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).

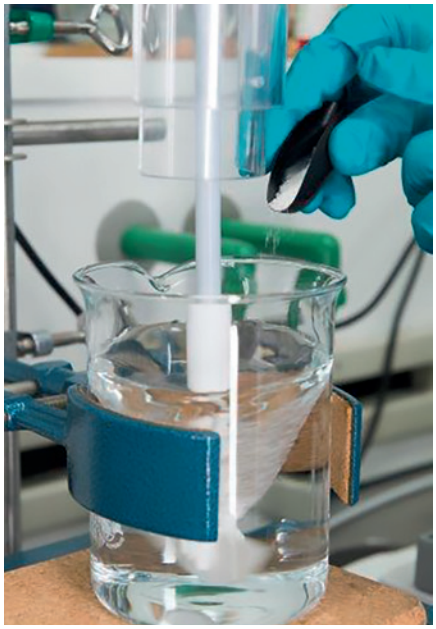
BASF's leading position is based on world scale manufacturing capabilities, our global presence, a strong innovation platform, our commitment to community and sustainability, and our focus on meeting customer needs.

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.

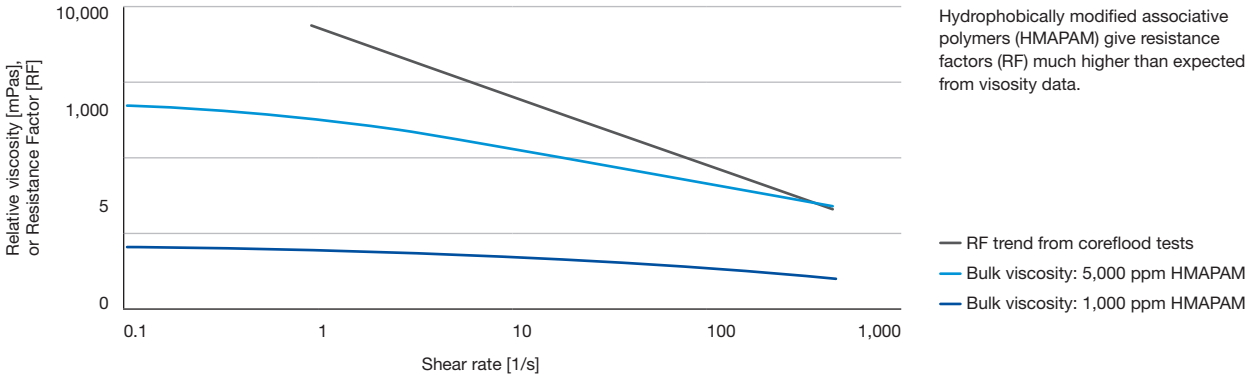
The **Aspiro™ P 5** series are sulfonated polyacrylamides. They allow for use at harsher conditions up to 95 °C.

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

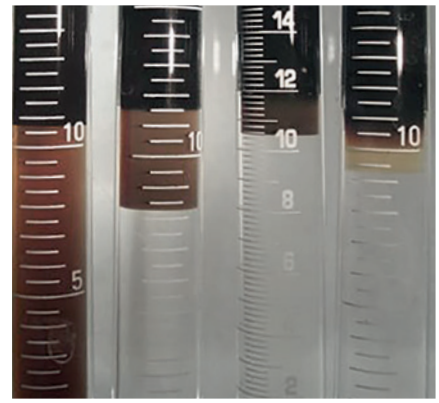


Hydrophobically modified associative polymers (HMAPAM) give resistance factors (RF) much higher than expected from visosity data.

Aspiro™ S – EOR Surfactants

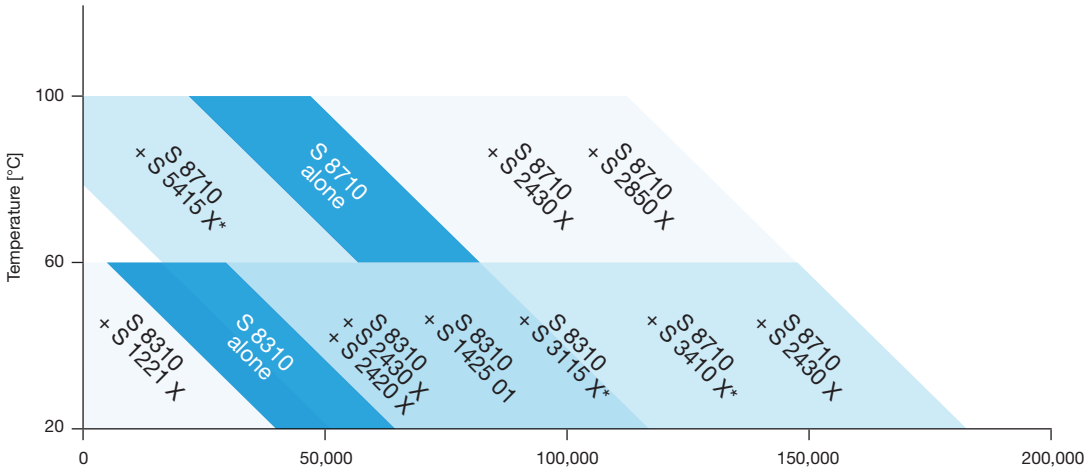
Aspiro™ S products cover a broad range of surfactants and cosurfactants dedicated to EOR applications. BASF can leverage extensive innovation and manufacturing platforms to offer a wide range of surfactants (e.g. nonionic, anionic). Our EOR labs in Houston / US and Ludwigshafen / Germany are able to 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



Salinity [ppm total dissolved solids]

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	Co-surfactants
Aspiro™ S 8310	Aspiro™ S 1310
Aspiro™ S 8710	Aspiro™ S 1425 01
Aspiro™ S 2420 X	Aspiro™ S 1221 X
Aspiro™ S 2410	Aspiro™ S 1415 X
Aspiro™ S 2465 X	Aspiro™ S 2425 X
Aspiro™ S 2455 X	Aspiro™ S 2430 X
Aspiro™ S 2850 X	

Commercially available surfactants that provide customers with the right solution

North America
BASF Corporation
Oilfield Solutions
3120 Hayes Road
Suite 200
Houston, TX 77082
US
Phone: +1 800 7941019
Fax: +1 877 2451806

Europe
BASF SE
Oilfield Solutions
G-EVG/EO – D 105
67056 Ludwigshafen
Germany
Phone: +49 621 60-0

Asia
BASF South East Asia Pte. Ltd.
Oilfield Solutions
33 Tuas Avenue 11,
Singapore 639090
Singapore
Phone: +65 6860 7053

South America
BASF S.A.
Oilfield Solutions
Avenida das Nações Unidas,
14.171 Morumbi
04794-000 São Paulo
Brazil
Phone: +55 11 2039-3482
Fax: +55 11 2039-2786

Middle East / North Africa
BASF Middle East LLC
Oilfield Solutions
P. O. Box 2996
Dubai
United Arab Emirates
Phone: +971 4 8072222
Fax: +971 4 8072149

For further information:
oilfieldsolutions@basf.com
www.oilfiels-solutions.basf.com

EVG1475e