

SAFE-BREAK 611

SAFE-BREAK 611 additive is a concentrated blend of surfactants and solvents designed to prevent emulsions or improve compatibility caused by the interaction of highly asphaltic crude oils and seawater, low-density completion brines and acidizing treatments. SAFE-BREAK 611 additive prevents or eliminates the sludge caused by the flocculation of asphaltenes and produces a clean, sharp interface between the water/oil phases. It is also effective in controlling reverse wettability or oil-wetting effects caused by strongly cationic surfactants. SAFE-BREAK 611 additive is soluble in seawater and low-density brines such as 2-3% KCl and 3% NH₄Cl.*

Typical Physical Properties

Physical appearance.....	Straw-colored liquid
Odor	Alcohol
pH (5% vol in IPA/water).....	5 - 6
Density	7.6 – 7.7 lb/gal (0.91 - 0.92 sg)
Flash point (TCC)	146°F (63°C)
Freeze point.....	<32°F (0°C)

Applications

The typical application of SAFE-BREAK 611 emulsion preventer ranges from 0.1 – 2.0% by volume in a filtered, low-density completion fluid or seawater. When used as an acid additive, concentrations up to 5% by volume may be required. If possible, compatibility between the specific crude oil and completion fluid should be established through laboratory pilot testing prior to applying the product in the field.

The optimum treatment concentration for SAFE-BREAK 611 is determined by considering several factors, including: its solubility in the brine, the rate at which the oil and brine phases separate, the condition of the oil-water interface and observing the crude oil/brine mixture for the presence or formation of a sludge and wettability of the brine phase.¹

If the opportunity to pilot test SAFE-BREAK 611 emulsion preventer does not exist, it should be applied at 0.5% by volume. In all applications, fluid returns should be monitored and the dosage adjusted accordingly.

¹SPE 39444 for details on laboratory procedures.

Advantages

- Prevents emulsions and improves compatibility between heavy crude and low-density completion fluids

Limitations

- Limited to low-density, monovalent completion fluids such as 2-3% KCl and 3% NH₄Cl due to solubility
- Only prevents emulsions
- This product will not act as a de-emulsifier and break an emulsion. It only works as a preventative additive.

Toxicity and Handling

Bioassay information is available upon request.

Handle as an industrial chemical, wearing protective equipment and observing the precautions as described in the Material Safety Data Sheet (MSDS).

Packaging and Storage

SAFE-BREAK 611 emulsion preventer is packaged in 55-gal (208-L) drums.

Store in a dry, well-ventilated area. Keep container closed. Keep away from heat, sparks and flames. Store away from incompatibles.

No claim of personal safety is intended nor implied by the use of the name SAFE in this product. Personnel handling this material should read and follow all safety and handling procedures set forth on the Material Safety Data Sheet.

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