

CHEMICALS FOR THE COATINGS INDUSTRY

The Smart Start To Higher Performance Coatings





*Making it easier to make your coatings better...*

I N T R O D U C T I O N

***With a broad line of chemicals from one company...Arkema Inc.***

Whether you manufacture paints, coatings, or the ingredients that go into them, Arkema Inc. offers a broad line of high quality chemicals to improve your formulations.


Chances are you already know at least one of our products. But you may not know how much more Arkema has to offer you . . . additional products and services from the leading source. Arkema can provide highly focused services and the specialized chemicals you need. We have it all:

- Monomers
- Initiators
- Catalysts
- Specialty Intermediates
- Functional Polymers
- Specialty Resins
- Specialty Formulations
- Cross-Linkers
- Additives

***A diverse company with a singular objective...your satisfaction.***

Arkema is a diverse company comprising several specialized chemical groups working together to meet the needs of the paint and coatings industry. This gives you one source you can count on for the diverse expertise your applications require. We can deliver what you need, when you need it. Come to Arkema —we have some of the largest and most modern research and development facilities of their kind in the world.

Dependable, service-oriented, Arkema, the smart start to higher performance coatings.



We have what it takes to make your coatings better.

Arkema provides a broad scope of chemicals and capabilities. Here's just a fraction of what we can do for you.

P R O D U C T S

### Organic Peroxides

Arkema is North America's largest producer of organic peroxide initiators used in a wide range of manufacturing applications from resin synthesis, to resin curing, to cross linking. We offer a complete line of organic peroxide initiators for the acrylic resins used in paints and coatings. For example, peroxides were developed for the synthesis of high-solids acrylic resins with low molecular weights and narrow molecular weight distributions. Acrylic resins with lower solution viscosities and higher solids content are favored to meet stringent governmental VOC requirements.

*t*-Amyl peroxides have a broad range of activity. Formulators can use one or a combination of initiators to optimize the production of acrylic resins which show superior performance in high-solids coatings.

Arkema also offers a broad line of hydroperoxides for emulsion polymerizations. Whether you need a peroxyester (like our Luperox® 555 M60, Luperox 575, or Luperox TAEC initiators), a dialkyl peroxide (like our Luperox DTA), a perketal (like Luperox 533), or one of our many hydroperoxides, our organic peroxides can meet your coating initiator needs.

### Ultra Fine Polyamide Powders

Arkema offers a range of ultra fine polyamide powders under the name Orgasol® that enhance the performance of many paint and coatings formulations, including those for coil coatings, can coatings, wood lacquers, inks and overprint varnishes, automotive and industrial

coatings. Orgasol polyamide powders can be used in solvent- and water-based systems, including powder paints and UV-cross-linked varnishes. In such formulations, Orgasol polyamide powders enhance abrasion and scratch resistance, provide smooth textures and gloss control, and contribute a dry lubricant effect and friction control.

### Rilsan D Additive

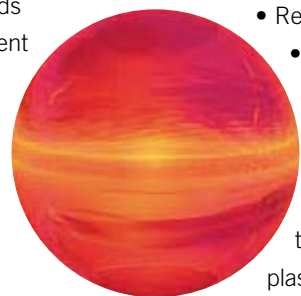
Rilsan® D polyamide powder is a paint additive that enhances the surface character of the finished coating by offering:

- Improved abrasion and scratch resistance
- More uniform surface texture
- Reduced gloss
- Exceptional chemical resistance, including resistance to organic acids, salts, bases and hydrocarbons.

For example, Rilsan D powder provides an aesthetically pleasing texture to the polyurethane coatings applied to plastic window frames. Rilsan D powder is available in particle sizes of 20, 30, 40, 50, 60, and 80 microns.

### Fine Powder Coatings

Polyamide-11-based Rilsan® fine powder coatings are used in appliance coatings, indoor and outdoor construction coatings, and as metal coatings in many industries. Especially suited for automotive uses, Rilsan fine powder coatings provide flexibility, impact resistance, lubricity, and resistance to heat and chemicals. Rilsan fine powder coatings meet NSF 61 requirements for drinking water applications. They are approved as internal and external coatings for pipes and fittings and as corrosion-resistant linings in hot-water heaters.



P R O D U C T S

### Hydroxyl-Terminated Polybutadiene

Poly bd® resins from Arkema are hydroxyl-terminated homopolymers of butadiene. When reacted with isocyanate resins, Poly bd resins produce sealants and water-proofing membranes with excellent hydrophobic properties and outstanding low-temperature flexibility. Poly bd resins also offer excellent resistance to aqueous acids and bases, solubility in common coatings solvents, and remarkable impact resistance.

### Styrene Maleic Anhydride Resins

In inks, paints and coatings, SMA® resins significantly improve pigment grinding and pigment dispersion. They act as filler dispersants in plastics and paper coatings and as surface sizing agents in paper manufacture. In emulsions, they are polymeric surfactants and stabilizing agents; in epoxy powder paints, they act as flattening agents. SMA resins make good alkali-soluble temporary coatings. SMA resins provide superior gloss and heat resistance in inks and overprint varnishes and enhance color strength in pigmented systems.

### Coating Catalysts

Whatever the application — solvent- or water-borne paints, alkyd or polyester resins, powder coatings or silicone caulks — Arkema offers a family of FASCAT® catalysts. For esterification, transesterification, polycondensation, and cross-linking, FASCAT catalysts can permit faster processing at lower temperatures. They can improve quality and yield. FASCAT catalysts are key ingredients in automotive coating formulations, coil and can systems, food and pharmaceutical applications, and powder coatings.

MCATS™ catalysts — a new class of cationic agents — act as latent or active catalysts for curing melamine, phenolic, urea and furan resins. They produce distinctive coatings with good corrosion and solvent resistance, good hardness and gloss at lower loading levels than competitive catalysts. MCATS catalysts also show good stability in water-borne systems.

Effective in curing melamine systems, MCATS catalysts are well suited for automotive clear coats, basecoats, primers and coatings for coils and cans, as well as powder systems. MCATS catalysts are even effective in curing wood-coating formulations.

Arkema is a recognized technology leader; we have a strong commitment to new catalyst development. Challenge us to meet your catalyst needs — now and in the future.

### Methane Sulfonic Acid

A clear, colorless organic acid, methane sulfonic acid (MSA) from ATOFINA Chemicals is increasingly used in amino alkyd, urethane and emulsion coatings. MSA is also an effective catalyst in industrial baking enamels, hardboard coatings, and furniture finishes. MSA combines high-speed cure with aesthetic and handling advantages.

Blocked versions have effective curing activity at a relatively low 175°F and the significant advantage of indefinite pot life. The emphasis on higher production speeds makes MSA an important tool in the formulator's craft.

MSA is also a well-known and versatile, non-oxidizing catalyst in esterification and alkylation reactions where solid catalysts are ineffective or the equipment requires an acid catalyst.

MSA is a component of nature's sulfur cycle and is considered readily biodegradable.

### Perfluorinated Copolymers

Foraperle® perfluorinated copolymers provide water and oil repellency to a wide range of substrates — textiles, paper, leather, glass, and building materials, to name just a few.



# PRODUCTS

## Amines

Alkylamines and alkyl alkanolamines from Arkema are particularly well suited to pH control and solubilization of water-based coatings. Our product line offers a wide range of base strengths, volatilities, and other key properties allowing formulators to optimize performance in each application. ATOFINA Chemicals offers DEAE (diethyl-aminoethanol), DMAE (dimethylaminoethanol), DMA-2P (dimethylamino-2-propanol) and TEA (triethylamine), as well as MDEA (methyldiethanolamine) in conjunction with benzophenone for UV-cured systems.

## Dimethyl Sulfoxide

Dimethyl sulfoxide (DMSO) is a highly versatile, aprotic solvent used as a reaction medium in the manufacture of dyes and inks. It acts as a solvent for both organic and inorganic substances. Low vapor pressure and high flash point minimize both exposure and handling risks. Essentially non-toxic and biodegradable, DMSO from Arkema offers better cost, performance and handling characteristics than other solvents used in dyes and inks.

## Corrosion-Resistant Systems

Chemical and petrochemical processing plants, plating operations, and pulp-and-paper mills rely on Arkema and a broad range of corrosion-resistant systems to protect equipment and facilities from decay and failure. We have the most comprehensive line of quality products including acid-resistant mortars, polymeric concretes and silicate gunites, membranes, linings, joint sealants and monolithic toppings. In any industry or environment, Arkema has the experience to deliver proven, effective corrosion protection.

## Acrylic Monomers

Acrylic and methacrylic monomers from Arkema are the foundation for a wide array of polymers used in paints, inks, and coatings. Yielding products with excellent gloss retention and resistance to light degradation, these water-based emulsions are easily modified with our specialty monomers to introduce functionalities like alcohols, ethers, amines, amides, cyclic hydrocarbons and imidazolidones. Polymers modified to improve physical properties like adhesion, wet strength, and cross-linking can be produced to suit a variety of applications, including automotive, OEM and UV-cross-linkable finishes.

## Marine Anti-Foulants

BIOMET® marine anti-foulants from Arkema discourage marine life from homesteading on ship hulls and other exposed surfaces. Alone or in combination with other anti-foulants, BIOMET additives give marine paints and coatings control over a broad spectrum of marine life, including barnacles, algae, tube worms, and hydroids.

## Fluoropolymers

Finishes based on KYNAR 500® PVDF resin from Arkema are the standard by which all metal coatings are judged. Thirty-five years of proven performance attest to their superior weatherability, excellent color retention, chalk resistance and gloss retention. The carbon-fluorine bond in KYNAR 500 resins is the secret to their remarkable resistance to thermal, chemical and ultraviolet degradation. Only PVDF resin finishes protect metal this well.

## Specialty Epoxides

Arkema offers the broadest line of specialty epoxides for the coatings industry. In adhesives, coatings and sealants, epoxides are reactive diluents that reduce VOC release, especially in cationic UV-cure systems. Vikolox® epoxidized *alpha*-olefins add hydrophobic functionality to polyether polyols — a proven way to impart the desired mix of hydrophobic and hydrophilic properties. Epoxidized polymers such as polybutadiene and polybutene impart hardness and flexibility in many applications. And Arkema can provide custom epoxidation. We will work with you to develop an epoxidized product that fits your specific needs.

## Turco Paint Strippers

Arkema offers over 100 Turco® products for safe and cost-effective paint removal, including a complete line of “environmentally acceptable (E.A.)” water-based paint strippers.

These E.A. paint strippers have:

- No methylene chloride
- No phenol or phenolic derivatives
- No chromates or heavy metals
- No ozone-depleting substances
- No HAPs
- Extremely low VOC emissions

## Arkema Inc. FOR THE COATINGS INDUSTRY

Use this form to help us help you determine which Arkema chemical products are best for your specific application.

Name \_\_\_\_\_

Company \_\_\_\_\_ Title \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

I am interested in the following Arkema products:

- |                                                                |                                                       |
|----------------------------------------------------------------|-------------------------------------------------------|
| <input type="checkbox"/> Orgasol® Ultra Fine Polyamide Powders | <input type="checkbox"/> Organic Peroxides            |
| <input type="checkbox"/> Poly bd® Resins                       | <input type="checkbox"/> KYNAR 500® PVDF Resin        |
| <input type="checkbox"/> SMA® Resins                           | <input type="checkbox"/> Acrylic Monomers             |
| <input type="checkbox"/> FASCAT® Coating Catalysts             | <input type="checkbox"/> Corrosion-Resistant Systems  |
| <input type="checkbox"/> Amines                                | <input type="checkbox"/> BIOMET® Marine Anti-foulants |
| <input type="checkbox"/> Methane Sulfonic Acid                 | <input type="checkbox"/> Specialty Epoxides           |
| <input type="checkbox"/> Rilsan® Fine Powders                  | <input type="checkbox"/> Perfluorinated Copolymers    |
| <input type="checkbox"/> Dimethyl Sulfoxide                    | <input type="checkbox"/> Rilsan® D                    |
| <input type="checkbox"/> MCAT™ Catalysts                       | <input type="checkbox"/> Turco® Paint Strippers       |

What is your final product? \_\_\_\_\_

Would you like a contact from an Arkema technical group?  Yes  No

Would you like a contact from a sales representative?  Yes  No

Any other comments or requests: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please return completed form by mail or fax to:  
Arkema Inc.  
2000 Market Street  
Philadelphia, PA 19103-3222  
Phone: 800-225-7788 • FAX: 215-419-7930

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### Custom formulations... another Arkema advantage.

If you don't see the chemicals you need here for your paint or coatings application, give us a call at 800-225-7788.

For more information on all the chemicals available from Arkema for your applications, complete and return the postage paid reply card. Or contact the Arkema group listed below for the chemicals you need.

**Orgasol® Polyamide Powders,  
Poly bd® Resins and SMA® Resins**  
Phone: 800-328-2811 • 215-419-5302  
Fax: 215-419-5902

**Acrylic Monomers**  
Phone: 800-338-1015  
Fax: 215-419-7800

**FASCAT® Esterification Catalysts, BIOMET®  
Marine Anti-foulants, and Specialty Epoxides  
Industrial Specialties**  
Phone: 800-331-7654  
FAX: 215-419-7007

**Amines, Methane Sulfonic Acid and Dimethyl  
Sulfoxide  
Organic Chemicals**  
Phone: 800-628-4453 • 215-419-7000  
FAX: 215-419-7944

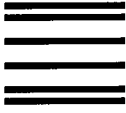
**Organic Peroxides**  
Phone: 800-558-5575 • 215-419-7000  
Fax: 215-419-5671

**Fluoropolymers, KYNAR 500® Resin,  
Rilsan® Fine Powders  
Rilsan®D Polyamide Powders  
Technical Polymers**  
Phone: 800-KYNAR-500  
Fax: 215-419-7400

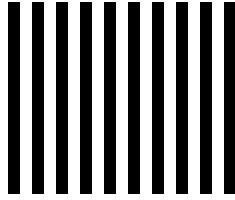
**Corrosion Resistant Systems  
Performance Chemicals**  
Phone: 215-419-7185  
Fax: 215-419-7469

**Perfluorinated Copolymers  
Basic Chemicals**  
Phone: 800-346-5757  
Fax: 215-419-7161

**Turco® Paint Strippers**  
Phone: 770-939-8332  
Fax: 770-496-5830



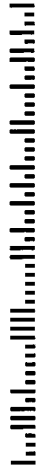
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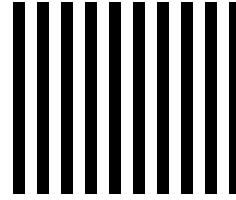
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PHILADELPHIA PA 19103-3222



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## Making It Easier To Make Your Coatings Better

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