

LP[™] H₂O

For Sea, Produced or Fresh Water

Background

LP[™] H₂O Flow Improver is part of ConocoPhillips Specialty Products' range of innovative and technologically superior Flow Improver Solutions. LP[™] H₂O Flow Improver's polymer has been designed specifically to be effective in pipelines carrying either fresh water, seawater, produced water or in produced water re-injection and reservoir management programs.

Characteristics

LP[™] H₂O Flow Improver offers an effective solution to pipeline bottleneck problems, without mechanical expansion. In many aging oil fields the basic sediment and water (BS&W) increases over time to the point where a water soluble drag reducer is needed instead of an oil soluble drag reducer like our other LP[™] Flow Improvers. When this occurs, LP[™] H₂O Flow Improver provides the answer.

Benefits

Great performance

- Greater than 60% drag reduction
- Increased flow rates while maintaining current operating pressures
- Maintains flow while reducing operating pressures

Superior technology

- Less polymer is required to achieve a given performance
- Lower injection rates than other drag reducers
- Faster dissolution rates than other drag reducers
- Reduces internal corrosion rate by 40%
- Can be used successfully in produced water re-injection and reservoir management programs

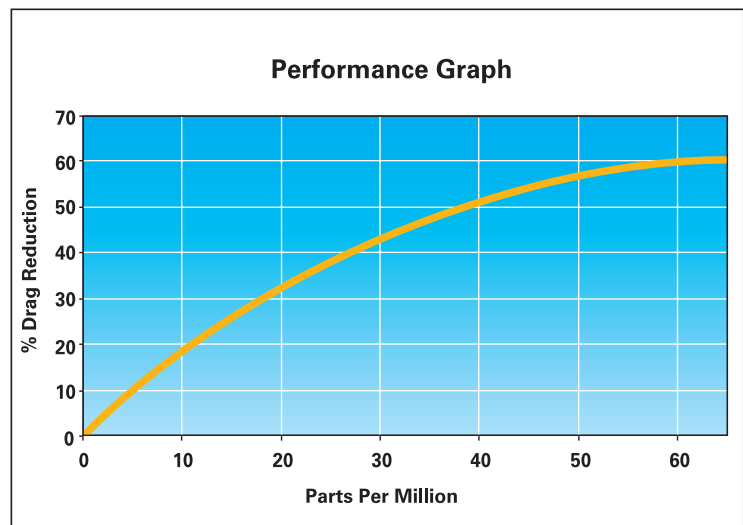
It is an effective way to cope with pressure and/or capacity limitations due to increased water production in existing fields.

It can increase throughput while reducing internal corrosion rates. LP[™] H₂O Flow Improver is also a highly effective polymer for use in water flooding applications. LP[™] H₂O Flow Improver increases movement of the residual oil to a producing well by reducing the tendency of water to "finger" or form channels, which bypass much of the residual oil. The high molecular weight makes LP[™] H₂O Flow Improver more effective at lower concentrations than other water-soluble polymers. The lower concentration results in much less formation damage than other polymers. Additionally, the small amount of damage that is inevitable with polymer flooding is completely reversible with LP[™] H₂O Flow Improver.

Handling

LP[™] H₂O Flow Improver is easy to handle. It has no flashpoint. It is classified as Silver under DTI Environmental Classification (heritage DTI system - Group C).

See back page for product properties



Contact us at www.LiquidPower.com

PRODUCT PROPERTIES

GENERAL	
Designed for use on	Water and water continuous systems
Flow Improver type	Emulsion containing water soluble polymer
Carrier/Solvent	Mineral oil emulsion
PERFORMANCE	
Maximum drag reduction	Greater than 60%
Typical concentration	10-60 ppm
TYPICAL PROPERTIES	
Color	White
Density	8.2 lbs/gal (0.96 g/cm ³)
Flash Point	Does not flash
Viscosity	2500 cP (Brookfield LV @ 30 rpm) (Non-Newtonian)
Freezing Point	14°F (-10°C)
Boiling Point	212°F (100°C)
Vapor Pressure	0.000387 lb/in ² (0.002 mm Hg @ 25°C)
HANDLING	
Operating range	41°F to 86°F (5°C to 30°C)
Product stability	Stable emulsion Intermittent agitation recommended
Heating Pressure	No nitrogen or pressurized vessels required Heat tracing and heating required under freezing conditions
INJECTION EQUIPMENT	
Pumps	Various designs available for different injection range and environments
Range	5 to 2,500 gal/day (20 to 9,500 L/day)
Flow meter	Mass (Coriolis)
Automation	Available
SAFETY AND ENVIRONMENTAL (See Material Safety Data Sheet)	
Safety	Non-hazardous, non-flammable
Health	Low toxicity. Conventional protection equipment
Environmental	Silver Classification under DTI Environmental Classification (heritage DTI system - Group C)

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