

RAPID MUL SE-172

SECONDARY EMULSIFIER FOR INVERT DRILLING FLUIDS

RAPID MUL SE-172 is a highly concentrated, oil soluble, secondary emulsifier used in the preparation of oil-based drilling fluids. As a unique reaction product belonging to the chemical family of polyamido-imidazolines, **RAPID MUL SE-172** is capable of generating excellent low cost, thermally stable drilling fluid emulsions.

RAPID MUL SE-172 may be used alone or in conjunction with typically used, primary oil mud emulsifiers such as **RAPID MUL PE-151** to produce high performance oil based drilling fluids with high rates of penetration. (ROP) The product works well with all currently used drilling base oils in the drilling industry, including olefins, esters, low tox-mineral oils, and paraffinic oils.

Exceptional oil wetting characteristics for barite and drill solids as well as the flexibility to prepare relaxed or controlled filtrate mud systems are additional benefits from the use of this product.

Property	Product Data		
	Unit	Value	Test Method
Specific gravity, 70/70 °F	-	0.949	ASTM D-1298
Pounds per U.S.gallon	PPG	7.9	ASTM D-1298
Viscosity @40 °C	cSt.	400	ASTM D-445
Solidification point	°F	24	ASTM D-97
Flash point	°F	>232	ASTM D-3278
pH (5% product 1:1 IPA/DI H2O)		6-7	
	Additional Information		
Active matter	%m	60%	nominal
HLB (Hydrophile/Lipophile Balance)	-	≈ 2	
Appearance		dark amber liquid	
Water solubility @ 65 °F		slightly dispersible	
Oil Solubility		totally soluble	
Canadian DSL		listed	

Applications

RAPID MUL SE-172 may be used as a combination surfactant, oil wetting agent in a number of different oil mud systems, which may be adjusted to suit a variety of drilling conditions or economic requirements. In the majority of applications, **RAPID MUL SE-172** is used as a secondary emulsifier or wetting agent for the preparation of oil based or invert drilling mud emulsions of water/ brine, in a base oil or carrier fluid. In these applications it is customary to begin the preparation of the oil-based drilling fluid emulsion by use of a suitable primary oil-mud emulsifier such as **RAPID MUL PE-151** which requires lime addition. Typical addition rates for primary emulsifier and lime are noted in the corresponding product information bulletin for **RAPID MUL PE-151**.

Typical usage concentrations for **RAPID MUL SE-172** when used as a secondary oil mud emulsifier and wetting agent are 0.15 to 1.0 gal/bbl. (3.0 to 23.8 Liters/cubic meter) The actual amount of the product used is dependent upon the nature and concentration of the primary mud emulsifier and the degree of mud filtrate control desired.

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Product Data

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For preparation of a low colloid, relaxed filtrate, oil mud system, **RAPID MUL SE-172** may be used as the only emulsifying agent without the need for lime addition, other surfactants or fluid loss additives. When used as a stand-alone emulsifier for these high rate drilling systems a usage rate of 0.50 to 0.75 gal./ bbl. (11.9 to 17.9 liters/cubic meter) is recommended.

Approximately 1.0 gal., (3.8L) **RAPID MUL SE-172** per 25 sacks of barite (50 lbs. per sack) is suggested for oil wetting during weight up operations.

The use concentrations listed above are estimates. Actual use rates may vary and are best determined at the drill site taking into consideration the nature and concentration of the internal brine and external oil phases, overall oil water ratios, electrostatic stability,(ES values) mud rheology, solids handling equipment, bottom hole temperature and other variables.

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 SE-172** formulation liquid in cold weather, store at 30 °F or above but not above 160 °F for a prolonged period.

Safety

RAPID MUL SE-172 is an amido-imidazoline in a paraffin/olefin solvent. Repeated and long-term exposure may cause skin eye and respiratory tract irritation. Avoid breathing vapor, wear gloves goggles and protective clothing. The product does not contain carcinogens and is rated as a 1 on a scale of 0 to 3 by both the NFPA, HMIS (National Fire Protection Act and Harmonized Hazardous Materials in the work place Information System). DO NOT INGEST. Please refer to the Material Safety Data Sheet for more detailed information.

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