

LFR-25 Friction Reducer

11135-004



LIBERTY

General Information:

LFR-25 is an easily-handled, highly efficient friction reducer for fresh water, brines and acids

Physical Properties:

Density 8.67 lbs/gal.
 Solubility in Water Complete, limited by viscosity
 Solubility in Diesel Dispersible
 Appearance Creamy white to greenish liquid
 Odor Almost Odorless
 Flashpoint..... >200°F
 Pourpoint.....32°F Protect from freezing

Chemical Descriptions:

LFR-25 contains cationic acrylate polymers and surfactants in a mineral oil base. It is compatible with typical acid inhibitors and with cationic or nonionic nonemulsifiers.

Recommended Uses:

LFR-25 can be used wherever thin fluids are pumped in turbulent flow to drastically reduce friction pressure. The most common applications are in pumping acid or water-based fluids through coiled tubing or smaller sizes of jointed tubing, particularly at high rates. Some examples of performance in a laboratory friction loop:

Product	Fluid	Loading	% Friction Reduction
LFR-25	Fresh	0.5 gal	52.5%
"N"	Fresh	0.5 gal	35.5%
"B"	Fresh	0.5 gal	41.0%
"S"	Fresh	0.5 gal	45.1%
LFR-25	15% HCl	1 gal	55.6%
"D"	15% HCl	1 gal	47.6%
LFR-25	6% salt	0.5 gal	44.1%
"D"	6% salt	0.5 gal	36.4%



This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information.

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Limitations:

The use of anionic surfactants or non-emulsifiers may interfere with friction reduction properties of LFR-25. All emulsion polymers, including LFR-25, are sensitive to freezing and to contamination by other chemicals or water. The product can become so lumpy as to be unusable if frozen or contaminated. Always use clean, DRY stingers or drum attachments to handle LFR-25.

Treating Applications:

Normally, loadings of $\frac{1}{4}$ to 1 gallon of LFR-25 per thousand gallons of fluid will give excellent friction reduction in acids or brines. LFR-25 can be batch mixed with moderate agitation, though the normally preferred method of use is "on the fly".

Packaging:

LFR-25 is obtainable in 55-gallon poly drums, 330-gallon poly totes and Bulk storage

DOT Information:

Not DOT Regulated.



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Liberty Pressure Pumping, L.P., 1517 Centre Place Drive #320, Denton, TX 76205, 940-243-1120

