



# GTL Neoflo 4633

## TECHNICAL DATASHEET

Synthetic Base Fluid

Updated: JULY 2024

SICC Product Code: V1904

### Description:

- GTL Neoflo 4633 is a premium-quality base fluid suitable for use in conventional and unconventional land and deep water applications. Because of its clean natural gas origin, it contains virtually no aromatics nor contaminants such as sulfur and amines.
- GTL Neoflo 4633 readily biodegrades, is non-toxic in the water column and has low sediment toxicity. It has a low viscosity, a low pour point and relatively high flash point making it ideal for land and deep water exploration. It is widely used as a non-aqueous base fluid in both water and invert emulsion drilling muds, hydraulic fracturing fluids and production chemicals in the upstream oil and gas industry.
- GTL Neoflo 4633 is a mixture of alkanes with carbon chain length of predominantly C10 to C24.

### Classification:

This product is classified as a synthetic gas-to-liquids base drilling fluid as it is produced from the reaction of a purified feedstock as opposed to highly refined/processed mineral oils, which are produced from the distillation or refining of crude oil (OGP, 2003)<sup>1</sup>.

---

<sup>1</sup> International Association of Oil & Gas Producers (OGP). Environmental Aspects of the Use and Disposal on Non-Aqueous Drilling Fluids Associated with Offshore Oil and Gas Operations. Report No. 342, May 2003. Website address: <http://www.ogp.org.uk/pubs/342pdf>

## Typical Chemical Properties<sup>a</sup>

Property	Unit	Value	Method
C10-24 Paraffins	%m/m	99	GC x GC
Appearance	N/a	CSFVI <sup>b</sup>	Visual

a: An official sales specification is available from your local Shell representative

b: Clear & Substantially free of visual impurities

## Typical Physical Properties

Property	Unit	Value	Method
Density @ 15°C	kg/m <sup>3</sup>	781	ASTM D1298
Density @ 15°C	lbs/gal	6.52	ASTM D1298
API Gravity @ 60°F	-	50	Calculated
Flash Point, PMCC	°C	≥ 85	ASTM D93
Pour Point	°C	< -20	ASTM D97
Aniline Point	°C	95	ASTM D611
Kinematic Viscosity @ 40°C	cSt	2.9	ASTM D445
Kinematic Viscosity @ 25°C	cSt	4.0	ASTM D7042
Distillation, Initial Boiling Point	°C	200	ASTM D86
Distillation, Final Boiling Point	°C	344	ASTM D86
Vapor Pressure @ 40°C	kPa	< 0.1	Calculated
Color	Saybolt	+30	ASTM D156
Fractional Polarity	-	0	Calculated
Surface Tension @ 20°C	mN/m	26	-
Volatile Organic Compound (VOC)	g/L	53	EPA Method 24
Coefficient of Friction	-	0.1189	ASTM D5183

## Typical Environmental Properties

Property		Method/ Endpoint	Value	Toxicity Classification
<u>Biodegradation</u>	Aerobic, Marine	OECD 306 D/28-d	62%	Biodegradable
<u>Water Column Toxicity</u>	<i>Skeletonema costatum</i>	ISO10253/ 72-h EL <sub>50</sub>	>1,000 mg/L WAF	Not toxic
	<i>Acartia tonsa</i>	ISOT147/ SC5/WG2, 96-h LC <sub>50</sub>	>1,000 mg/L WAF	Not toxic
	<i>Mysidopsis bahia</i> <sup>1</sup>	US-EPA 2001 40 CFR 435 (Modified)/96-h LC <sub>50</sub>	>1,000,000 mg/L of 10% SPP	Not toxic
<u>Terrestrial Toxicity</u>	<i>Chronic Toxicity to earthworms</i>	OECD222 /EC <sub>50</sub>	>1,000 mg/kg	Not toxic
	<i>Terrestrial Plant Test, soybean, tomato, mustard, oat, perennial ryegrass</i>	OECD 208/ EC <sub>50</sub>	990 to >1,000 mg/kg	Not toxic
<u>Sediment Toxicity</u>	<i>Corophium volutator</i>	PARCOM/10d LC <sub>50</sub>	>49,000 mg/kg (dry)	Not toxic
<u>Partition coefficient</u>		OECD 117 Log K <sub>ow</sub>	> 6.5	May bioaccumulate
<u>Aromatics Content</u>	PAH Content	US EPA-16 PAHs	<1 mg/kg	N/a

<sup>1</sup> PARCOM1995

## Least Toxic OCNS Rating vs Others

Parameters	GTL Neoflo 4633	Diesel	LTM01	LTM02
Total BTEX, ppm	ND	3840	ND	ND
Total Aromatics, %m	~0.02	34	~0.02	~0.03
Sulfur, ppm	~1	10 - 5000	10 max	~1
OCNS Designation*	E	A	C	D

ND – not detected

\* **Details of OCNS Rating:** The OCNS (i.e. Offshore Chemical Notification Scheme) list is produced by CEFAS on behalf of the United Kingdom Department of Energy and Climate Change and the Netherlands State Supervision of Mines. Group “A” is the most toxic and Group “E” is the least toxic.

## Storage and Handling

GTL Neoflo 4633 may be stored in mild steel or stainless steel tanks. Seals and gaskets may be made from compressed asbestos fiber, PTFE, Viton A and Viton B. Natural rubbers, PVC, polystyrene and copper alloys are unsuitable materials for use with GTL Neoflo 4633. The recommended storage and handling temperature is between 15°C and 45°C.

## Hazard Identification

GTL Neoflo 4633 has a relatively low order of toxicity by the routes of exposure (oral, dermal, inhalation) encountered in normal handling. Like many hydrocarbon liquids, GTL Neoflo 4633 will dry and de-fat the skin on prolonged contact and on repeated contact could 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.

## Emergency Helpline

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

## **Disclaimer**

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.

SHELL INTERNATIONAL TRADING MIDDLE EAST LIMITED makes no representation and extends no warranty or condition, express or implied, and assumes no liability (whether in contract, tort or otherwise) with respect to the completeness, utility or accuracy of any product; merchantability or fitness for a particular purpose; descriptions of the product are for the sole purpose of product identification and do not imply or express any warranty.