

Acticarbone[®] and Clarcel[®] Pure added value for your process

CECA, the Specialty Chemicals subsidiary of **Arkema** group, offers a full range of products for Purification, Decolorization and Clarification of pharmaceuticals and pharmaceutical intermediates.

The most striking advantages of the activated carbons of the **Acticarbone[®]** range are their efficiency and their purity. Their high level of efficiency allows improving the yield of your decolorization and purification steps; losses of active principle are thus minimized. Thanks to their level of purity, **Washed Acticarbone[®]** products are extremely suitable for the treatment of injectable solutions (contrast media, antibiotics...). The filterability of these products also very often helps to significantly improve productivity.

Diatomaceous earths and perlites of the **Clarcel[®]** range are used in filtration of pharmaceutical products (antibiotics, vitamins, insulin...) and also as functional additives, for instance in dental prints and cosmetology.

ACTICARBONE[®]

Find out more about CECA [www.ceca.fr]: 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 around the world, together with two research centres (GRL and CRR) dedicated to Customer innovation.

Oxynitrox[®] S100, Arkema's organic oxidation catalyst developed for pharmaceutical synthesis



As part of its ongoing research into catalysis, Arkema recently released on the market Oxynitrox[®] S100, a new organic oxidation catalyst produced industrially using a patented process. The result of Arkema's innovation, this new oxidation catalyst makes its own contribution to the constraints of the pharmaceuticals sector which supports the protection of the environment.

The Oxynitrox[®] S100 catalyst offers countless prospects for the synthesis of molecules in pharmaceutical applications, in particular with its capacity to steer the selective oxidation of primary alcohols into aldehydes. It can also lead in a thoroughly controlled manner to the formation of the corresponding acids. As regards secondary alcohols, these can be converted into ketones.

With its environmental qualities, Oxynitrox[®] S100 is entirely suited to pharmaceutical synthesis processes. Being totally organic, it avoids the use of traditional metallic oxidants based on ruthenium, molybdenum, silver or cerium, while proving just as effective.

Oxynitrox[®] S100 has the chemical structure of a nitroxide type polymer, and 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[®] S100 also affords savings in energy consumption as it enables optimum performance at ambient temperature.

Oxynitrox[®] S100 has already been successfully tested in the oxidation of various alcohols such as octanol-1, octanol-2, cyclo-octanol, 1-phenyl ethanol, benzyl alcohol, and oleyl alcohol.

Oxynitrox[®] is a registered trademark of the Arkema Group.

info.oxynitrox@arkema.com

Hydrazine for Value : When demanding markets meet value



Through 3 new visual identities, Arkema's Hydrazine and Derivatives activity is reaffirming its commitments to be at the very heart of its customers' businesses, as a value provider.

Arkema's commitments:

- **Make its customers benefit from our experience as an innovative, reliable and sustainable supplier**
- **Provide them with competitiveness and proximity services**
- **Generate value in their activity**

Arkema is manufacturing hydrazine hydrate and hydrazine derivatives at the Lannemezan plant (south-west of France) and plays a significant role on the worldwide market. This business is part of the Hydrogen Peroxide Business Unit (also producing hydrogen peroxide and sodium chlorate), which account for 10% of Industrial Chemicals segment and 4% of Arkema.

Our Hydrazine core business is based on three pillars:

- Hydrazine hydrate: leader on the merchant market (output 15,000 metric tons)
- Triazolics: n° 1 worldwide
- AZDN (Azo-bis-isobutyronitrile): key supplier of the Euro-American market

Arkema has developed exclusive clean processes (i.e. original and patented clean process using hydrogen peroxide for manufacturing of hydrazine hydrate) that enable to match its environment protection and quality commitments (the plant in Lannemezan is certified ISO 9001 & 14001). Arkema also benefits from the upstream integration, giving to its customers confidence in their product availability and quality.

Arkema's extensive logistics, working with expert regional units, allows besides to ensure high quality and reliable services. Arkema uses only dedicated materials for hydrazine hydrate and hydrazine derivatives transportation as well as partner companies whose employees have followed specific training to handle their products.

Finally, Arkema's worldwide presence, product stewardship commitments and extended services will boost the competitiveness, of its customers support their innovation and fuel their long-term growth through dedicated partnerships, while combining economic efficiency and technical excellence.

Behind names with obscure chemical formula, Arkema's products can conceal concrete applications closely linked to the everyday life. From earth to space, hydrazine hydrate and its derivatives play a major role in various applications and contribute to enhancing the everyday comfort, safety and health.



Arkema at CPHI 2007 - Hall 11 - Stand M24
Milano, from October 2nd to 4th, 2007

- Active ingredient synthesis (agrochemicals, pharmaceuticals, chemistry...)
- Polymers and composites (polymerization, blowing agents...)
- Treatment processes (water treatment, refining...)

A global chemical player, Arkema consists of 3 coherent and related business segments: Vinyl Products, Industrial Chemicals, and Performance Products. Present in over 40 countries with 17,000 employees, Arkema achieves sales of 5.7 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.

For more information, visit our website:

www.hydrazineforvalue.com



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Amines

A flexible production tool to meet enabling the synthesis of hundred of pharmaceutical products

Arkema has a long history of manufacturing amines at its facility located in the heart of the Alps, in La Chambre (France). Arkema's plant is ISO 9001 and 14001, and certified to the highest standards of quality and efficiency. Arkema's broad range of amines has enabled the synthesis of hundreds of useful pharmaceutical products.

Arkema has developed a core competency in manufacturing amines by a variety of processes including alcohol amination and reductive amination of aldehydes & ketones. Arkema's dedicated specialty amines multipurpose equipment provides the flexibility to carry out many other reactions: methylation, cyano-ethylation, hydrogenation of nitriles and high-pressure hydrogenation.

Arkema's research and development capabilities are committed to the rapid definition of the customer's process and sound development through an extensive and reactive pilot capability to commercial volumes. Thanks to this tool, Arkema can identify the right amine for a specific application.

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