

CALSIA™ DRILLING FLUIDS

Calumet offers a complete line of Calsia™ Drilling Fluids, which are normal/isoalkane drilling mud-based fluids that begin with a severe hydrocracking and hydroisomerization process. Calsia Drilling Fluids are available in a wide range of specifications for various drilling applications. Calsia Drilling Fluids are an ideal solution for delivering an environmentally responsible drilling mud base fluid that does not compromise performance.

All Calumet products are produced to the highest technical standards, and Calsia Drilling Fluids meet OGP Group III non-aqueous fluids. These products are also compliant with the EPA Maximum Contaminant Levels (MCLs) for BTEX (benzene, toluene, ethylbenzene and xylenes) compounds in drinking water.

▶ **PRODUCT FEATURES**

- Virtually Non-Toxic to Humans and Marine Life
- Readily Biodegradable
- Provides superior low-temperature fluidity in ultra-deepwater drilling applications
- No long-term environmental impact
- Effectively used as a:
 - Viscosity Modifier
 - Heat String Fluid
 - Diluent for Liquid Mud Additives (LMA)
 - Base Gel Fluid
 - Differential Fluid
 - Rate of Penetration (ROP) Enhancer



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CALSIA™ TYPICAL PROPERTIES

PROPERTIES	METHOD	CALSIA 62	CALSIA 70	CALSIA 80	CALSIA 96	CALSIA 100
TECHNICAL SUMMARY*						
Viscosity @ 40 °C (cSt)	ASTM D445	2.00	2.00	2.26	2.18	2.31
Density @ 60 °F (15°C), kg/L	ASTM D4052	0.7935	0.8230	0.8101	0.8090	0.8109
Flash Point, PMCC (°C)	ASTM D93	70	80	96	98	102
Pour Point (°F)	ASTM D97	-60	-38	-46	-28	-50
Aniline Point (°F)	ASTM D611	171	165	160	170	165
Color	ASTM D156	30	30	30	30	30
BTEX (Detection Limits per EPA Drinking Water MCLs)						
Benzene (5 ppb)	EPA 8260B	ND	ND	ND	ND	ND
Toluene (700 ppb)	EPA 8260B	ND	ND	ND	ND	ND
Ethylbenzene (1 ppm)	EPA 8260B	ND	ND	ND	ND	ND
Xylene (10 ppm)	EPA 8260B	ND	ND	ND	ND	ND
Polynuclear Aromatics, 1 ppm	EPA 8260B	ND	ND	ND	ND	ND
Aromatics (WT%)	ASTM D5186	<0.2%	<0.2%	<0.2%	<0.2%	<0.2%
Paraffin Content (WT%)	ASTM D2425	>99.9	>99.9	>99.9	>99.9	>99.9
FDA 21 CFR 172.884	FDA	PASS	PASS	PASS	PASS	PASS
Sustained Burning Exemption		PASS	PASS	PASS	PASS	PASS
Kauri-Butanol Value	ASTM D1133	27.4	28.0	26.3	25.3	24.6
TOXICOLOGICAL SUMMARY*						
Trout Toxicity			OECD TG 203			
Genetic Toxicity			OECD TG 471			
Aquatic Invertebrate (D. Magna)			OECD TG 20			
Microtoxicity			QSAR - PETROTOX			
Biodegradability			OECD 301 F			
PAH Content		ND	ND	ND	ND	ND

*Compiled using the European Chemicals Agency (ECHA) Database. Updated July 2021.

TECHNICAL ASSISTANCE

For product or technical questions, contact your Sales Representative or Calumet Product Support at (800) 437-3188 or email technical@calumet.com.

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Calumet's sampling and testing procedures in effect at the time of production will be used for certification testing. Results may be based on tank certification, manufacturing data, periodic testing and/or most recent product restock. Typical values only represent the values one would expect if the property were tested in our laboratories with our test methods on the specified date. Some product properties are not frequently measured, and accordingly typical values are not based on a statistically relevant number of tests. The information in this document relates only to the named product. The user is solely responsible for all determination regarding any use and any process.

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