

Caprolactam

Description

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.

Physical and Chemical Properties

Typical Properties	Specifications
CAS Number	105-60-2
Chemical Formula	$\text{CH}_2-(\text{CH}_2)_4-(\text{CO})-\text{NH}$
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	1.02 @ 77°C (170.6°F); (H ₂ O = 1.0)
Water Solubility (miscibility), Weight % (Wt. %)	~525g /100g H ₂ 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.

See Product Specifications table on page 2.

Caprolactam

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.

Page 2 of 2

Contact AdvanSix

To learn more about caprolactam, visit AdvanSix.com/chemicalintermediates or call:

1-844-890-8949 (toll free, U.S./Can.)

+1-973-526-1800 (international)

Although AdvanSix Inc. believes that the information contained herein is accurate and reliable, it is presented without guarantee or responsibility of any kind and does not constitute any representation or warranty of AdvanSix Inc., either expressed or implied. A number of factors may affect the performance of any products used in conjunction with user's materials, such as other raw materials, application, formulation, environmental factors and manufacturing conditions among others, all of which must be taken into account by the user in producing or using the products. The user should not assume that all necessary data for the proper evaluation of these products are contained herein. Information provided herein does not relieve the user from the responsibility of carrying out its own tests and experiments, and the user assumes all risks and liabilities (including, but not limited to, risks relating to results, patent infringement, regulatory compliance and health, safety and environment) related to the use of the products and/or information contained herein.

AdvanSix

300 Kimball Drive, Suite 101
Parsippany, NJ 07054



August 2019-5, Printed in U.S.A.
©2019 AdvanSix Inc. All rights reserved.