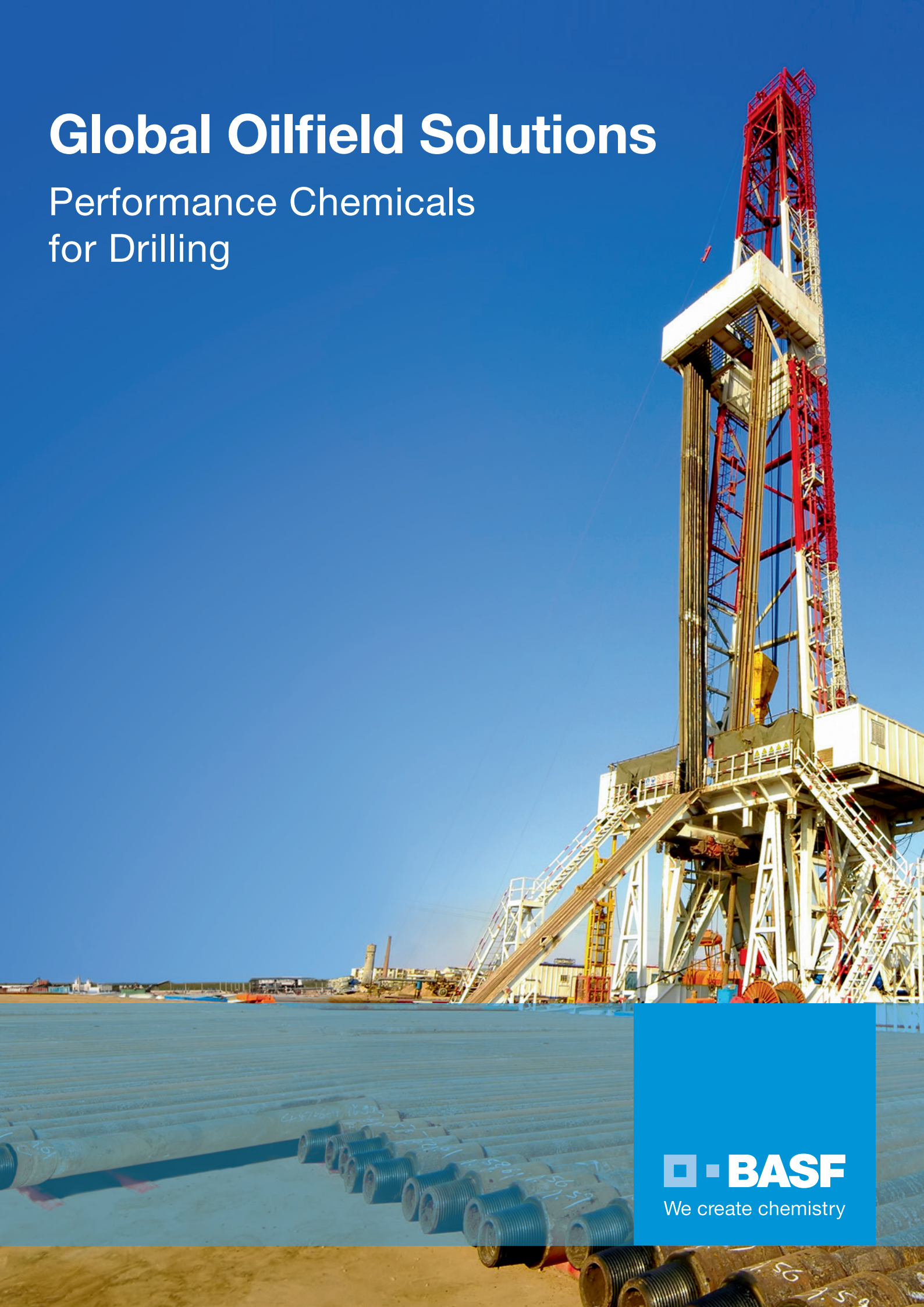


Global Oilfield Solutions

Performance Chemicals
for Drilling



 **BASF**
We create chemistry

High-Performance Chemicals for Drilling

Imagine enhancing your engineering services with solutions from the world's leading chemical company. When it comes to drilling, BASF offers a strong chemical portfolio that helps our customer to innovate.

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 drilling. 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.



Drilling	Function	Chemistry	Recommended products
	Bentonite extenders	Polyacrylate, sodium salt	Alcomer® 180 Alcomer® 1771
	Biocides	Glutaraldehyde	Protectol® GA types Myacide® GA types
	Dewatering Additives	Polyacrylamide-based polymers PolyDADMAC Polyamine	Alcomer® 24 UK Alcomer® 80 types Alcomer® 90 types Alcomer® 700 types Alcomer® 7100 types Alcomer® 800 types
	Fluid loss additives	Sulfonated polymer Polyacrylamide-based polymers	Polydrill® Alcomer® 242 Alcomer® 507
	Shale control	Polyacrylamide-based polymer Glycols	Alcomer® 60RD Alcomer® 110RD Alcomer® 115 Alcomer® 120 types Basodrill types
	Thinners	Sulfonated polymer Polyacrylate based polymers	Polythin® Alcomer® 74 L
	Viscosifiers	Attapulgit Polyacrylamide-based polymers Mixed metal hydroxide	DC-150 Alcomer® 274 Polyvis® II
	Filter cake removal	Alpha-amylase enzyme	Eradicake® alpha-amylase

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

Drilling Portfolio

High-Performance Chemicals for Drilling and Completion Fluids

We offer a broad portfolio of specialty chemicals designed to support and enhance the drilling process. The focus is on high-performance, temperature stable and contamination tolerant products for drilling fluid systems. Many of our products are designed to control the flow behavior of the drilling fluid (viscosifiers and thinners). Other additives are designed to minimize the loss of water from the drilling fluid to the formation (fluid loss additives) or prevent shale from swelling (shale control).

The comprehensive BASF portfolio also includes other necessary additives such as lubricants, biocides, defoamers and emulsifiers. After a successful drilling job, BASF's flocculants are used to clean up spent drilling fluid and the waste mud pits. BASF's efficient cleaning agents do the same for drilling equipment.

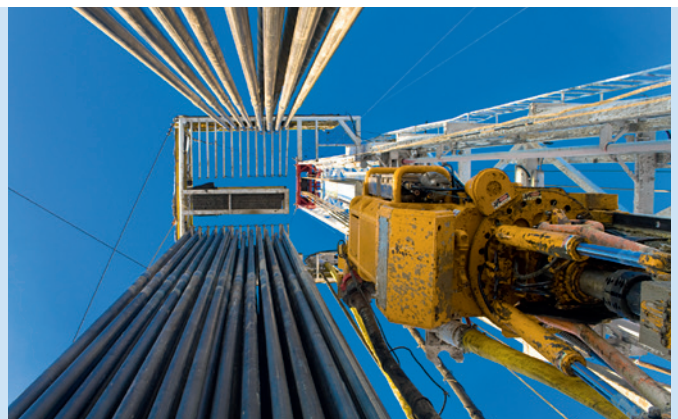
About Drilling

Drilling fluids are used to transport the cuttings to the surface. After preparation of the fluid, the drilling mud is pumped into the drill string. Downhole, the drilling fluid leaves the drill bit through nozzles, cooling and lubricating the bit. Then, the fluid rises in the annulus, carrying the cuttings upwards. Above surface, the drilling fluid is processed, refined and reused for as long as its technical properties can be maintained.

The drilling fluid has other important tasks including hydrostatic protection of the wellbore against collapse and prevention of formation fluid influx into the well. Additionally, through formation of a filtercake at the borehole wall, the fluid has to minimize the loss of water to the geological formation. If water loss is uncontrolled, control of the well while drilling may be compromised and subject to undue risk.

Drilling fluids are characterized by shear thinning flow behavior and – at rest – by gel formation. This is of special importance when the circulation of the fluid must be stopped, e.g., to add further drill strings or to change the drill bit. In these situations the drilling fluid, which was thin and easily pumpable, has to thicken instantly to keep the drill cuttings in suspension.

Discover your possibilities with BASF.





How BASF Oilfield Solutions can contribute to a successful job

Our drilling fluid additives are high-performance, temperature-stable and contamination-tolerant products for a variety of drilling fluid systems. They control the flow behavior of drilling fluids by thinning or providing viscosity. In addition, they minimize fluid loss.

BASF's **Alcomer**[®] range covers most drilling fluid additives. These function as shale control, thinners, viscosifiers, bentonite extenders and fluid loss additives and satisfy the main demands for a successful drilling job. The **Alcomer**[®] range includes a wide variety of product forms including solid grades in both bead and powder form, liquid dispersion, and liquid inverse emulsion, to enable optimal field use.

Alcomer[®] 1771 is a microbead polymer used as a bentonite extender in low-solids, non-dispersed fluids. It is excellent as an in-field extending agent with superior solubility and generates quick viscosity with minimal bentonite addition.

Polydrill[®] is a fluid loss additive and the flagship of our broad range of products for drilling muds. The product is characterized by a unique combination of properties. As a fluid loss polymer, it is temperature stable to more than 200 °C/400 °F.

This qualifies Polydrill[®] for use in the deepest wells currently being drilled. In addition, it is extremely tolerant of contamination by various salts and other chemicals, and in contrast to most competitive products, Polydrill[®] behaves rheologically neutral, i.e., does not act as a viscosifier. Polydrill[®] reduces the number of stuck pipe incidents and also shows deflocculating properties.

Polythin[®] is a temperature-stable deflocculant, i.e., it prevents the high temperature gelation of aqueous clay suspensions. Gelation is extremely problematic in the drilling process, and can start at 120 °C/250 °F, but has to be inhibited up to temperatures of 500 °C/930 °F.



BASF drilling fluid additives are high-performance, temperature-stable and contamination-tolerant products for a variety of drilling fluid systems.

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 **BASF**
We create chemistry

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