

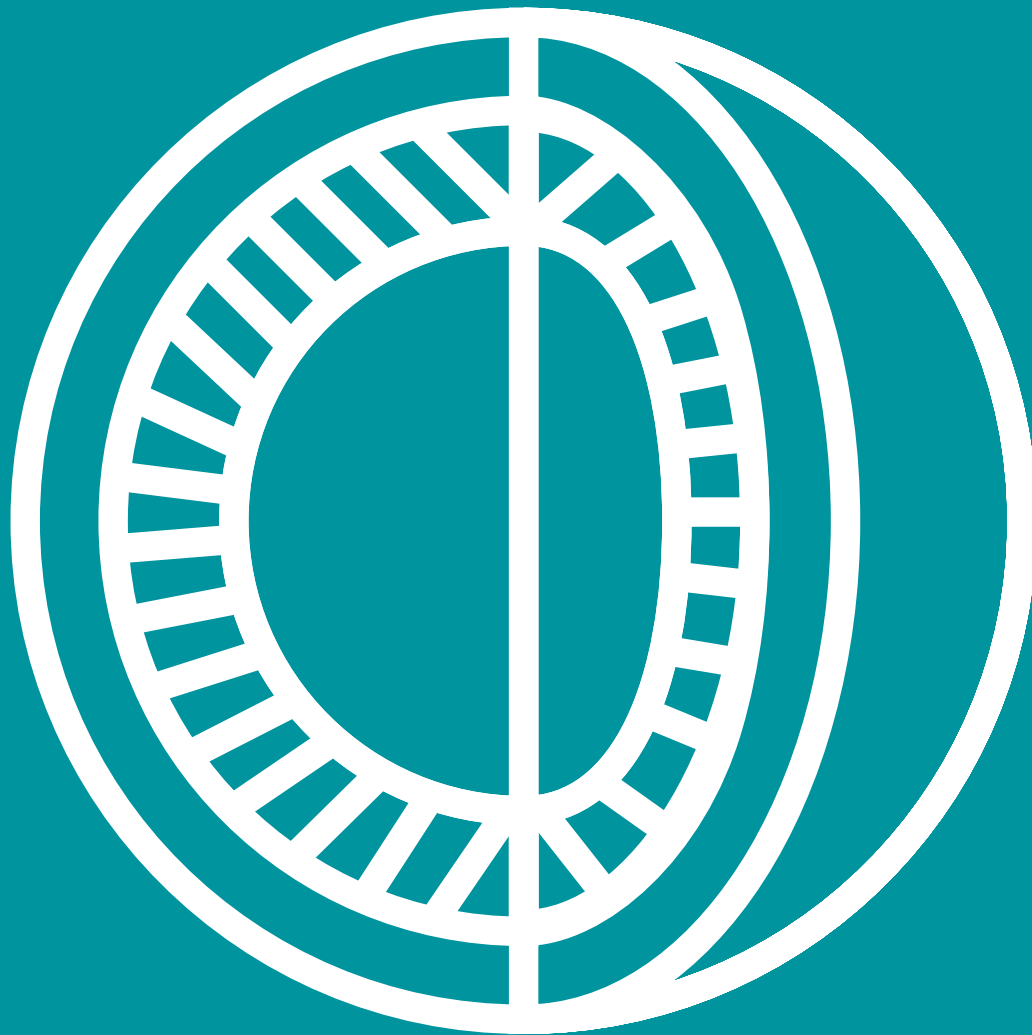
Nutrition & Biosciences



Pharma Solutions

Aquacoat® ECD User's Guide

Sustained Release coating



Nutrition & Biosciences

Maximizing the benefits of Aquacoat® ECD

At DuPont, we aim to help our pharma customers with both every day challenges and future solutions. Armed with essential excipients and vital expertise, our broad portfolio is designed to deliver performance and cost advantages in various oral solid dosage forms.

Aquacoat® ECD is an aqueous colloidal dispersion of ethyl cellulose polymer. It is a hydrophobic material that can be used in moisture barrier and taste masking applications, and it has been used as a coating material for oral sustained release dosage forms since 1985¹. An aqueous dispersion of ethyl cellulose offers various processing advantages over organic ethyl cellulose solution, including reduced coating processing times, fewer environmental concerns, and the avoidance of potential toxicity related to residual solvent. In sustained release applications, Aquacoat® ECD offers a stable, reproducible, pH-independent release profile with similar dissolution profiles in the presence of fed and fasted gastric and intestinal media². Its primary release mechanism is drug diffusion across a water-insoluble membrane.

Presentation

In appearance, Aquacoat® ECD is a white to off-white liquid. Due to its nature as a pseudolatex system, the contents of Aquacoat® ECD may settle somewhat during transport or storage such that mixing of the product before testing and use is essential³. When adequately mixed, Aquacoat® ECD presents a smooth, uniform consistency.

Packaging and storage

Aquacoat® ECD is available for commercial use in 15KG and 50KG drum formats. Samples of Aquacoat® ECD can be obtained upon request.

Aquacoat® ECD is a temperature-sensitive material. It should not be exposed to freezing or near-freezing temperatures or at temperatures above 35°C. DuPont recommends storing Aquacoat® ECD at temperatures of around 20°C (scientific room temperature).

Aquacoat® ECD Benefits

VERSATILE

Easily adapts to use in controlled release, moisture barrier and taste masking applications

FLEXIBLE

Select the plasticizer that best fits your drug release profile target

STABLE

Batch-to-batch consistency and proven shelf life of 24 months

GLOBAL FORMULATION SUPPORT

Dedicated DuPont resources to develop your formulations and provide expert project-specific guidance in North America, Europe, India and Asia

REFERENCES

1. Frohoff-Hulsmann, M.A., Schmitz, A., Lippold, B.C.; Aqueous Ethyl Cellulose Dispersion Containing Plasticizers of Different Water-solubility and Hydroxypropyl Methylcellulose as Coating Material for Diffusion Pellets; International Journal of Pharmaceutics, 177 (1999) 69-82
2. Muschert, S., Siepmann, F., Leclercq, B., Carlin, B., Siepmann, B.; Simulated Food Effects on Drug Release from Ethyl Cellulose: PVA-PEG Graft Copolymer-coated Pellets; Drug Development and Industrial Pharmacy, 2010; 36(2): 173-179
3. Detailed mixing recommendations including methods and equipment can be obtained on request through your local DuPont office.



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