



SOUTHWEST RESEARCH INSTITUTE



Fuels, Lubricants and Oilfield Microbiology

Southwest Research Institute® (SwRI®) has more than 30 years of experience in advanced, alternative and conventional fuels science and engineering. In support of these technologies, the Chemical Engineering Department provides clients the full range of microbiology services needed to enumerate and identify microorganisms encountered in fuels, fuel storage systems and fuel pipelines, and those associated with corrosion problems in oilfield pipelines. We determine if biocides are effective for specified applications.

Capabilities

Downstream

- Enumeration of microorganisms in liquid fuels and oils
- Measurement of microbiological activity in fuels, fuel/water mixtures, fuel-associated water and hydraulic fracturing fluids
- Determination of microbiological content in aviation fuels, biofuels and alternative fuel systems
- Sampling and determination of microbiologically influenced corrosion (MIC) in pipelines
- Identification of microorganisms causing problems

Midstream

- Determination of corruption of storage and transportation systems and components by microbiological fouling
- Sampling for and characterizing pipelines and transportation systems for the presence of MIC
- Identification of microorganisms involved in midstream microbiology-based problems

Upstream

- Determination of effectiveness of biocides used in hydraulic fracturing exploration and production processes
- Enumeration and identification of microbial populations in downhole systems using conventional and molecular biology methods
- Cultivation of strictly anaerobic microorganisms common to exploration and production systems

Facilities

- BSL-2 laboratory with BSL-2 Class II biosafety cabinets
- Reactors and process equipment
- Coy anaerobic chamber
- Analytical laboratories
 - inorganic and organic

Technical Staff

- Microbiologists
- Biochemists
- Bioengineers
- Chemists
- Chemical engineers
- Technicians



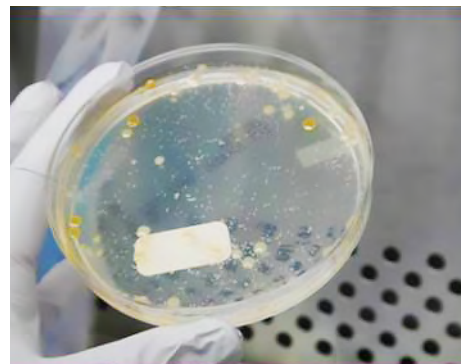
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Filter collection of microorganisms present in diesel fuel



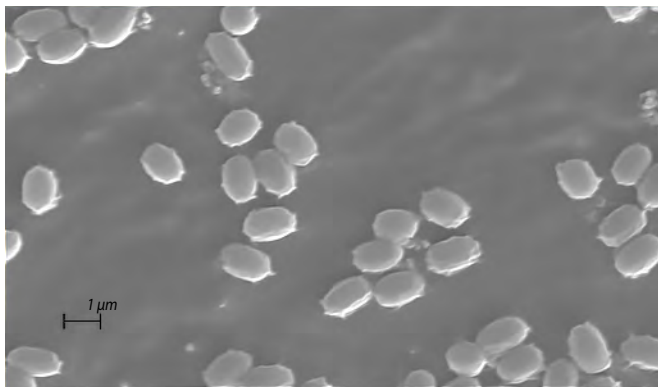
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Cultivation of strictly anaerobic microorganisms



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Microorganisms isolated from aviation fuel



Scanning electron micrograph of bacterial spores obtained from environmental sample



Placement of membrane filter containing microorganisms onto growth medium



The Microbiology Laboratory supports the International Alternative Fuels Technology Center for advanced biofuels research. The lab is capable of ASTM biodegradability testing, biotreatability testing, R&D for biofuels from algae, cellulose and starch, and much more.

**We welcome your inquiries.
For more information, please contact:**

James Wood
Principal Scientist
210.522.6768
james.wood@swri.org

Chemistry and Chemical Engineering Division
Chemical Engineering Department



chemeng.swri.org

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SOUTHWEST RESEARCH INSTITUTE®

Southwest Research Institute® is a premier independent, nonprofit research and development organization. With eleven technical divisions, we offer multidisciplinary services leveraging advanced science and applied technologies. Since 1947, we have provided solutions for some of the world's most challenging scientific and engineering problems.

210.522.2122
ask@swri.org

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