

**Arkema will be present at the CPhI show in Frankfurt  
September 30th to October 2nd 2008  
Hall 30, Stand D18**

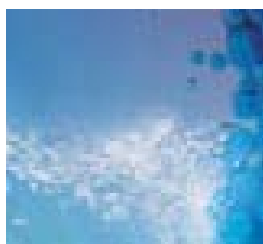
## CONTENT



**Kynar<sup>®</sup> Rx,  
a new PVDF grade  
for the pharmaceutical industry**

**Acticarbone<sup>®</sup> and Clarcel<sup>®</sup>,  
efficacy and purity  
at the service of pharmaceutical processes**

**Oxynitrox<sup>®</sup> S100, the organic catalyst  
for pharmaceutical synthesis**



**New website dedicated to Arkema's  
amines and oxygenated solvents**

*A global chemical company and France's leading chemicals producer, Arkema consists of three strategically related businesses: Vinyl Products, Industrial Chemicals, and Performance Products. Arkema reported sales of 5.7 billion euros in 2007. Arkema has 15,200 employees in over 40 countries and six research centers located in France, the United States and Japan. With internationally recognized brands, Arkema holds leadership positions in its principal markets.*

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**Arkema presents Kynar<sup>®</sup> Rx,  
a new PVDF grade for the pharmaceutical industry,  
at the CPhI tradeshow**

**Arkema is taking part in the CPhI tradeshow in Frankfurt, from September 30<sup>th</sup> to October 2<sup>nd</sup> 2008, where it will shine the spotlight on Kynar<sup>®</sup> Rx, a new polyvinylidene fluoride (PVDF) grade specially designed for the pharmaceutical and biotechnology industries.**

Arkema's Kynar<sup>®</sup> PVDF is a high performance fluorinated polymer characterized in particular by high purity and outstanding toughness in the most extreme exposure conditions. It is in fact insensitive to ultraviolet rays, and remains inert in some of the most stringent chemical environments such as concentrated acids and halogens. Kynar<sup>®</sup> resins boast good thermomechanical properties, and are easy to process using common thermoplastics converting methods, i.e. extrusion, injection molding and compression molding.

Thanks to this unique combination of properties, Kynar<sup>®</sup> has gained extensive recognition in very diverse areas, from pre-painted architectural metal structures to high purity electronic and pharmaceutical equipment. In the pharmaceutical sector, Kynar<sup>®</sup> is used in countless products such as membranes, filtration cloth, pipe components (tubes, connectors, valves), and for the coating of tanks and containers. With its outstanding corrosion resistance, light weight and straightforward application, Kynar<sup>®</sup> offers a beneficial alternative to stainless steel.

Kynar<sup>®</sup> Rx is a brand new grade specifically developed for single use manufacturing processes, which are fast developing in the biotech sector. These processes demand a variety of sterile components such as bags, filters, tubes and connectors. The exclusive properties of Kynar<sup>®</sup> Rx, in particular its compatibility with sterilization processes, its high purity, and its high surface tension, make it a choice material for the pharmaceutical and biotechnology industries.

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## **Acticarbone<sup>®</sup> and Clarcel<sup>®</sup>, efficacy and purity at the service of pharmaceutical processes**

**CECA, the Specialty Chemicals subsidiary of the Arkema Group, offers a comprehensive range of products for the purification, decolorization and clarification of pharmaceutical intermediates.**

Efficacy and purity are the two decisive assets offered by CECA's Acticarbone<sup>®</sup> range of activated carbon. These products' high efficacy helps improve the yield at the decolorization and purification stages, while minimizing any loss of active principle. The high purity of Acticarbone<sup>®</sup> is particularly suitable for the treatment of injectable solutions (contrast media, antibiotics, etc.).

The filtration power of Acticarbone<sup>®</sup> activated carbon also often helps increase productivity significantly.



ACTICARBONE<sup>®</sup>

Diatomite and perlite from the Clarcel<sup>®</sup> range are used both in the filtration of pharmaceuticals (antibiotics, vitamins, insulin, etc.) and as functional additives, in particular in dental impression and in cosmetics.

*CECA, a subsidiary of the ARKEMA Group, is a world player in Specialty Chemicals. CECA constantly strives to improve its customers' performance by creating and developing adsorbents, chemical intermediates, and additives. CECA operates an extensive network of industrial facilities in Europe, together with two research centres (GRL and CRRA) dedicated to Customer innovation.*

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## **Oxynitrox<sup>®</sup> S100: Arkema's new organic catalyst**

**As a result of its R&D's innovation and experience in catalysis, Arkema has developed Oxynitrox<sup>®</sup> S100, a new organic oxidation catalyst perfectly suited to the requirements of pharmaceutical synthesis, and environmentally sounder than metallic catalysts.**

The Oxynitrox<sup>®</sup> S100 catalyst offers countless prospects in molecule synthesis for pharmaceuticals manufacture, in particular with its capacity to steer the selective oxidation of primary alcohols into aldehydes. It can also be used in fully controlled conditions to induce the formation of corresponding acids, and also helps convert secondary alcohols into ketones.

A totally organic catalyst, Oxynitrox<sup>®</sup> S100 is perfectly suited to pharmaceutical synthesis processes. It stands out by its environmental properties as it is an equally effective substitute to traditional metallic oxidation catalysts based on ruthenium, molybdenum, silver or cerium.

Oxynitrox<sup>®</sup> S100 has the chemical structure of a nitroxide type polymer. Its development is a logical reflection of Arkema's desire to offer a comprehensive technological platform based on nitroxyl radicals and their applications. Its specific polymer structure makes it recyclable. It is easy to separate from the other reaction products, and can perform in consecutive oxidation reactions without losing any of its efficacy. Oxynitrox<sup>®</sup> S100 also affords savings in energy consumption as it enables optimum performance at ambient temperature.

In addition to pharmaceutical synthesis, Oxynitrox<sup>®</sup> S100 may be used in a variety of applications, in particular cosmetics, perfume and fragrance manufacture, and in the electronics and agro-food industries.

Arkema recently optimized its manufacturing process for Oxynitrox<sup>®</sup> S100 which is now available in powder form for easier processing and more accurate metering. This optimization improves the yield, making the price of Oxynitrox<sup>®</sup> S100 increasingly competitive.

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**To coincide with the CPhI tradeshow,  
Arkema launches a new website  
dedicated to amines and oxygenated solvents**

Arkema manufactures a comprehensive range of amines as well as oxygenated solvents at its La Chambre industrial site in Savoie, in the heart of the French Alps. ISO 9001 and ISO 14001 accredited, the various productions of the La Chambre plant fulfill the most stringent requirements in terms of quality and environmental protection. Arkema enjoys extensive expertise in the manufacture of amines using a variety of processes, including alcohol amination and the reductive amination of aldehydes and ketones. The plant dedicated to specialty amines production boasts enough versatility to conduct other reactions such as methylation, cyanoethylation, nitrile hydrogenation, and high pressure hydrogenation.

Arkema's amines and oxygenated solvents are used extensively in chemical, pharmaceutical and agrochemical synthesis as synthesis intermediates, acid scavengers (Hunig's base), and extraction solvents.

To assist its customers in developing their business, Arkema offers them its synthesis and process expertise as well as its industrial infrastructure: synthesis in the laboratory, pilot plants, and small batch production units.

The new websites [www.arkema.com/amines](http://www.arkema.com/amines) and [www.arkema.com/oxygenatedsolvents](http://www.arkema.com/oxygenatedsolvents), dedicated to the fine chemical sector in particular, features all technical information on Arkema's amines and oxygenated solvent ranges.

**[www.arkema.com/amines](http://www.arkema.com/amines)**

**[www.arkema.com/oxygenatedsolvents](http://www.arkema.com/oxygenatedsolvents)**

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