

OILFIELD CHEMICALS

Versalis e[®]

**OIL & GAS
PRODUCTION**



versalis

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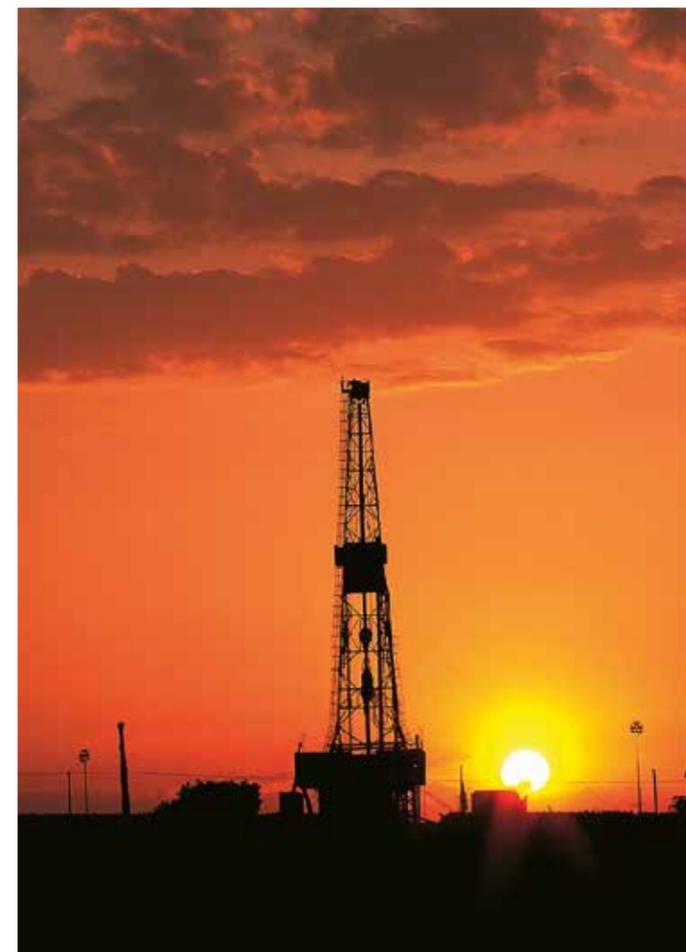
OIL & GAS PRODUCTION

INTRODUCTION

Versalis e[®] is a dedicated product portfolio and range of specialized technical services developed by Versalis to meet our customers' high expectations for environmental protection, reliable flow assurance, efficient oil/water separation and long-term asset integrity.

In order to adapt to the deep changes in the world of energy and to meet global demands, the oil and gas industry is exploring and implementing the widest range ever of diverse extraction methods, in the ongoing development of both established and new hydrocarbon reserves. As existing fields mature, and unconventional ones are discovered and implemented, new issues arise for every player in the industry.

Versalis believes that a combination of tailored approach, best-in-class chemical products and specialized technical service operations is essential to maximize extraction from oil and gas reserves, while minimizing the impact on the environment and reducing costs. The Versalis e[®] production chemicals line was designed exactly with that combination in mind.



Versalis e® product range

Flow assurance

One of the major challenges in oil production is wax precipitation. The Versalis e® portfolio comprises dedicated products with pour point depressants (**Versalis e® - pour**) and paraffin dispersant effect (**Versalis e® - padi**), which help prevent paraffin precipitation that may plug production or transportation lines and can improve the rheological properties of highly viscous, paraffinic crudes. Certain crude oils form solid asphaltene deposits during production. These deposits may plug the wellbore tubing and valves, coat the safety surface and process-control equipment, or accumulate in separators and pipelines. The **Versalis e® - asph** product line can be used to prevent asphaltene precipitation, either with continuous injection into pipelined crude or with injection immediately before mixing asphaltene into incompatible oils or with condensate fraction. Gas hydrates can cause risers, subsea wellheads and surface transportation lines to plug. **Versalis e® - idra** comprises low dosage hydrate inhibitors, both anti-agglomerant and kinetic hydrate inhibitors, in addition to common thermodynamic inhibitors like methanol and MEG. Inorganic salts (Ca, Ba, Sr or Fe) deposits can be effectively prevented with products in the **Versalis e® - scin** line.

Oil/water separation

Oil and water demulsification is one of the hardest tasks in onshore and offshore plants. As various reasons can cause issues (process residence time, construction type, contaminants etc.), troubleshooting with tailored demulsifiers is the most effective approach. **The Versalis e® - embr** product line, with its on-demand, tailor-made modifications, targets customers' specific needs in the emulsion treating process, and increases production efficiency and above all improves the resulting water treatment. Anti-foamer: suppressing foam is a vital requirement in topside production processes. In oil/water/gas separators, glycol washing towers, or any equipment that has to do with turbulent water, foam can cause severe issues. The **Versalis e® - anfo** series provides products designed to prevent or solve the tendency for foam formation.

Asset integrity and water flooding management

The largest cost factor in the oilfield industry is corrosion. **The Versalis e® - cori** product line provides final users with a range of corrosion inhibitors (mostly complex), as well as tailor-made formulations for individual corrosion problems that interest a large variety of corrosion environments. **The Versalis e® - bioc, Versalis e® - H2Sc and Versalis e® - oxsc** product lines can assure the right biocide and H2S/O2 scavenger treatments are implemented, in order to avoid any microbial-induced corrosion (MIC) or sour corrosion damage. **The Versalis e® - solv and Versalis e® - dete** product lines are efficient solutions for the challenge of cleaning dirty equipment, especially when seeking environmentally advanced and low impact alternatives, low foaming.

Auxiliary chemical

A wide range of auxiliary chemicals is available for boilers and reverse osmosis treatments, in addition to products for dehydration and sweetening units.

PRODUCT CLASS NAME	DESCRIPTION AND INFORMATION
Versalis e® - asph	Asphaltene treatment agent to avoid, control and/or limit deposits
Versalis e® - bioc	Treatment to avoid the formation of biofilm
Versalis e® - cori	Inhibition agent used to prevent corrosion
Versalis e® - foam	Foaming agent for wells and pipelines deliquification
Versalis e® - anfo	Defoaming treatment agent preventing and resolving foaming
Versalis e® - embr	Emulsion treatment agent used to prevent and resolve various types of emulsion
Versalis e® - padi	Treatment agent preventing and avoiding wax deposits
Versalis e® - pour	Treatment agent acting as pour point depressant and contributing to fine restartability
Versalis e® - drag	Treatment agent acting as drag reducer It allows to pump through the fluids at lower pressure drop
Versalis e® - scin	Anti-scales treatment agent preventing scales formation/deposits
Versalis e® - idra	THI (methanol and MEG) and LDHI (AA and KHI) preventing hydrate formation and related plugging/damage
Versalis e® - H2Sc	Hydrogen sulfide scavenger for HSE risk mitigation and sour corrosion prevention
Versalis e® - oxsc	Oxygen scavenger for corrosion and microbiological proliferation prevention
Versalis e® - solv	Cleaning treatment agent for the removal of various deposits
Versalis e® - dete	Organic or water based solvent
Auxiliary chemicals	A dedicated set of products for plant utilities, treatments, maintenance and cleaning

SPECIAL FEATURES

Deep water product range

Specifically designed deep water and ultra-deep water production chemicals for extremely challenging environments. All chemicals comply with the recommendations of API 17 TR6 "Attributes of Production Chemicals in Subsea Production Systems" and with specific test protocols for each kind of product and field.

Environmental certifications

In order to reduce the environmental impact of its products as much as possible, Versalis is continuously developing new formulations to decrease toxicity and improve biodegradability. In the case of specific environmental requirements, Versalis provides formulas in compliance with the laws or protocols applied locally (i.e. CEFAS certification based on HOCNF according to OSPAR recommendation). This approach produces a positive effect on transportation and handling, as well as operators' health.

Versalis e[®] product range

Versalis, Eni's chemical company, has been leading the market in a number of fields, such as plastics and rubbers, and has recently been focusing on bio-based businesses. The company holds market stewardship in manufacturing intermediates, polyethylene, styrenics, and elastomers.

With a strong expertise in developing tailored formulations for troubleshooting and problem solving, and by constantly improving the quality and reliability of its chemical solutions, Versalis helps customers respond to the industry's overall drive for greater efficiency and productivity.

Versalis provides not only a broad range of high-quality chemicals, but also the specialized technical services associated with them, enabling companies operating in the oil and gas industry to meet their challenges in production.

To expand its presence on a global scale, Versalis has developed an internationalization process focused on making the most of all possible opportunities, in order to create synergies while still maintaining constant commitment towards quality and sustainable development, for the environment and the communities that live near our plants.





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