

GENERAL PROPERTIES OF VINYL ACETATE

PROPERTY	VALUE
Formula Weight	86.09
Critical Temperature	246°C (474.8°F)
Critical Pressure	574.0 psia (39.0 atm)
Normal Boiling Point	@ 760 mm Hg = 72.7°C (162.9°F)
Standard Heat of Formation	Liquid @ 25°C = -83.5 Kcal/mole
Heat of Combustion	@ 25°C = -495 Kcal/mole
Refractive Index	(n _D ²⁰) 1.3953
Flash Point	Tag Closed Cup = -8°C (18°F); Tag Open Cup = -4°C (25°F)
Autoignition Temperature	426.9°C (800°F)
Physical State	Liquid
Relative Evaporation Rate (n-butyl acetate = 1)	8.9
Vapor Pressure @ 60°C	487.4 mm Hg
Vapor Pressure @ 40°C	222.1 mm Hg
Vapor Pressure @ 20°C	89.1 mm Hg
Antoine Equation:	Log P = A - [B/(T+C)] - Log = Base 10 - T = °C - P = mm Hg - Range = 10 to 83°C
Equation Coefficients:	- A = 7.51868 - B = 1452.058 - C = 240.588

PROPERTY	VALUE
Color	Clear and colorless
Specific Gravity (20/20°C)	0.934
Vapor Density (Air = 1.00)	2.97
Viscosity @ 20°C	0.43 cps
Freezing Point	-92.8°C (-135°F)
Heat of Vaporization (1 atm)	87.6 cal/g
Heat of Polymerization	21.3 Kcal/mole
Specific Heat @ 20°C (liq.)	0.46 cal/g °C
Odor	Not unpleasant, sweetish smell in small quantities
Odor Threshold	0.5 ppm
Reactivity	Reactive with self and variety of other chemicals. Stable when properly stored and inhibited.
Water Solubility:	
- VA in Water @ 20°C	2.3% by weight
- Water in VA @ 20°C	1% by weight
Light Sensitivity	Light promotes polymerization
Electrical Conductivity @ 23°C	2.6 x 10 ⁴ pS/m (1 S = 1 mho)
Surface Tension (20°C)	23.6 dynes/cm
Coefficient of Cubical Expansion	0.00137 per °C at 20°C
Upper Flammability Limit	13.4 vol% in air
Lower Flammability Limit	2.6 vol% in air

The data above are largely extracted from the Design Institute for Physical Properties (DIPPR®). The DIPPR® Data Compilation File is developed under the direction of the American Institute of Chemical Engineers (AIChE) and is updated annually. This database is accessible for on-line computer searching. For more information contact American Institute of Chemical Engineers, 3 Park Avenue, New York, NY 10016-5991, Telephone (212) 591-8100.