

# Zymol Flow

Environmentally friendly biosurfactant near wellbore remediation treatment to remove organics/paraffin build-up and restore production

Zymol Flow, part of Tendeka's range of environmentally friendly biosurfactants is a highly effective paraffin remover.

Paraffin build-up in production tubing can significantly impair deliverability of a well, whether it be most basic concept of a restriction to the available flowing area or the increase in surface roughness associated with even the thinnest of deposition. Paraffin can have severely detrimental effect on the production potential of specific reservoir never mind effects to moving parts.

Zymol Flow, is an easy to handle, non-caustic, naturally derived biosurfactant with the combined capability of treating the well and the formation in the near wellbore area by removing organics/paraffin. With comparatively short soak times the effects of this can be seen rapidly, allowing wells to achieve near instant production gains.

Key characteristics of this environmentally friendly product is not just the effectiveness of the paraffin treatment, but also its engineered chemistry that ensures it cannot form corrosive bio-films post treatment or affect refinery processing.

As with all products within the Zymol range, when Zymol Flow is allowed to contact the formation, it reverts to a water wet state, this resulting improvement in oil & gas mobility ultimately adds to increases in production.

Zymol Flow is 100% bio-degradable and its low toxicity minimizes personnel handling risk, meaning an effective treatment can be achieved with minimal impact on operations.

## Features

- Dissolves organics/paraffins
- Water wetting surfactant
- Low toxicity and 100% biodegradable
- Non-bacterial
- Chemically stable

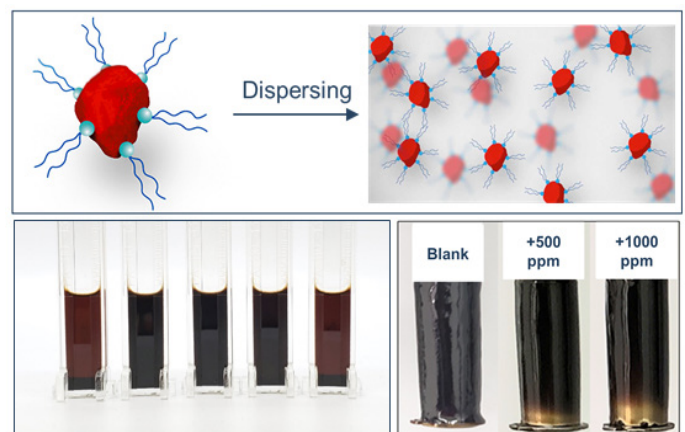
## Benefits

- Removes near wellbore restrictions caused by organics/paraffin build-up
- Changes the formation wettability to water wet, resulting in increased oil and gas production
- Environmentally sensitive and personnel friendly
- Zero risk of forming corrosive bio-films or impacting refinery processing
- Tolerant of high salinities and extreme bottom-hole temperatures



Before Zymol

After Zymol



Asphaltene stability test and cold finger wax deposition test confirm inhibition of wax and asphaltene deposition by using biosurfactants.

**Technical Specification**

pH	5.5 - 7.5	Mild to Neutral
Viscosity	1 - 2 cP (at 20°C)	Easy pumping
Static Surface Tension	28.0 - 35.0 mN/m	Reducing capillary pressure
Critical Micelle Concentration (CMC)	<50 ppm	Active even at low dosage
Interfacial Tension	<1 mN/m	Highly mobilizing oil
Contact Angle	5 - 40°	Highly water wetting
Thermal & Hydraulic Stability	Stable to 300°F	Longevity and sustained performance
Fluid Compatibility	Compatible with Oils and Brines	Non-emulsifying
HSE	Non-Hazardous	Sustainable & Biodegradable