

BASF Glacial Acrylic Acid

Category : Fluid , Solvent

Material Notes:

Formula: C3H4O2CAS: 79-10-7Description: Acrylic acid glacial is a colorless liquid having a sharp, acrid odor. It is completely soluble in water. Acrylic acid is a monomer used in industrial synthesis and for producing polymersApplications: Acrylic acid is a versatile α , β -unsaturated carboxylic acid. It can enter into common reactions with a large number of organic and inorganic compounds and intermediates for the synthesis of many low and high-molecular weight compounds. Some typical reactions/applications include: As a vinyl compound in addition reactions.As a carboxylic acid — acrylic esters, acrylamide, N-substitute amides and acrylic acid chloride. Copolymers with acrylic esters, methacrylic esters, acrylonitrile maleic acid esters, vinyl acetate, vinyl chloride, vinylidene chloride, styrene, butadiene and ethylene. Homopolymers of acrylic acid and copolymers form water-soluble compounds in acid form or their alkali/ammonium salts. Uses include thickening agents; dispersing agents; protective colloids for stabilizing emulsions and polymer dispersions wetting agents. AAG is used to produce very high molecular weight polymers for flocculents and viscosity control in oil-well drilling mud.Superabsorbant polymers are lightly crosslinked polyacrylic acid salts.They are used for fluid retention, largely in baby diapers, but also in products for feminine hygiene, adult incontinence and agriculture.Copolymers with less than 50% acrylic acid produce polymers only slightly soluble or even insoluble in water. Their alkali or ammonium salts are used in sizes, adhesive intermediates, and binders for printing inks and coatings.Copolymers with small amounts of acrylic acid improve adhesions and improve resistance to oil and solvents.In polymer dispersions, acrylic acid addition improves stability and compatibility with pigments.Information provided by BASF

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http://www.lookpolymers.com/polymer_BASF-Glacial-Acrylic-Acid.php

Physical Properties	Metric	English	Comments
Density	1.046 g/cc	0.03779 lb/in ³	
	1.0249 g/cc @Temperature 30.0 °C	0.037027 lb/in ³ @Temperature 86.0 °F	aqueous solutions with 25.3% acrylic acid
	1.0438 g/cc @Temperature 30.0 °C	0.037710 lb/in ³ @Temperature 86.0 °F	aqueous solutions with 50% acrylic acid
	1.0459 g/cc @Temperature 30.0 °C	0.037786 lb/in ³ @Temperature 86.0 °F	aqueous solutions with 53.5% acrylic acid
	1.0506 g/cc @Temperature 30.0 °C	0.037955 lb/in ³ @Temperature 86.0 °F	aqueous solutions with 90.4% acrylic acid
	1.0526 g/cc @Temperature 30.0 °C	0.038028 lb/in ³ @Temperature 86.0 °F	aqueous solutions with 87.7% acrylic acid
	1.0544 g/cc @Temperature 30.0 °C	0.038093 lb/in ³ @Temperature 86.0 °F	aqueous solutions with 78% acrylic acid
Solubility in Water	100 %	100 %	Unlimited

Physical Properties	Metric	English	Comments
Viscosity Measurement	@Temperature 80.0 °C	@Temperature 176 °F	[mPa.s]
	0.93	0.93	[mPa.s]
	@Temperature 40.0 °C	@Temperature 104 °F	
	1.246	1.246	[mPa.s], aqueous solutions with 25.3% acrylic acid
	@Temperature 30.0 °C	@Temperature 86.0 °F	
	1.3	1.3	[mPa.s]
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	1.715	1.715	[mPa.s], aqueous solutions with 50% acrylic acid
	@Temperature 30.0 °C	@Temperature 86.0 °F	
	1.785	1.785	[mPa.s], aqueous solutions with 53.5% acrylic acid
	@Temperature 30.0 °C	@Temperature 86.0 °F	
	1.835	1.835	[mPa.s], aqueous solutions with 90.4% acrylic acid
@Temperature 30.0 °C	@Temperature 86.0 °F		
1.973	1.973	[mPa.s], aqueous solutions with 87.7% acrylic acid	
@Temperature 30.0 °C	@Temperature 86.0 °F		
2.092	2.092	[mPa.s], aqueous solutions with 78% acrylic acid	
@Temperature 30.0 °C	@Temperature 86.0 °F		
Vapor Pressure	0.000900 bar	0.675 torr	
	@Temperature 0.000 °C	@Temperature 32.0 °F	
	0.00380 bar	2.85 torr	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.0135 bar	10.1 torr	
	@Temperature 40.0 °C	@Temperature 104 °F	
	0.0399 bar	29.9 torr	
	@Temperature 60.0 °C	@Temperature 140 °F	
0.238 bar	179 torr		
@Temperature 100 °C	@Temperature 212 °F		
0.500 bar	375 torr		
@Temperature 120 °C	@Temperature 248 °F		
1.00 bar	750 torr		

Physical Properties	Metric	English	Comments
	@ Temperature 141 °C	@ Temperature 286 °F	

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.93 J/g-°C	0.461 BTU/lb-°F	
Melting Point	13.0 °C	55.4 °F	Freezing Point
Boiling Point	141 °C	286 °F	
Flash Point	54.0 °C	129 °F	

Optical Properties	Metric	English	Comments
Refractive Index	1.42 - 1.421	1.42 - 1.421	

Processing Properties	Metric	English	Comments
Moisture Content	<= 0.070 %	<= 0.070 %	ED-070

Descriptive Properties	Value	Comments
Assay	>99.7%	ED-049
Autoignition Temperature	390°C	
Color	<10	ED-071
Composition	Dimer, by HPLC	500 ppm, ED-083
	Inhibitor content	180-220 ppm, ED-073
Dissociation Constant	5.74E-05	
Heat of Combustion	19085 kJ/kg	
Heat of Neutralization	806 kJ/kg	
Heat of Polymerization	1079 kJ/kg	
Latent Heat of Evaporation at Boiling Point	634 kJ/kg	

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