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\* = registered trademark

Eudragit = reg. trademark of  
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**Evonik. Power to create.**



## EUDRAGIT® FS 100 – Smart solubility

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# Smart solubility.

Solubility enhancement is increasingly a must. Many drugs currently on the market still show considerable potential for improvement in the two areas critical to bioavailability: solubility and permeability. The key to maximizing bioavailability is ensuring the API dissolves in the gastrointestinal tract.

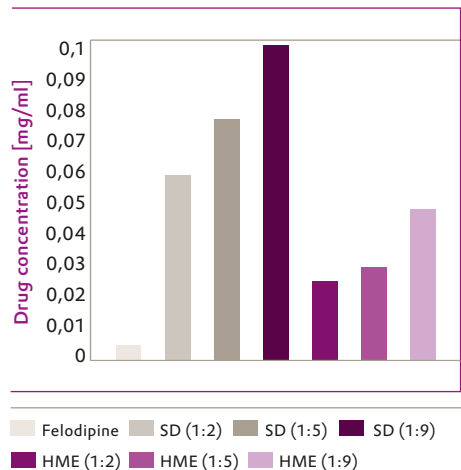
With its extensive expertise in pharmaceutical polymers and formulation development, Evonik achieves just that: by intertwining a poorly soluble API with an amorphous polymer carrier. The EUDRAGIT® family of pharmaceutical-grade polymers offers a range of properties and functionalities that opens an even wider spectrum of formulation possibilities.

Evonik focuses its highly diverse expertise on your specific solubility challenge.

EUDRAGIT® FS 100 was specifically designed to enhance solubility at the same time as targeting the colon and treating localized diseases, such as colon cancer and irritable bowel syndrome and delivery site specific APIs. The polymer is suitable for melt extrusion (HME) and spray drying.

Comprehensive regulatory documentation and safety data packages are available.

**Figure 1: Saturation solubility study**



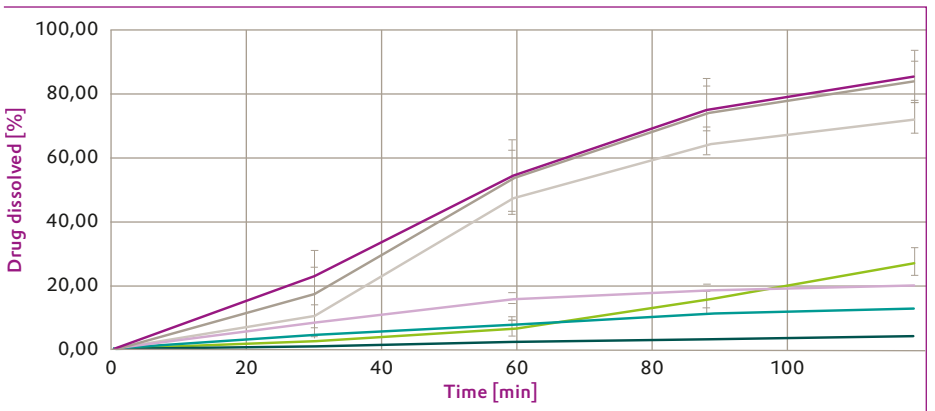
# Safe. Versatile. Proven.

## Key properties:

- Excellent solubility enhancement
- Outstanding thermoplastic properties
- High miscibility with APIs and other excipients
- Reliable batch-to-batch consistency as fully synthetic polymers
- Solubility in common solvents
- Solubility in intestinal conditions
- Ability to form hydrogen bonds and/or ionic interactions for additional tailored effects
- Excellent processability
- Optimal glass transition temperature ( $T_g$ ) of 50°C

## Solubility enhancement of solid dispersions with EUDRAGIT® FS 100

Figure 2: Comparative dissolution test in phosphate buffer pH 7.4 with 0.02% SLS



- Felodipine API
- Felodipine: EUDRAGIT® FS 100 :: 1:5 [physical mixture]
- Felodipine: EUDRAGIT® FS 100 :: 1:9 [physical mixture]
- Formulation 5 [melt extruded]
- Formulation 3 [spray dried]
- Formulation 6 [melt extruded]
- Formulation 2 [spray dried]