

Aspiro™

EOR Polymers and Surfactants



 **BASF**
We create chemistry

Aspiro™ – Products for Enhanced Oil Recovery

BASF, as the world's leading chemical company, offers a broad range of products which are widely used in the oil and gas industry today. We combine a long tradition in polymer and surfactant manufacture with expertise in innovating novel solutions for unmet market challenges.

In our dedicated application laboratories we develop cost effective chemical solutions for Enhanced Oil Recovery (EOR).

BASF's leading position is based on world scale manufacturing capabilities, our global presence, a strong innovation platform, our commitment to community and sustainability, and our focus on meeting customer needs.

We take advantage of our broad product portfolio as well as our dedicated EOR laboratories to provide our customers with the right solution.

BASF combines expertise in polymers and surfactants by offering its broad range of **Aspiro™** products, designed to support enhanced oil recovery operations in a large variety of field conditions, including more challenging and previously untapped reservoirs.

Discover your possibilities with BASF.





BASF combines expertise in polymers and surfactants



Aspiro™ P – EOR Polymers

Aspiro™ P represent synthetic, water soluble polymers for enhanced oil recovery which are based on well established polyacrylamide technology.

The **Aspiro™ P 4** series are partially hydrolyzed polyacrylamides of varying molecular weight and/or degree of anionicity. They provide a cost efficient solution for mild field conditions. Incorporation of stabilizers extends the application window of such polymers to up to 85 °C.

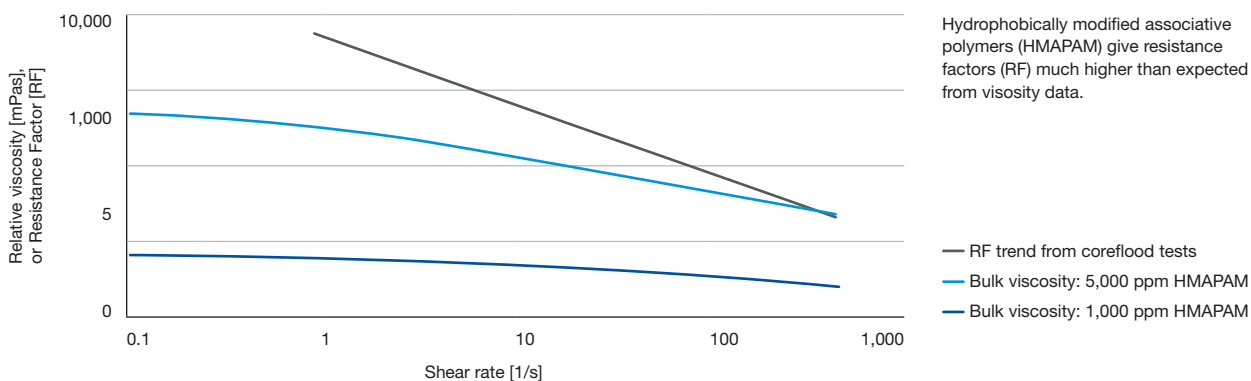
The **Aspiro™ P 5** series are sulfonated polyacrylamides. They allow for use at harsher conditions up to 95 °C.

Associative thickening polyacrylamides are the next generation technology designed to provide tolerance to extreme salinity and hardness while also producing higher mobility control with lower dosage than standard polymers (**Aspiro™ P 6** series).

- Standard polymers for mild field conditions
- Innovative polymers for high mobility control at low dosage
- Innovative polymers for extreme salinities and hardness

Standard	Sulfonated	Associative
Aspiro™ P 4211	Aspiro™ P 5411	Aspiro™ P 6631
Aspiro™ P 4231	Aspiro™ P 5441 X	Aspiro™ P 6201
Aspiro™ P 4251	Aspiro™ P 5421	
Aspiro™ P 4261	Aspiro™ P 5451 X	

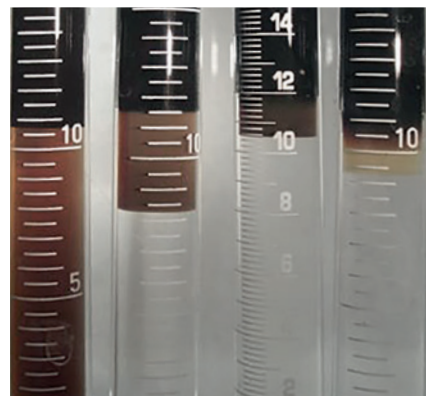
High mobility control with associative thickening polymers



Aspiro™ S – EOR Surfactants

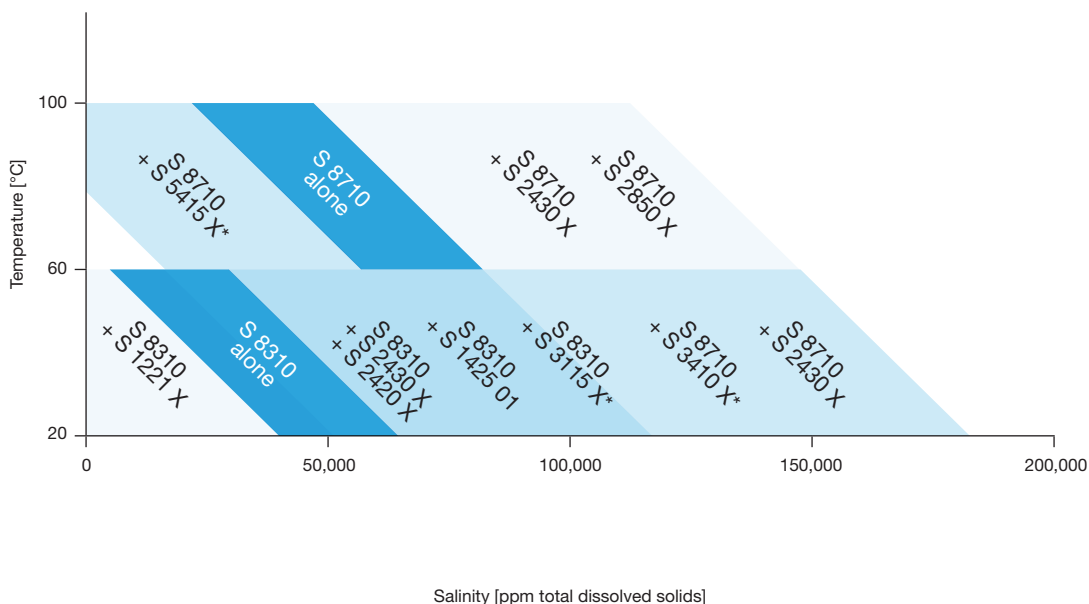
Aspiro™ S products cover a broad range of surfactants and cosurfactants dedicated to EOR applications. BASF can leverage extensive innovation and manufacturing platforms to offer a wide range of surfactants (e.g. nonionic, anionic). Our EOR labs in Houston/US and Ludwigshafen/Germany are able to develop surfactant formulations that are uniquely designed to meet your specific field conditions.

- ◆ Standard surfactants for mild field conditions
- ◆ Innovative solutions for demanding fields
- ◆ Laboratory support to develop field specific formulations



Formation of microemulsion phases at different salinities

Application range of Aspiro™ S products



Aspiro™ S 8310 works as single component system for various types of oil, even heavy oils at low dosage. Surfactant blends are available for a broad range of salinities.

Aspiro™ S 8710 expands surfactants application window beyond 60 °C, performing alone or in formulations for a large salinity spectrum.

Surfactants

Aspiro™ S 8310

Aspiro™ S 8710

Aspiro™ S 2420 X

Aspiro™ S 2410

Aspiro™ S 2465 X

Aspiro™ S 2455 X

Aspiro™ S 2850 X

Co-surfactants

Aspiro™ S 1310

Aspiro™ S 1425 01

Aspiro™ S 1221 X

Aspiro™ S 1415 X

Aspiro™ S 2425 X

Aspiro™ S 2430 X

Commercially available surfactants that provide customers with the right solution

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Fax: +1 877 2451806

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