NEOFLO™ 2-48

Olefin & Paraffin Drilling Fluids

Updated: February 2016
SICC Product Code: V1397

Description:

- NEOFLO 2-48 is part of our Enhanced series of synthetic olefin and paraffin drilling fluids.
- Suitable for use in both deep and shallow water applications, NEOFLO 2-48 helps reduce the risks associated with offshore discharges.
- NEOFLO 2-48 biodegrades in both aerobic and anaerobic conditions and is non-toxic in the water column.
- The product has a low viscosity and pour point and performs as well or better than mineral oil based fluids.
- NEOFLO 2-48 is a linear alpha olefin with a carbon chain length between C14 and C18.

Classification:

This product is classified as a synthetic according to the US EPA definition. "Synthetic material as applied to synthetic-based drilling fluid means material produced by the reaction of specific purified chemical feedstock, as opposed to the traditional base fluids such as diesel and mineral oil which are derived from crude oil solely through physical separation processes. Physical separation processes include fractionation and distillation and/or minor chemical reactions such as cracking and hydro processing." *

---

*(Notice of Final NPDES General Permit for New and Existing Sources and New Dischargers in the Offshore Subcategory of the Oil and Gas Extraction Category for the Western Portion of the Outer Continental Shelf of the Gulf of Mexico {GMG290000, Section G. Definitions, 77 "Synthetic Material," pg. 62}).

Shell Global Solutions, One Shell Plaza, 910 Louisiana, Houston, TX 77002-4916, United States of America

Typical Chemical Properties [a]	Property	Unit	Value	Method
	C12	%m/m	<2.0	SCG 1078
	C14	%m/m	46 – 54	SCG 1078
	C16	%m/m	25 – 33	SCG 1078
	C18	%m/m	17 – 25	SCG 1078
	C 20 & Higher	%m/m	<3.0	SCG 1078
	Total Branched Olefins	%m/m	<5.0	SMS 2895
	Total n-Alpha Olefins	%m/m	>93.0	SMS 2895
	Total Paraffins	%m/m	<0.2	SMS 2895
	Appearance		CSFVI[b]	Visual
	Color, Pt-Co		<10	ASTM D1209
	Water	mg/kg	<100	ASTM E1064

a: An official sales specification is available from your local Shell Chemicals representative.
b: Clear and Substantially Free of Visible Impurities

Typical Physical Properties	Property	Unit	Value	Method
	Density @ 20 °C	kg/m^3	778	ASTM D4052
	Flash Point	°C	115	ASTM D93
	Fire Point	°C	120	ASTM D92
	Pour Point	°C	-2	ASTM D97
	Aniline Point	°C	70	ASTM D611
	Kinematic viscosity @ 0°C @ 40°C @ 100°C	 cSt cSt cSt	 5.9 2.5 1.2	ASTM D445
	Boiling Range 5% 95%	 °C °C	 225 299	ASTM D2887
	Vapor Pressure @ 40°C	mmHg	<0.05	Calculated[1]

[1] Calculated from data on single carbon number olefins.

Shell Chemicals, One Shell Plaza, 910 Louisiana, Houston, TX 77002-4916, United States of America

	Property	Method/Endpoint	Value	Notes
Typical Environmental Properties	Biodegradation			
	Anaerobic	Modified ISO 11734 275-d	73%	BRR[1] = 0.6
	Aerobic	OECD 306 28-d	61%	
	Water Column Toxicity			
	Mysidopsis bahia	EPA OPPTS 850.1035 96-h LC_{50}	>1000 mg/L	
	Sediment Toxicity			
	Leptocheirus plumulosus	ASTM E 1367 10-d LC_{50}	430 mg/kg	STR[2] = 3
	PAH	EPA 1654A	<5 mg/kg	

[1] BRR = biodegradation rate ratio (% biodegradation of C1618 internal olefin reference /% biodegradation of test material)
[2] STR = sediment toxicity ratio (C1618 internal olefin reference LC50/test material LC50)

Storage and Handling

NEOFLO products may be stored in carbon steel tanks. Hoses manufactured from polyethylene, butyl rubber, or neoprene liners are suitable for discharging. A nitrogen blanket is recommended to reduce potential for product degradation. Antioxidants can be added, upon request, to enhance the long-term stability. The recommended storage temperature is 25°C, the recommended maximum is 40°C and the recommended minimum is 0°C to prevent freezing. NEOFLO 2-48 is classified as "non-regulated" by the United States Department of Transportation (US DOT). Additional advice on the storage and handling of NEOFLO products can be found on our website at www.shell.com/business-customers/chemicals/our-products/higher-olefins-and-derivatives, or by contacting your local Shell chemicals companies' representative.

Hazard Identification

NEOFLO products have been demonstrated to have a relatively low order of toxicity by the routes of exposure (oral, dermal, inhalation) encountered in normal handling. Like many hydrocarbon liquids, olefins will dry and de-fat the skin on prolonged contact and will result in skin irritation and dermatitis. Also, like other hydrocarbons, this product can be dangerous when aspirated or ingested. Before handling the product, refer to the Safety Data Sheet that is available from your local Shell chemicals companies' representative. Additional information can be found on our website at www.shell.com/business-customers/chemicals/our-products/higher-olefins-and-derivatives in the Safety Data Sheet section.

Shell Chemicals, One Shell Plaza, 910 Louisiana, Houston, TX 77002-4916, United States of America

Emergency Helpline

For emergency telephone numbers refer to the Safety Data Sheet relevant for your company's country and language.

Shell Warranties

The information contained in this publication is to the best of our knowledge, true and accurate, but any recommendations or suggestions that may be made are without guarantee, since the conditions of use are beyond our control. Furthermore, nothing contained herein shall be construed as a recommendation to use any product in conflict with existing patents covering any material or its use.

The expression 'Shell Chemicals' refers to the companies of the Shell Group engaged in chemical businesses. Each of the companies which make up the Shell Group of companies is an independent entity. The "Shell Group" refers to the companies in which Royal Dutch Shell plc directly and indirectly owns investments.

Shell Chemicals, One Shell Plaza, 910 Louisiana, Houston, TX 77002-4916, United States of America