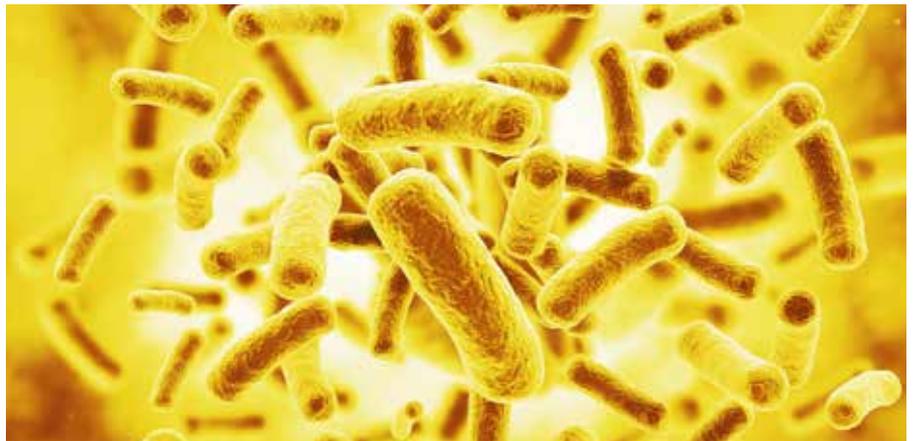


FACT SHEET

# OILFIELD MICROBIOLOGY

Protecting your assets from microbiologically influenced corrosion

Applying oilfield microbiology is crucial to the success of oil and gas projects. The intricacies of microbiological life and its myriad permutations mean that an ongoing challenge exists to understand, monitor and mitigate its negative effects.



## Oilfield Microbiology

Intertek's oilfield microbiology services are designed to safeguard your assets. From microbiologically influenced corrosion (MIC), analysis of pigging returns, reservoir souring prediction and mitigation, microbial growth media, biocide and chemical testing and offshore water and legionella management to microbiological surveys, research and development and training, Intertek experts present clear, concise explanations of microbiological activity in the oilfield.

Microorganisms are ubiquitous on the earth's surface and in the earth's crust. The impact of microbial activity on the global oil and gas industry is significant and wide-reaching, and presents the industry with both challenges and opportunities.

## Challenges and Opportunities

The introduction of sulphate-reducing bacteria or nutrients into oil or gas reservoirs during field operations such as drilling, fracturing or water injection can cause MIC, reservoir souring and plugging of the formation or production facilities by biological material. Microbial Enhanced Oil Recovery (MEOR) holds the promise of increased production from mature fields, and methanogenesis offers the possibility of gas production from immobile hydrocarbons.

MIC is a potentially catastrophic result of unchecked bacterial activity and can seriously compromise the integrity of materials and important infrastructure.

Reservoir souring also has the potential to jeopardise oil and gas projects and understanding its mechanics is key to mitigating risks such as diminished oil quality and the toxic effects of hydrogen sulfide.

Biological sulfide production in sweet oil and gas reservoirs causes a host of problems including permeability impairment in production and injection wells, fouling of production and injection facilities and wells, souring of produced fluids and increased corrosion.

The impact of reservoir souring is significant and includes decreased revenue and increased processing costs as well as raised health, safety and environmental risks. Maintenance and equipment upgrading costs can also occur as increasingly sour fluids are produced from facilities designed for sweet oil or gas.

Further microbiological challenges are presented by the maintenance of offshore health and hygiene. Potable water testing and the undertaking of legionella risk assessments, which is required by law, are measures necessary to safeguard employee well-being.

Biogenic gas reservoirs augment the production of natural gas and are opportunities for increased production using petroleum microbiology.



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**Through decades of innovation and the development of new technologies, Intertek has established a global reputation for delivering trusted and reliable oilfield microbiology services. With centres of excellence and cutting-edge laboratories around the world, our specialists and facilities are strategically placed to meet the needs of the oil and gas industry.**

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#### **Intertek Services and Solutions**

To investigate, discuss and address your oilfield microbiology needs, you need an experienced, reliable partner to offer world-class knowledge and support in both onshore and offshore environments.

Through decades of experience and independent research and development, Intertek provides a complete range of oilfield microbiology solutions designed to comply with legislation and best practice.

Intertek's microbiologists, chemists, geologists and engineers are experts in their fields, possessing capabilities in areas such as modelling, risk assessments and the development of efficient management programmes.

#### **Our services include:**

- Field sampling
- Water Injection systems evaluations
- Reservoir souring studies
- Corrosion monitoring programmes
  - Biocide evaluation and efficacy
- Biofilm studies
- MIC studies
- Hydrotesting, wet lay-up and mothballing
- Analysis of pipeline pigging returns
- Molecular microbiology
- Treatment regimes
- Specialised training in oilfield microbiology
- Products
  - Growth Media for Quantification of Corrosion-Associated Microbes
  - Sidestream® Biofilm Monitors

#### **FOR MORE INFORMATION**



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