

# Global Oilfield Solutions

Performance Chemicals  
for Production



 **BASF**  
We create chemistry

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# High Performance Chemicals for Production Services

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Imagine enhancing your engineering services with solutions from the world's leading chemical company. When it comes to production services, BASF offers one of the most comprehensive chemical portfolios in the industry.

Our proven strengths are innovative, sustainable solutions with consistent product quality. Best-in-class well site operations are essential for maximizing the recovery of oil and gas reserves while minimizing the impact on the environment. Specialty chemicals that impart unique capabilities and functionality are an integral part of this goal.

BASF provides a broad range of high-quality chemicals to help service companies meet their technical challenges in production services. By constantly improving the quality and reliability of our chemical solutions, we help service companies meet the industry's overall drive for greater efficiency and productivity.

## Performance Chemicals for production services

### Flow assurance

- Paraffin inhibitors/pour point depressants – help prevent precipitation of paraffin crystals
- Scale inhibitors – inhibit inorganic deposits
- Gas hydrate inhibitors – low dose kinetic gas hydrate inhibitors delay the formation of gas hydrate crystals; an economically sound alternative to alcohol or glycol injection

### Oil/water separation

- Demulsifier bases – help make efficient formulations that quickly separate produced water from oil
- Water clarifiers/deoilers – remove oil from produced water
- Defoamers – mitigate foam problems

### Asset integrity

- Corrosion inhibitors – protect steel parts for all production equipment and pipelines
- Cleaning agents – effectively remove organic deposits from all equipment parts
- Biocides – keep bacteria growth under control
- H<sub>2</sub>S scavengers – effectively reduce levels of toxic hydrogen sulfide (H<sub>2</sub>S) gas to meet safety standards and tight pipeline specifications



Discover your  
possibilities  
with BASF.



Production	Function	Chemistry	Recommended products
<b>Flow assurance</b>	Paraffin inhibitors/ Pour point depressants	Modified polycarboxylates Polyacrylate / Polyvinylester blends	Basoflux® PI types Basoflux® RD types
	Scale inhibitors	Polycarboxylates	Basoscale
	Low dose gas hydrate inhibitors	Vinylcaprolactam-based polymers	Luvicap® types
	Cleaning agents	Alcohol alkoxyates, alkylpolyglucosides	Basoclean, Basopon LGC
<b>Oil / Water separation</b>	Demulsifiers	Resin alkoxyates, amine alkoxyates, polyethyleneimine alkoxyates, ethyleneoxide-propyleneoxide block copolymers	Basorol® types
	Water clarifiers (Deoilers)	High molecular weight charged polymers	Alcomer® types, Basomin types, Basorol® types
<b>Asset integrity</b>	Corrosion inhibitors	Amine blends, ammonium derivatives	Basocorr™ types
	H <sub>2</sub> S scavengers	Glyoxal Triazine	Basolon® types
	Biocide	Glutaraldehyde	Myacide®, Protectol®

Please note that not all product versions and types may be available in all regions.

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# How BASF Performance Chemicals can contribute to improved oil and gas production

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## Flow assurance

Wax precipitation poses a major challenge to oil production. It can cause numerous issues such as decreased flow rates and even pipeline blockage. The **Basoflux™** portfolio comprises specialty products from different chemical classes. Injection of Basoflux™ either helps prevent plugging of production or transportation lines due to paraffin precipitation, or it is applied to improve rheological properties of highly viscous, paraffinic crudes.

Inorganic depositions of Ca, Ba, Sr or Fe salts can be prevented with BASF's powerful **Basoscale™** scale inhibitors based on polycarboxylic chemistry. In addition, once the deposition has already occurred, BASF can offer **Basosolve™** products that help dissolve these deposits.

In offshore operations, gas hydrates can be a threat to gas production. Kinetic gas hydrate inhibitors (KHI) play a growing role in preventing these gas hydrates. They are effective at low dosages and provide a sound alternative to alcohol or glycol injection. BASF's **Luvicap®** portfolio prevents hydrate formation up to sub-cooling temperatures of about 10°C.

## Oil/water separation

Separating oil from water can be very time critical because of residence time, especially on offshore platforms. In addition, the separation process onshore must be optimized and therefore needs effective demulsifiers. BASF offers more than 40 demulsifier bases from a variety of different chemical classes to help our customers make efficient and tailor-made formulations.

The demulsifier bases of the **Basorol®** portfolio are especially designed for specific properties: fast water dropping, excellent overall treatment and dehydrating/desalting.

For removing residual oil in produced water, BASF offers a range of water clarifiers (deoilers). Based on different chemistries, the products work by different mechanisms: flocculation and/or coagulation. **Basomin™ SK** and **Alcomer® 7109** are coagulants whereas **Alcomer® 216** works as a flocculant.

Basorol® demulsifier bases help make efficient and tailor-made formulations.





## Asset integrity

Corrosion is a large cost factor for the oilfield industry. Corrosion inhibitors are mostly complex, tailor-made formulations for individual corrosion problems. BASF's **Basocorr™** products are key components to address a larger variety of corrosion environments.

Cleaning contaminated equipment is often a challenge. Here, BASF's cleaning products are efficient solutions. Wherever environmentally advanced products are needed, **Basoclean™** is a powerful surfactant based on nonionic chemistry for the removal of organic deposits.

Sulfate reducing bacteria (SRB) are one source of reservoir souring. Biocides are mainly used to prevent extensive growth of these bacteria. BASF offers the **Protectol®/Myacide®** portfolio to manage and suppress this prevalent microbial issue.

Achieving low concentrations of  $H_2S$  in oil and gas production is essential for many operators. The amount of  $H_2S$  present in the field will dictate the method of removal, but high capital expenditure is usually not justified for smaller fields. Here, chemical methods are dominant. BASF offers efficient  $H_2S$  scavengers for this challenge under the tradename **Basolon™**.



A portfolio to meet your customer's expectations on reliable flow assurance, efficient oil/water separation and long-term asset integrity.

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