanSix Caring™

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