

RHEFLAT PLUS

RHEFLAT† PLUS gellant and rheological modifier is specifically designed to increase viscosity, improve sag control and contribute to the flat rheology of the RHELIANT† PLUS system.

RHEFLAT PLUS additive works in conjunction with an organophilic clay such as VG-PLUS† or VG SUPREME†.

Typical Physical Properties

Physical appearance	Amber liquid
Specific gravity	1.0215 at 60°F (16°C)
Flash point	>200°F (>93°C)

Applications

RHEFLAT PLUS rheological modifier contributes to flat rheology over a wide range of temperatures typically from 40°F to 300°F (4°C to 149°C) in the RHELIANT PLUS system. It can be used in synthetic, diesel or mineral oil-base drilling fluid systems. RHEFLAT PLUS works in synergy with organophilic clays or drill solids to produce flat rheological properties independent of fluid temperature changes. In cold temperature applications, flat rheology allows for the use of higher flow rates with less impact on wellbore pressures than with conventional Non Aqueous Fluids (NAF).

The required concentration of RHEFLAT PLUS depends on the base fluid selected, the drilling fluid density, the Oil or Synthetic to Water Ratio, as well as on the emulsifier package type and concentration. The recommended treatment for the makeup of new fluids is 0.6-1.0 lb/bbl (1.7-2.85 kg/m³). While drilling, care should be used to prevent overtreatment by adding RHEFLAT PLUS in small increments typically, 0.25 ppb, and monitoring the effects over a minimum of one circulation. RHEFLAT PLUS additive may generate excessive viscosities when added to a system with elevated low-gravity solids content. Pilot testing is highly recommended prior to use.

This document is supplied solely for informational purposes and M-I LLC makes no guarantees or warranties, either expressed or implied, with respect to the accuracy and use of this data. All product warranties and guarantees shall be governed by the Standard Terms of Sale. Nothing in this document is legal advice or is a substitute for competent legal advice.

Eastern Hemisphere	Western Hemisphere
Gamle Forusvei 43	P.O. Box 42842
N-4033 Stavanger,	Houston, Texas 77242-2842
Norway	Phone: 281-561-1300
Phone: +47-51-57-73-00	Fax: 281-561-1441
Fax: +47-51-57-74-51	www.miswaco.slb.com



A Teniz Service M-I SWACO Enterprise



Advantages

- Improves cold temperature viscosities by allowing a reduction in organophilic clay content
- Versatile gelling agent, the effects of which can be reversed (thinned) with chemical treatments
- Product is effective at improving low shear rate viscosities at small concentrations
- Stable to bottom hole temperatures to >300°F (149°C)
- Contributes to enhance the shear thinning profile of NAF with minimum effect on the gel strengths
- Optimized for use in synthetic-base fluids (e.g., isomerized olefins) but is also compatible with mineral and diesel oil-base drilling fluids
- Minimizes potential for barite sag

Limitations

- Less effective at temperatures above 300°F (149°C)
- Should not be used in combination with any other polymeric rheological additives without pilot testing
- Should not be added unless the system contains organophilic clay or oil-wet reactive drill solids
- Should not be used as a substitute for temporary viscosifiers

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

RHEFLAT PLUS additive is packaged in 55-gal (208-L) steel drums and 550-gal (2131-L) totes.

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

Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking.

This document is supplied solely for informational purposes and M-I LLC makes no guarantees or warranties, either expressed or implied, with respect to the accuracy and use of this data. All product warranties and guarantees shall be governed by the Standard Terms of Sale. Nothing in this document is legal advice or is a substitute for competent legal advice.

Eastern Hemisphere
Gamle Forusvei 43
N-4033 Stavanger,
Norway
Phone: +47-51-57-73-00
Fax: +47-51-57-74-51

Western Hemisphere
P.O. Box 42842
Houston, Texas 77242-2842
Phone: 281-561-1300
Fax: 281-561-1441
www.miswaco.slb.com



A Teniz Service M-I SWACO Enterprise

Schlumberger