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PRESS KIT

European Coatings Show,
***March 31 – April 2 2009* – Nuremberg**
Hall 8 – Booth 425

Arkema at the European Coatings Show 2009

On the occasion of the European Coatings Show 2009, Arkema exhibits its latest innovations for the coating and painting industry:

- Arkema expands its CRP (Controlled Radical Polymerization) technology platform with BlocBuilder® DB, a Reversible Addition Fragmentation Transfer (RAFT) polymerization controller. BlocBuilder® DB broadens the accessible range of controlled structure polymers and fits within a wide variety of technical/economic conditions. BlocBuilder® controllers are especially well suited for coatings, adhesives and surface treatment applications.

- In line with its voluntary product stewardship approach, Arkema has developed a new process that eliminates fluorosurfactants from its Kynar 500® PVDF.

- Arkema presents Kynar® ADX: an innovative primerless PVDF powder coating. After developing a revolutionary patented technology, Arkema is commercializing a new range of functionalized reactive polyvinylidene fluoride (PVDF) polymer powders under the trade name Kynar® ADX series.

- Arkema presents a new waterborne fluoropolymer resin, Kynar Aquatec®: the easy-dry coating. This innovative product offers the durability and performance of traditional Kynar® coatings, whilst drying at ambient temperature.

Sean ARSENAULT will present the benefits of **Kynar Aquatec®** on April 1st, 2009 at 11:50,
Hall 6 stand 6-133.

A global chemical player, Arkema consists of 3 business segments: Vinyl Products, Industrial Chemicals, and Performance Products. Present in over 40 countries with 15,000 employees, Arkema achieves sales of 5.6 billion euros. With its 6 research centers in France, the United States and Japan, and internationally recognized brands, Arkema holds leadership positions in its principal markets.

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Controlled Radical polymerization technology
For coatings, adhesives and surface treatment applications

Arkema extends its BlocBuilder® controlled radical polymerization technology

Over the past four years Arkema has commercially developed a unique Controlled Radical Polymerization (CRP) technology based on Nitroxides. This technology, trademarked as BlocBuilder® MA, is used to produce copolymers with controlled architectures using standard industrial equipment and processes. Today, Arkema expands its CRP technology platform with BlocBuilder® DB, a Reversible Addition Fragmentation Transfer (RAFT) polymerization controller. BlocBuilder® DB broadens the accessible range of controlled structure polymers and fits within a wide variety of technical/economic conditions.

The BlocBuilder® product line provides practical and robust methods for the design of novel materials spanning rich architectures and tailored end-use application properties; opening up tremendous possibilities for a wide range of polymer markets. BlocBuilder® controllers are especially well suited for coatings, adhesives and surface treatment applications.

Functionality of BlocBuilder® controllers

When copolymerizing two or more monomers with traditional radical initiators, the resultant polymers have a random structure and the properties are an average of the monomers used. BlocBuilder® provides a straightforward and robust method to produce novel copolymers from two or more monomers (the composition of each polymer segment is controlled) and this controlled material preserves the inherent properties of each polymer segment combining them into one composite material. BlocBuilder® technology offers many other advantages including, process flexibility (bulk, solvent, and aqueous), broad selection of monomer types (styrenic, acrylic, methacrylic, functional, etc.), and the absence of metallic by-products.

BlocBuilder® MA controller is an alkoxyamine joining a methacrylic acid-based radical initiating species with a nitroxide-based reaction controller, in one molecule. This attribute eliminates the need for an external initiation source and the perfect initiator-to-controller ratio facilitates synthesis of polymers of reduced polydispersity as initiation is virtually simultaneous and occurs at low temperature.

Arkema's new **BlocBuilder® DB** controller is a unique RAFT agent capable of controlling free radical polymerizations. It is used in the same conditions as a standard chain transfer agent, and is adaptable to numerous processing environments. BlocBuilder® DB enriches the Arkema CRP offer by bringing access to additional polymer structures and complimenting a variety of technical/economic conditions.

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A technology well suited for coatings and surface treatment applications

The BlocBuilder® controller platform is especially well suited for coatings, inks, adhesives, dispersants and surface treatment applications. For example, the ability to control the hydrophilic lipophilic balance as well as the polymer structure opens new design possibilities within dispersants and polymeric surfactants. BlocBuilder® controllers can also be used for the synthesis of well-controlled lattices improving the film formation and block properties of coatings. Composition control, including the amount and placement of functional monomers, allows the design of new adhesives with unique property compromises and improved UV resistance for example.

Partly based on BlocBuilder® technology, Arkema is also offering Nanostrength®, a family of self-assembling block copolymers. Nanostrength® MAM and SBM grades can be used for epoxy coatings, imparting enhanced mechanical properties such as impact resistance and flexibility without decreasing the glass transition temperature or modulus. These properties are also well suited for high-end epoxy based adhesive formulations.

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Fluoropolymer Innovation
Coatings for aluminum, galvanized steel, and aluminized steel

Arkema eliminates fluorosurfactants from Kynar 500® PVDF

In line with its voluntary product stewardship approach, Arkema has developed a new process that eliminates fluorosurfactants from its Kynar 500® PVDF.

Arkema is introducing Kynar 500® PVDF (polyvinylidene fluoride) resin made using a new fluorosurfactant-free (FSF) process. In 2006, perfluorinated surfactants, such as perfluorooctanoic acid (PFOA), have come under scrutiny by the U.S. Environmental Protection Agency (EPA), and Arkema decided to launch a substitution research program in order to gradually reduce the amounts of fluorosurfactants used in its PVDF range.

"*As the leader in this industry, we wanted to proactively develop a way to completely eliminate the use of these fluorinated surfactants in our manufacturing process*," said Erwoan Pezron, Arkema's Worldwide Managing Director for Fluoropolymers. "*The market has come to expect leadership from Kynar 500® PVDF, the most recognized name in coating and film formulations. As the originator of high performance PVDF resins for architectural markets, our customers were looking to Arkema for substitutes. We are proud to continue to lead this market by offering a wide palette of high durability sustainable fluorosurfactant-free coating resins, including Kynar 500® and our recently commercialized Kynar Aquatec® platform*" said Kirsten Makel, Arkema's North American General Manager for Fluoropolymers.

Arkema's recently completed expansion of its Calvert City, Kentucky, facility in the United States and its recently announced Changshu, China plant will feature this new technology in its production of Kynar 500® PVDF. Arkema is now switching to its fluorosurfactant-free Kynar 500® PVDF, and is providing dedicated technical support for its formulator customers to ensure optimum application of the product.

For over 40 years, finishes based on Kynar 500® PVDF resin have helped protect commercial, industrial, and residential buildings around the world. Kynar 500® PVDF is a special grade of fluoropolymer resin used by licensed industrial paint manufacturers as the base resin in long-life coatings for aluminum, galvanized steel, and aluminized steel. Applications include metal roofing, siding, window- and door-frames, wall panels and other miscellaneous metal trims and components.

www.kynar500.com

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Fluoropolymer Innovation
Metals coatings

Kynar® ADX: an innovative primerless PVDF powder coating

After developing a revolutionary patented technology, Arkema is now able to offer commercially a new range of functionalized reactive polyvinylidene fluoride (PVDF) polymer powders under the trade name Kynar® ADX series.

This new modified PVDF product range opens numerous application possibilities by enabling direct adhesion to metal substrates (steel, aluminum, copper) after standard surface preparation. It allows the manufacture of composite structures combining the properties of Kynar® with those of these various support materials.

The Kynar® ADX product range has been developed to allow primerless powder coating by the standard methods:

- Dip coating in fluidized bed,
- Electrostatic spraying,
- Hot spraying,

Applications using metal coatings in extremely harsh chemical or high temperature environments, are emerging in diverse fields as Chemical Processing Industry (CPI), offshore and cables.

Kynar® ADX resins retain the same excellent melt and solvent processability as standard Kynar® resins. Kynar® ADX features similar thermal, UV and chemical resistance, high mechanical performance and high permeation barrier properties as the other well-known Kynar® resins.

KYNAR® ADX

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Fluoropolymer Innovation
Protective surface coatings

Arkema's Kynar Aquatec®: the easy-dry coating !

Arkema presents a new waterborne fluoropolymer resin: Kynar Aquatec®: this innovative product offers the durability and performance of traditional Kynar® coatings, whilst drying at ambient temperature.

Developed from Arkema's research, Kynar Aquatec® is an emulsion of a Kynar® PVDF copolymer with an acrylic resin. Kynar Aquatec® coatings are water-based formulations that do not need to be baked - an ambient air-dry is all that is needed. They can be used on a variety of substrates, including metal, PVC, wood, textile, elastomers, etc.

Kynar Aquatec® emulsions are formulated into high-performance paints using formulating guidelines that are similar to those employed for typical acrylic emulsions. In addition, the aqueous nature of the emulsion means that the system is low in volatile organic compounds.

Kynar Aquatec® has the advantage of very low VOCs' (volatile organic compounds).

Manufactured with a technology developed from Kynar® coatings, Kynar Aquatec® features the same characteristics and properties as other Kynar® coatings. :

- Extreme weatherability,
- Excellent dirt shedding,
- Superb mildew resistance,
- Excellent stain resistance,
- Outstanding water repellency,

The ease of processing and the remarkable properties of Kynar Aquatec® are opening up new application possibilities for protective surface coatings.

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