



Product Information Bulletin

F-Series Foamers Medium to Heavy Brine Drilling Foamer

DESCRIPTION:

F-Series Foamers have been formulated from anionic surfactants, builders, and foam boosters to provide excellent performance in medium to heavy brines of up to 10 Lbs. per gallon. F-Series Foamers are heavy duty foaming agents which were developed to be used in air mist / stable foam drilling applications, and which exhibits excellent tolerance to down hole influx of hydrocarbons, as well as high calcium tolerance.

Other applications for F-Series Foamers are as an aid in gas well unloading and cleanouts, where excellent results have been obtained at a more economical cost than soap sticks.

AVERAGE PHYSICAL PROPERTIES:

| | |
|----------------------------|--------------------|
| Density (Lbs./Gal) | 8.545 |
| Specific Gravity | 1.0296 |
| Flash Point | 110°F |
| Pour Point | 15°F |
| pH OF 5% Solution in water | 8.0 – 9.0 |
| Appearance | Light Amber Liquid |
| Ionic Charge | Anionic |

Solubility

| | |
|------------------------|-------------|
| Fresh Water | Soluble |
| High TDS Brine Water | Soluble |
| Isopropanol | Soluble |
| Methanol | Soluble |
| Heavy Aromatic Solvent | Dispersible |
| Diesel Oil | Dispersible |

USAGE:

During typical applications, F-Series Foamers are used at a concentration range of from 0.3 to 2.0 % by volume (2 to 8 gallons of F-Series Foamers per 10 Barrels of Brine water). These volumes are dependent on drilling methods, brine concentration, and down hole conditions.

F-Series Foamers may also be used to unload gas wells by either slugging 5 to 10 gallons down the production string via a wellhead lubricator, shutting the well in to allow the product to fall to the fluid level, and putting the well back on production, or by a continuous treatment down the annular space where possible, at a rate of from 1 quart to 2 gallons per day, based on the down hole conditions and the amount of fluids produced.

HANDLING PRECAUTIONS:

For information regarding safety precautions in handling, health hazards, and exposure, please refer to the material safety data sheet for this product. In case of emergency, please call (361) 527-4460.

DISCLAIMER OF LIABILITY:

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