

Tigerzyme® 22-E Enzyme Fluid

Tigerzyme® 22-E is an aqueous, non-hazardous enzyme fluid designed to improve oil production in mature producing wells. Tigerzyme® 22-E reduces the interfacial tension (IFT) at the water-oil interface improving flow ability, water wets the near wellbore reservoir matrix and reduces the viscosity of the oil by cleaving carbon-nitrogen bonds in the petroleum molecule.

Tigerzyme® 22-E is a proprietary, cost effective enzyme surfactant fluid that is normally diluted to 5-10% concentration, then pumped downhole – usually with minimal equipment requirements to pump.



Tigerzyme

Physical / Chemical Characteristics

- pH: Approximate 7.0 – 9.0
- Boiling Point: 100 deg C (210 deg F)
- Specific Gravity 0.98 – 1.05
- Vapor Pressure 17.5 mg Hg @80 deg F
- Evaporation Rate: <1 (butyl/acetate)=1)
- Solubility in Water: Dispersible
- Appearance and Odor: Thin transparent liquid

Applications

- Oil wells with declining production
- Wells with positive skin or other near wellbore blockage
- Well treatments to improve relative permeability
- Wells with bottom hole temperatures up to 200 degrees F
- Stripper wells or marginal oil wells

Benefits

- Reduces Interfacial Tension
- Reduction in oil viscosity
- “Water wets” reservoir rock
- Cost effective treatments

Features

- Non-Hazardous
- Biodegradable
- Environmentally friendly
- “Cleaves” C-N bonds in petroleum molecule



Pumper truck with diluted enzyme fluid followed by water truck to displace enzyme fluid into formation. (Chavez Co., NM)



Small treatment in Frio County, TX

Tigerzyme® Test Results – Berea Sandstone Core Flood

Jumpstart worked with a local manufacturer to do initial screening of different base formulations utilizing their in-house proprietary enzyme surfactant technology as a base. We selected the two best performing formulas at releasing a Powder River Basin Minnelusa 19 degree API gravity oil from frac sand. We then did basic core flood tests at PTS Laboratories, Inc. (Houston, TX.). Tigerzyme 22-E clearly released more oil post-waterflood than either of the other two products tested (including another competitive product) for both 5% and 2% concentration levels. To view the demonstration video, visit our website at www.jumpstartenergyservices.com under “Technology: Test Data” for complete reports.

- 5 % Tigerzyme® 22-E Core Flood Summary (See website for Final Report – April 2010.*)
- 2% Tigerzyme® 22-E Core Flood Summary (See website for Final Report – May 2010.*)

** There are some differences in cores used between the 5% and 2% tests, but the overall results correlate.*

Heavy Oil – Tigerzyme® Exposure Testing

This Intertek report looked at properties of a 13.8 degree API gravity oil sample from shallow heavy oil in the Midwest when exposed to Tigerzyme 22-E at 180 degrees F. This report showed excellent reduction of viscosity, interfacial tension (IFT) and an increase in API gravity of the oil. Visit us at www.jumpstartenergyservices.com for complete details.

Let us know how we can help your production!



Treating a well in Waller Co., TX.



Offloading enzyme fluid into a truck in Chaves Co., NM.



John Monica, VP Engineering on-site in Medina Co., TX



John Gray, President, with Tigerzyme® 22-E drums

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