

## **New Epoxy Products Unveiled by Air Products at ICE 2001**

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### **Unique Products Provide Solutions to Several Market Difficulties**

LEHIGH VALLEY, Pa., Nov. 5 /PRNewswire/ -- Air Products and Chemicals, Inc. (NYSE: APD) today unveiled two new solutions to difficulties faced by formulators and users of epoxy resins and curing agents as part of the company's exhibit at the International Coatings Expo 2001 in Atlanta, Ga. being held from November 4-7. Air Products' Ancarez(TM) AR460 Waterborne Epoxy Resin and Anquamine(R) 701 Curing Agent both present formulators with unique, zero-VOC, high performance options for varied applications.

Ancarez AR460 resin is a waterborne liquid epoxy resin emulsion delivered at 60% solids in water. Ancarez AR460 resin advantages include zero-VOC content, low viscosity, small particle size, nonionic stabilization, and is pH neutral. "The very small particle size this product possesses leads to improve coalescence," said Charles R. Hegedus, a Research Material Scientist for Air Products' Performance Chemicals Division. "This improves compatibility in acrylic epoxy systems and leads to improved properties."

Ancarez AR460 resin features high gloss, dry time, and scrub resistance. An additional important feature of this unique liquid epoxy emulsion, developed from Air Products' new dispersion resin technology platform, is that it allows formulators more convenient use ratios. "Ancarez AR460 resin provides and significantly raises the performance of acrylic epoxy systems without negatively impacting cost in use," said Hegedus. The product is designed for use in one-component heat cured systems, two-component amine-cured epoxy systems, and two component acrylic epoxy coatings, as well as one- and two-component adhesives and fiberglass sizing.

Anquamine 701 curative is a unique and proprietary curing agent, designed to offer a solution to problems associated with moisture vapor transmission in the civil engineering market. "Flooring systems blister or delaminate due to moisture vapor transmission through the concrete substrate," says Marino Papazoglou, market manager, North American Epoxy Additives for Air Products. "This is a unique product with nothing like it in the world. The solution we can provide to this problem is a self-leveling flooring system based on Anquamine 701 curing agent that is semi-permeable and eliminates blistering or delamination problems. It allows customers to formulate a thick flooring system that is breathable and will last a long time."

Anquamine 701 curing agent is based on a polymeric emulsion and has been developed primarily for use with liquid epoxy resins. It is capable of out-performing solid resin emulsion-based systems by offering the ability to formulate systems with high film thickness, zero-VOC and without emulsifiers. In addition to permeable coatings, Anquamine 701 curing agent provides enhanced performance to a wide variety of applications including high-gloss to matte topcoats, food and potable water contact coatings, grouts and putties, institutional coatings, and anti-corrosive and high-build coatings. Product attributes include very fast film drying, excellent adhesion to a wide range of substrates, low viscosity, good low temperature cure, very low free-amine content and good early water resistance, temperature and shear-stability, and the ability to formulate low-cost systems based on high filler levels.

In addition to these new products, Air Products is also highlighting its Ancarez(TM) AR550 waterborne epoxy resin for ultra-low and zero-VOC coatings systems. Ancarez AR550 resin delivers zero-VOC coatings due to its unique nature allowing film formation without high levels of coalescing solvent. Ancarez AR550 resin is a waterborne solid epoxy resin dispersion delivered at 55% solids in water designed for use in two-component, ambient-cure epoxy systems. It is a low-cost provider of superior performance for applications including OEM, industrial maintenance, transportation coatings, floor sealers and paints, anti-corrosive primers, mid-coats and topcoats, and institutional coatings.

Air Products and Chemicals, Inc. ([www.airproducts.com](http://www.airproducts.com)) is the world's only combined gases and chemicals company. Founded more than 60 years ago, the business has annual revenues of \$5.7 billion and operations in 30 countries. Air Products is a market leader in the global electronics and chemical processing industries, and a longstanding innovator in many industrial markets, including coatings, adhesives and polyurethanes. The company distinguishes itself through its 18,000 employees around the world, who build lasting relationships with their customers and communities based on understanding, integrity and passion.

\*\*\*NOTE: This release may contain forward-looking statements. Actual results could vary materially, due to changes in current expectations.

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