

PETRO-MUL

PRIMARY EMULSIFIER

PETRO-MUL is a primary water-in-oil emulsifier blend for use with mid-run distillate base oils in the formulation of invert emulsion drilling fluids. The product is designed to work synergistically with Bri-Chem's base fluids and Bri-Chem's PETRO-line of products.

FEATURES AND BENEFITS:

- May be used separately or in conjunction with a secondary emulsifier such as PETRO-WET
- Aids suspension properties
- Pour point below -20°C
- Concentrated emulsifier
- Forms stable water-in-oil emulsions with concentrated brines
- Temperature stable to 150°C

RECOMMENDED TREATMENT: 5-15 L/m³

Lime additions are required with all additions of PETRO-MUL
Add a minimum of 0.5 kg Lime for every liter of PETRO-MUL added

PHYSICAL PROPERTIES:

| | |
|---------------------|--------------|
| Appearance: | Amber liquid |
| Pour Point | < -20°C |
| Flash Point | > 93°C |
| Specific Gravity | 0.90 |
| Solubility in water | Not Soluble |

MIXING/HANDLING:

Mix through a mixing hopper slowly or directly into the tank via a chemical barrel. As with most emulsifiers, adequate shear and time is required to form a stable emulsion. Refer to SDS for specific handling requirements.

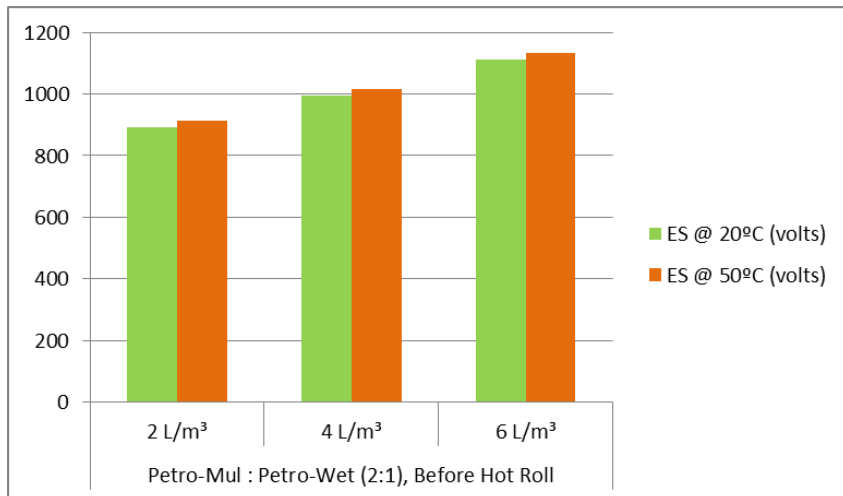
MICROTOX® THRESHOLD: Not applicable

PACKAGING: 200L drum / 4 drums/pallet

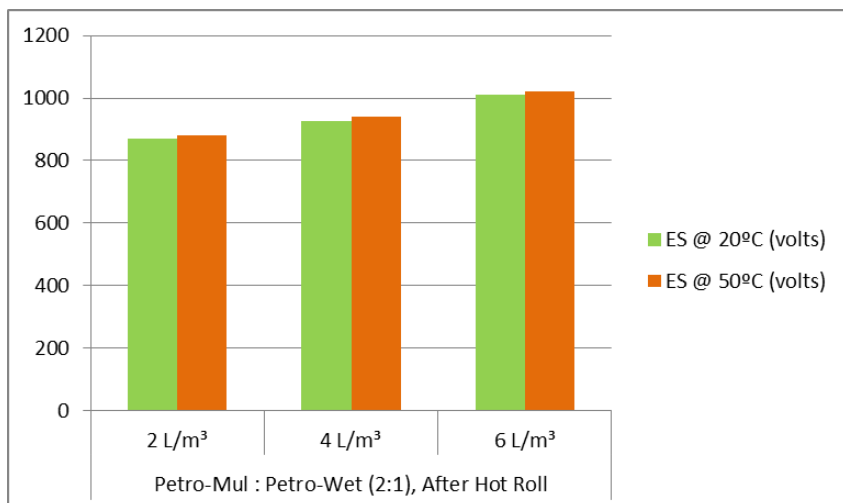
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Performance Data: Laboratory Testing



Petro-Mul and Petro-Wet were added to fresh mid-run Distillate invert at a ratio of 2:1, at concentrations of 2 L/m³, 4 L/m³ and 6 L/m³, along with 10 kg/m³ of hydrated Lime. Systems were tested before hot rolling, and after hot rolling for 16 hours at 60°C to demonstrate system stability. ES was tested at 20°C and 50°C.



At lower concentrations (2 L/m³), ES remained consistent with pre-hot rolling performance, while higher concentrations retained higher ES, as expected, but hot rolling affected performance to a small degree.

System showed excellent resilience to heat, with very good emulsion stability.

| | Petro-Mul : Petro-Wet (2:1) Before Hot Roll | | | Petro-Mul : Petro-Wet (2:1) After Hot Roll | | |
|-------------------|--|--------------------|--------------------|---|--------------------|--------------------|
| | 2 L/m ³ | 4 L/m ³ | 6 L/m ³ | 2 L/m ³ | 4 L/m ³ | 6 L/m ³ |
| ES @ 20°C (volts) | 892 | 995 | 1112 | 871 | 928 | 1009 |
| ES @ 50°C (volts) | 914 | 1016 | 1132 | 882 | 940 | 1022 |