Technical Data

SAA-100

Styrene Allyl Alcohol Copolymer
CAS No. 25119-62-4

Description

SAA- 100 is a copolymer styrene and allyl alcohol. It is a hard, low molecular weight, thermoplastic material containing high percentage of primary hydroxyls and aromatic hydrocarbons. The primary hydroxyls enable the formation crosslinks with polymers containing carboxyl, anhydride, halide and isocyanate functional groups. T aromatic content of SAA-1 00 improves the hydrolytic stability derivatives and increases the resistance of polymers containing SAA-1 00 to water, detergents, chemicals and corrosion.

Typical Properties

Hydroxyl Number (mg KOH/g)	205
Hydroxyl Content (wt%)	6.2
Molecular Weight (No. Avg.)	1400
Molecular Weight (Wt. Avg.)	3,100
Color (30% in MEK; APHA)	70
Water (wt%)	0.2
Appearance	Clear/White Pastilles

Applications

Polyester Coatings SAA-100 can be reacted with various fatty and dibasic acids to yield polyester coatings with excellent detergent, stain and hydrolytic resistance. End use markets for polyester coatings based on SAA-100 include appliance finishes, coil coatings and general purpose baking enamels. Due to the broad compatibility of SAA-100, it may be used in both water-based and high solids formulations.

Alkyd Coatings Fatty acid esters derived from SAA-100 and alkyds are components of paints and finishes which are characterized by excellent leveling, wet and dry adhesion, color acceptance, chemical resistance and durability. Primary end uses include wood finishes, industrial maintenance paints, floor paints and latex house paints. Uralkycls may be formed by sequentially reacting SAA-100 with alkyds and isocyanates. Finishes containing SAA-100 based uralkyds have properties analogous to SAA-100 based alkyds with the added benefit of faster drying time. SAA-100 based alkyds, modified with maleic anhydride, yield coatings with superior corrosion resistance and fast drying times. Maleic-modified alkyds, therefore, are used generally as primers for industrial equipment, automobiles and farm machinery.

Urethane Coatings The hydroxyl content of SAA-100 allows the product to function as a resinous polyol in urethane applications. When properly formulated with other polyols, solvents and aliphatic isocyanates, SAA-100 improves weatherability, hardness and chemical resistance in urethane coatings. The extent of these improvements is directly proportional to the amount of SAA-100 incorporated in the coating.

Hard Resin Additive Being a hard, thermoplastic material which is compatible with a wide variety of coreactants, SAA-100 can be used as a hard replacement for part of the vehicle solids in a coatings formulation. When used in this way, SAA increases hardness, gloss and print resistance of many systems including overprint varnishes. It also improves resistance to condensing humidity, salt fog, detergent and stains.

Storage and Handling

For handling convenience, SAA-100 is supplied in pellet form, generally in 20kg (44 lb.) bags. Use good housekeeping practices during handling to avoid excessive dust accumulation and store the product in a dry, enclosed location to prevent moisture contact. Pneumatic conveyance or transfer of this product should be performed in an inert gas (e.g. nitrogen) atmosphere to minimize the potential dust explosion hazard.

Safety and Health

Exposure to SAA-100 is not expected to pose any acute health hazards. No data are available in the effects of chronic exposure to this product. If dust is generated during handling, a NIOSH/MSHA approved dust respirator and dust service goggles should be worn.

Regulatory Status

SAA-100 is listed on the U.S. TSCA inventory. it is also listed on the European (EEC and EINECS), Canadian and Australian chemical inventories.

Notes: Performance claims were taken from Monsanto Publication No. 6324, "Styrene-Allyl Alcohol in Industrial Coatings."

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