CONTROLLED RELEASE

MAKING EACH DOSE COUNT…
WHILE YOU SLEEP

*Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow
We all know that medicine doesn’t work if you don’t take it. But around the world, compliance to prescription medicine has become one of the most challenging public health problems. The consequences of not taking medicine as prescribed by a doctor are serious – poorer patient outcomes, a lower quality of life, and, in the worst cases, death. A leading reason for this problem is that many people are burdened with taking too many tablets each day.

We’re looking to change that.

At Dow Wolff Cellulosics, we are leading the effort in controlled release technology. Our goal is simple: ensure the right amount of a drug’s active ingredient is released from a tablet in the right place and at the right time. Controlled release medication can mean the difference between life and death. Clearly, that’s a more convenient way for patients to manage their medical conditions.

**METHOCEL™ - IT’S WHAT’S ON THE INSIDE THAT COUNTS**

METHOCEL™ Premium Controlled Release (CR) grade products have the properties needed to formulate controlled release tablets. That’s why they are the brand of choice for these systems.

- **Simple pill protection:** METHOCEL™ products rapidly produce a strong, tight gel layer on the outer tablet surface, which is critical to protecting the core tablet from getting wet and disintegrating before the patient has ingested it. After ingestion, METHOCEL™ helps control the rate in which the tablet dissolves, allowing the active ingredient to be released slowly into the body.
- **So many choices:** The family of METHOCEL™ Premium products is one of the broadest in the industry today, providing flexibility for fine-tuning matrix release profiles and optimizing ingredient costs, tablet size, and production methods.
- **Consistency is key:** METHOCEL™ products are produced under tight Statistical Quality Controls to the exacting standards of Good Manufacturing Practices (GMPs) so that customers can rely on excellent consistency and high quality for repeatable performance.
- **No one likes paperwork:** Unlike many patented delivery systems, choosing METHOCEL™ for controlled release doesn’t require licensing agreements. That means lower costs and less paperwork over the commercial life of a product.
- **Speed and savings - what could be better?** Our team has the knowledge you need with the experience you can trust. We have identified and experience you can trust. We have identified and studied a range of major system variables and their interactions to help reduce development and approval timeline.

**ETHOCEL™ AND METHOCEL™: SO HAPPY TOGETHER**

Combine water-insoluble ETHOCEL™ Premium resins with water-soluble METHOCEL™ Premium products to optimize the performance of controlled release systems. Controlling the concentrations of the two polymers helps regulate the rate the drug diffuses from the tablet.

ETHOCEL™ Fine Particle (FP) grade polymers were developed to improve the performance characteristics of ETHOCEL™ when used with dry particles without using an organic solvent. Internal studies show that particle size and concentration of a hydrophobic excipient such as ETHOCEL™ FP are determining factors in the formulation of direct compression controlled release matrix formulations. These polymers also can be used to enhance controlled release of oily active ingredients, improve stability of an active pharmaceutical ingredient, and in viscosity modification.

**NO MATTER WHAT PROCESS YOU USE, LET US HELP**

The preparation of controlled release tablets using our polymers is most easily accomplished through direct compression. When this manufacturing process is not feasible for a formulation, then wet and dry granulation technologies are a good choice for providing better product flow on tablet presses, overall improved tablet physical characteristics, uniform drug content within the dosage form, and fewer industrial hygiene constraints. Wet granulation processes include low-shear, high-shear, and fluid-bed processes. And internal research shows that drug release is not influenced by the method of tablet manufacturing (wet granulation vs. direct compression) or the level of water used during wet massing of the granulation.
A TRULY GLOBAL OFFERING WITH OUR COLORCON ALLIANCE

The global pharmaceutical industry is demanding ever-faster development and more efficient production of drug ingredients. We’ve addressed this through an alliance with Colorcon for the global marketing, sales, technical service and distribution of these METHOCEL™, ETHOCEL™ and POLYOX™ pharmaceutical excipient products for use in controlled release applications.

This alliance allows Dow Wolff Cellulosics to address customer needs for value-added service throughout the world in controlled release applications. It frees intellectual capital and people resources to develop improved and new technologies to enhance performance during pharmaceutical manufacturing, distribution and use.