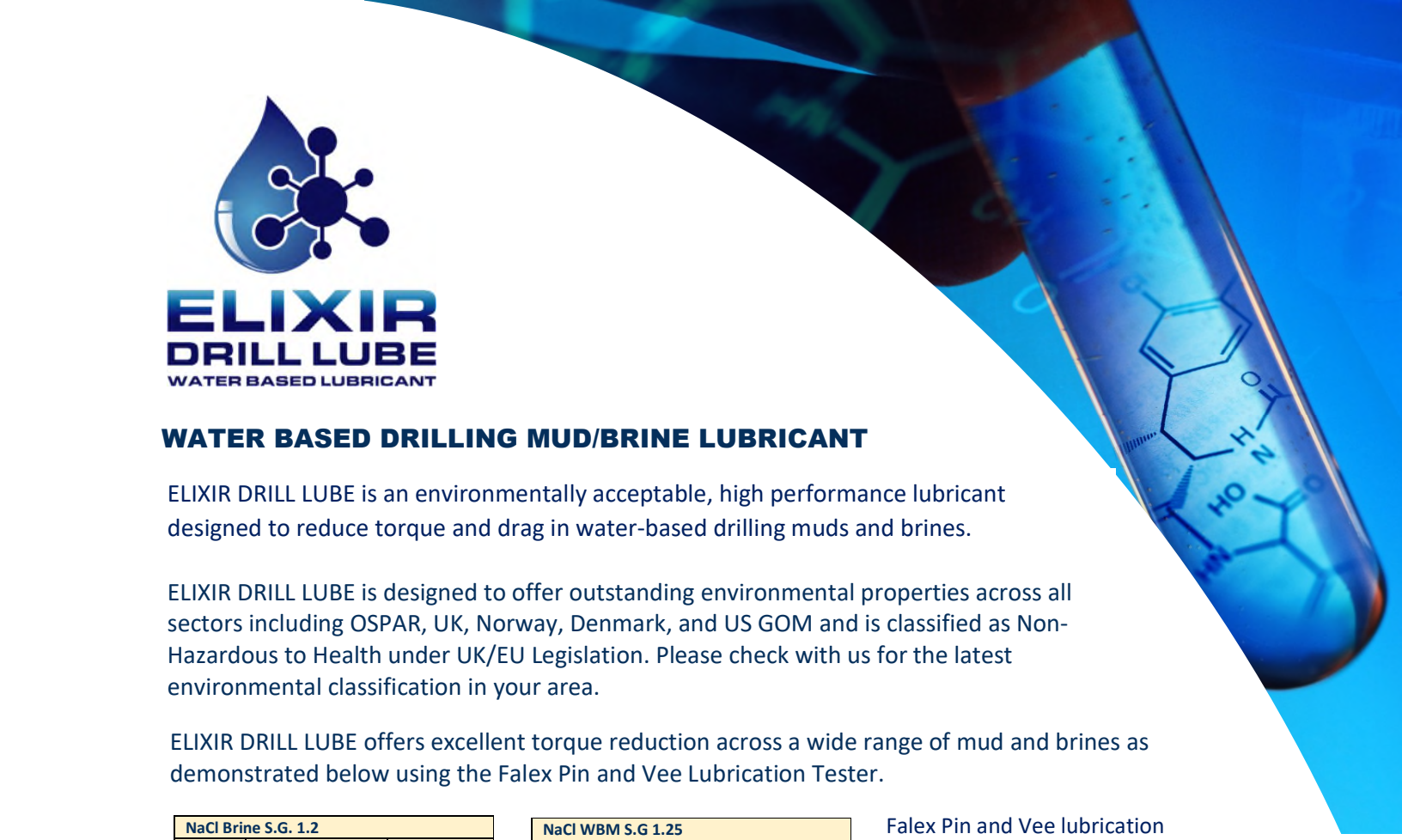

ELIXIR DRILL LUBE
WATER BASED LUBRICANT

WATER BASED DRILLING MUD/BRINE LUBRICANT

ELIXIR DRILL LUBE is an environmentally acceptable, high performance lubricant designed to reduce torque and drag in water-based drilling muds and brines.

ELIXIR DRILL LUBE is designed to offer outstanding environmental properties across all sectors including OSPAR, UK, Norway, Denmark, and US GOM and is classified as Non-Hazardous to Health under UK/EU Legislation. Please check with us for the latest environmental classification in your area.

ELIXIR DRILL LUBE offers excellent torque reduction across a wide range of mud and brines as demonstrated below using the Falex Pin and Vee Lubrication Tester.

NaCl Brine S.G. 1.2			
	Torque (Lb.in)		% Torque Reduction
Load (lbs)	0% Lube	2% v/v Lube	
100	8.4	2.3	**73%**
200	17.5	4.7	**73%**
300	18.9	5.5	**71%**
400	24.9	6.8	**73%**
500	43.3	8.0	**82%**
600	60.2	9.1	**85%**
700	FAIL	11.0	
800		13.0	
900		16.8	
1,000		22.6	
1,100		25.5	
1, 200		27.7	
1,300		28.2	
1,400		29.5	
1,500		31.0	
1,600		31.2	
1,700		31.7	
1,800		31.4	
1,900		30.4	
2,000		36.1	
2,100		42.3	
2,200		FAIL	

NaCl WBM S.G 1.25			
	Torque (Lb.in)		
Load (lbs)	0% Lube	2% v/v Lube	% Torque Reduction
100	8.6	2.0	**77%**
200	14.9	4.0	**73%**
300	22.6	4.4	**81%**
400	33.7	5.3	**84%**
500	43.4	7.7	**76%**
600	43.0	9.4	**78%**
700	43.5	11.9	**73%**
800	FAIL	18.1	
900		FAIL	
1,600			
1,700			

Please note that we offer a brine and mud lubricant testing service free of charge to potential customers and we can adjust our products where necessary to meet customer specific requirements.

Falex Pin and Vee lubrication tests were carried out using Subsea Chemistry's Test Protocol TP018.

Briefly, the Falex pins are immersed in the fluid under test, the load applied increased to 100 lbs force (1334 N) and then held for 1 minute after which the torque reading is taken.

The applied load is then increased in 100 lbs force increments until there is a sudden increase in torque observed or the next loading cannot be achieved.

PHYSICAL PROPERTIES	
Appearance	Amber Fluid
Pour Point (ºC)	< -10°C
Specific Gravity	1.09 gcm^{-3}
pH (neat)	10.2
pH (1% Dilution)	9.4
Viscosity (cSt)	90 @ 20°C

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