

FlowRite EPAM Friction Reducers



DESCRIPTION

FlowRite AF series are polyacrylamide based inverse liquid emulsions having very high molecular weights formulated to provide excellent friction reduction performance targeting a wide range of brines starting from fresh water to very high TDS waters. The FlowRite AF products are specifically designed to achieve maximum performance in very short periods of time even at low concentrations (0.25 – 1.00 gpt). Due to their rapid hydrating nature, they can be pumped continuously into the stimulation fluids during field application. All products in the series are APE (alkyl phenol ethoxylate) and NPE (nonyl phenol ethoxylate) free, making them environmentally friendly and are compatible with common stimulation additives such as surfactants, scale inhibitors, biocides, etc. By selective application of the products in various brines, one can achieve optimal performance even at low dosages making FlowRite AF series cost effective and economical, while minimizing formation damage.

Our FlowRite VF series is also a polyacrylamide based inverse emulsion that is manufactured as a viscosifying FR for proppant transport. It is designed to rapidly build viscosity at optimum concentrations in fresh water to brines having 10,000 TDS. Due to its low viscosity, low freeze point and excellent freeze-thaw stability, it is suitable for use in any weather condition.

The below table summarizes the general physical properties of FlowRite series-

FLOWRITE	AF-110	AF-120	AF-200	AF-350	VF-420
Water	Fresh	Fresh to low brine	Fresh to mid brine	Fresh to very high brine	Fresh to low brine
Charge	Anionic	Anionic	Anionic	Anionic	Anionic
Product Density	9.01	9.01	9.02	9.02	9.02
Freeze Point (°C/°F)	-40 / -40	-40 / -40	-40 / -40	-30 / -22	-35 / -31
Freeze Thaw Stable	Yes	Yes	Yes	Yes	Yes

Additional information on all FlowRite products is contained in individual product Safety Data Sheet (SDS) and Product Data Sheet (PDS) which is available upon request.

ADVANTAGES

- *Broad portfolio of products for various brines and applications.*
- *Accelerated, complete inversions, eliminating the need for additives.*
- *Fast inversion times*
- *Excellent freeze temperature tolerance with freeze-thaw stability.*
- *Low bulk viscosity for improved pumpability.*
- *Low cost solutions without compromising performance.*

BRINE TOLERANCE GUIDE

FlowRite AF Series	Fresh Water	Monovalent Brine			High Concentrated Brines					
		< 20K mg/L	20-50K mg/L	50-100 K mg/L	50-150K mg/L			150-250K mg/L		
					Multivalent cations					
					<5K mg/L	>5K mg/L	<10K mg/L	>10K mg/L	<15K mg/L	>15K mg/L
AF-110										
AF-120										
AF-200										
AF-350										

Excellent	V. Good	Good	Fair
-----------	---------	------	------

PACKAGING, STORAGE AND HANDLING

FlowRite products are available in bulk (truck load and rail), 330 or 275 gallon totes. Other customized packaging is also available. Recommended shelf life of the products is 6 months when stored at temperatures between 5 – 30 °C. For best results, avoid freezing. Drums and totes must be mixed before first use. Additional handling information is available in the individual product Safety Data Sheet (SDS).

Disclaimer: The information provided in this document is for general purpose only and is believed to be accurate to the best of our knowledge. SNAP Energy Ventures LLC., and its affiliates do not make any guarantee or warrantee regarding the accuracy of the data, merchant ability, fitness for a particular purpose or use, title, non-infringement, etc. The user agrees to assume all liabilities related to the use of or reliance on such information. SNAP Energy Ventures LLC., and its affiliates shall not be liable for any direct, indirect, special, punitive, exemplary or consequential damages from any cause whatsoever including but not limited to its negligence.