

RAPID MUL PE-151

PRIMARY EMULSIFIER FOR INVERT DRILLING FLUIDS

Rapid Mul PE-151 is a highly concentrated, oil soluble, primary emulsifier used in the preparation of oil-based drilling fluids. As a unique blend of oxidized fatty acids, **Rapid Mul PE-151** is capable of generating excellent low cost, thermally stable drilling fluid emulsions of water or brine in a variety of base oils. This product is formulated to provide for optimal mud rheology under a wide variety of drilling conditions and has a high tolerance to contamination. **Rapid Mul PE -151** is easily activated by the addition of lime and is compatible with all commonly used oil wetting agents and secondary oil mud emulsifiers such as Rapid Drilling Products **Rapid Mul SE 172**.

Product Data

Property	Unit	Value	Test Method
Specific gravity, 70/70 °F	-	0.960	ASTM D-1298
Pounds per U.S. gallon	PPG	8.00	ASTM D-1298
Viscosity @100 °C	cSt.	<180	ASTM D-445
@ 40 °C	cSt.	480	
Solidification point	°F	25	ASTM D-97
Flash point	°F	>240	ASTM D-3278
pH (5% product 1:1 IPA/ DI H2O)		5.2-6.2	

Additional Information

Active matter	%m	70%	nominal
Biodegradation, 28 days	%m	>70 %	OECD
HLB (Hydrophilic/Lipophile Balance)	-	≈ 4	
Appearance	dark amber liquid		
Water solubility @ 65 °F	slightly dispersible		
Oil Solubility	totally soluble		
Canadian DSL	listed		

Applications

Rapid Mul PE-151 is slightly anionic in charge and is a concentrated preparation of highly oxidized fatty acids. To ease handling and to reduce viscosity, a small amount of biodegradable, paraffin/olefin solvent is added. This product contains **no aromatics**.

Rapid Mul PE- 151 can be used alone with lime to prepare, low cost contractor or spud mud but is more typically used with lime hydrate and a secondary emulsifying surfactant to produce very stable, high performance oil based or invert drilling fluids. This product works well to initiate emulsions in a wide range of commonly used base oils such as olefins, paraffins, esters, diesel and mineral oils. The product also works well with all of the commonly used internal phase salt solutions. Calcium chloride, sodium chloride, seawater and other brines in a wide range of salinity are easily incorporated into the oil mud emulsion through use of this oil soluble surfactant.

Typical use will involve addition of **Rapid Mul PE-151** at a rate of 0.5 to 1.7 gal/bbl. (12.5 to 40.5 L/m³) of base oil. Lime should then be added as an activator to the oil/emulsifier mixture at a concentration of 5lbs. / gal (0.6 kg./L) of **Rapid Mul PE-151**.

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Product Data

Storage and Handling

This product is shipped in bulk or in new closed head 55-gallon, unlined steel drums. The product may be stored under ambient conditions but extreme hot or cold temperature should be avoided. Stratification of the product may occur upon freezing. In most instances the product may be returned to full effectiveness by thawing and agitation or mixing. In order to keep the **Rapid Mul PE-151** formulation liquid in cold weather, store at least at 28 °F but not above 160 °F for a prolonged period.

Safety

Rapid Mul PE-151 is a complex fatty acid mixture, which may contain a small percentage of rosin acids. Repeated and long term exposure may cause an allergic skin reaction to sensitized individuals. Acute oral toxicity studies on rats and dermal studies on rabbits, done with products closely related in structure at reduced concentration, showed this type of product to be of low order of toxicity. DO NOT INGEST. Ingestion of small amounts is unlikely to cause harmful side effects. The **undiluted Rapid Mul PE-151** can be irritating to the eye. Please refer to the Material Safety Data Sheet for more detailed information.

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