

**vinyl acetate monomer (VAM).**

## **Benefits and Applications**

VAM is a chemical building block used to manufacture a wide variety of industrial and consumer products, including polyvinyl acetate used to produce paints, adhesives and coatings for flexible substrates; polyvinyl alcohol used to produce adhesives, coatings and water soluble packaging films; polyvinyl acetals used to produce insulation for magnetic wire, interlayers for safety glass, wash primers and coatings; ethylene vinyl acetate copolymers used to produce flexible films, coatings, adhesives, moldings and insulation; and ethylene vinyl alcohol used to produce gas barrier layers in coextruded packaging.

VAM also is a key raw material for the production of polyvinyl acetate (PVAc) and polyvinyl alcohol (PVOH or PVA). Approximately 80 percent of all VAM produced in the world is used to make these two chemicals. VAM is also used to make polyvinyl butyral (PVB), ethylene-vinyl acetate (EVA) copolymers, and ethylene vinyl alcohol (EVOH) resins.

Polyvinyl acetate (PVAc) resins are vinyl acetate containing thermoplastic copolymers used for making emulsion (latex) products. They are produced in both homopolymer and copolymer types and are sold in the form of powders or beads or as latex basestock for compounded emulsions. Major applications include interior and exterior paints, adhesives, paper coatings, and textile treatments.

All polyvinyl alcohol (PVOH or PVA) is manufactured using PVAc as a starting material. PVOH resins are powdered polymers produced by the controlled hydrolysis of PVAc. They are easily dispersed and readily dissolve in water, and are available in both fully hydrolyzed and partially hydrolyzed grades. PVOH resins have excellent film forming and adhesive properties as well as providing good resistance to oil, grease and many solvents. Major applications include use as textile warp sizing, as a protective colloid for PVAc adhesive products, as a polymerization aid in PVC polymerization suspensions, as a sizing for textile and paper products, and in the manufacture of water-soluble films and fibers. Finally, PVOH is a precursor for polyvinyl butyral (PVB) which is used in laminated safety glass in automobiles and buildings.

Ethylene vinyl acetate (EVA) is a random copolymer of vinyl acetate monomer and ethylene. EVA resins are used in the manufacture of packaging film, heavy duty bags, extrusion coating, wire and cable jacketing, hot melt adhesives, and cross-linked foam.

Ethylene vinyl alcohol (EVOH) is a hydrolyzed copolymer of ethylene and vinyl acetate monomer. EVOH resins are used as a gas barrier in multi-layered food and beverage packages, and as a barrier layer in automobile gasoline tanks.

## Properties

Specification*	Value	Units
Vinyl Acetate	99.90	weight %, minimum
Specific Gravity @ 20/20°C	0.9335-0.9345	
Water	0.03	weight %, maximum
Distillation Range	72.3-73.0	°C
Acidity as Acetic Acid	0.005	weight %, maximum
Acetaldehyde	0.010	weight %, maximum
Hydroquinone	3-5	ppm**
Color, APHA	5	maximum
Appearance	Clear and free of suspended matter	

\*Test methods available upon request.

\*\*or as specified by customer

## Transportation/Equipment Specifications

Vinyl acetate monomer is available in the following quantities and shipping containers:

Container      Approximate Net Weight

Tank Truck    40,000 lbs minimum

Tank Car       180,000 lbs minimum

Weight per gallon @ 20°C (68°F): 7.772 lbs