AL 150 Silane

TECHNICAL DATA

$H_2NCH_2CH_2CH_2Si(OCH_2CH_3)_3$

Introduction

AL150 is a versatile amino-functional coupling agent used over a broad range of applications to provide superior bonds between inorganic substrates and organic polymers. The silicon-containing portion of the molecule provides strong bonding to substrates. The primary amine function reacts with a wide array of thermoset, thermoplastic, and elastomeric materials.

Typical Physical Properties

Chemical Name	*3*-Aminopropyltriethoxysilane
Formula	$C_9H_{23}N_2O_3Si$
Molecular Weight	221.3
Appearance	Colorless transparent liquid
Density $_{25/25^oC}$	0.9450-0.9550
Boiling Point	215° C (760mm Hg)
Refractive Index	1.420 **+/-** 0.0005 (25° C)
Flash Point	96° C
CAS No.	919-30-2
Purity	>98.0%

Solubility

AL150 is completely and immediately soluble in water (with reaction), alcohol, and aromatic and aliphatic hydrocarbons. Ketones are not recommended as diluents.

Applications

AL150 is used in plastic products (including cables, glass fiber-reinforcement plastics etc.), rubber products, adhesives, coatings, pigments dispersion, inks, magnetic materials (plastic magnet and rubber magnet), metallic casting resins and resins concrete, etc.

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- AL150 maximizes the physical and electrical properties of mineral-filled phenolics, epoxies, polyamides, polybutylene terephthalate, and a host of other

  thermoset and thermoplastic composites. Filler wetting and dispersibility in the polymer matrix are also improved.

- AL150 improves adhesion between magnetic powder and organic resins and dispersion of magnetic powder inorganic resins. Also these magnetic appliances attain higher magnetic orientation and excellent magnetic properties, higher mechanical strength, good processability, excellent weathering resistance.

- In glass-reinforced thermoset plastics, AL150 enhances the flexural, compressive, and interlaminar shear strengths before and after exposure to humidity. AL150 greatly improves wet electrical properties.

- With nitrile, polysulfide, epoxy, urethane, and adhesives and sealants, AL150 improves pigment dispersion and maximizes adhesion to glass, aluminum, and steel.

- When AL150 is used, glass-reinforced thermoplastics, polyamides, polyesters, and polycarbonates exhibit increased flexural and tensile strengths before and after wet exposure.

- In glass fiber and mineral wool insulation, as a phenolics resin binder additive, AL150 imparts moisture resistance and allows recovery after compression.

- In shell molding foundry applications, AL150 strengthens the bond between the phenolics binder and foundry sand.

- In grinding wheels,

- AL150 promotes an improved, water-resistant bond between the abrasive grit and phenolics resin binder.

- AL150 is an excellent adhesion prompter in urethane, epoxy, and acrylic latex coatings, adhesives, and sealants.