

Description

KAR-SPOT W is a unique blend of an emulsifier, a surfactant and an organophilic clay which is designed for preparing oil-base spotting fluids to free differentially stuck pipe.

Typical Properties

Appearance : Opaque liquid
pH (1% solution) : 6.0
Specific Gravity : 0.92 - 0.94
Flash Point : >392 °F (200 °C)

Features and Benefits

KAR-SPOT W is mixed with oil, water and weight material to prepare a weighted oil-base spotting fluid to free differentially stuck pipe. Oil phase of spotting fluid is made up of crude oil, diesel oil, mineral oil or KAR-LUBE. Freshwater, seawater or brine constitute water portion. Once formulated the fluid is placed in stuck zone. KAR-SPOT W breaks down filter cake and allows the spotting fluid to penetrate between the drill string and formation while wetting and lubricating the drill string. This dual effect of spotting fluid reduces the force necessary to free stuck pipe.

KAR-SPOT W imparts excellent rheological properties to keep weight material in suspension without the need for any other material.

KAR-SPOT W can also be used in un-weighted formulations.

The oil to water ratio of spotting fluid varies depending on fluid density. It increases with increasing fluid density.

KAR-SPOT W can tolerate the contamination by water-base drilling fluid.

KAR-SPOT W can also be used to formulate spacer fluid for cementing when oil-base drilling fluid is used.

Application

Tables 1 and 2 give the spotting fluid compositions using either barite or hematite in diesel oil at various densities. If mineral oil is used, the concentration of KAR-SPOT W is increased from 8 to 9 drums.

The success of spotting fluids depends on the volume displaced and on proper placement. After determining the location of the stuck zone, spotting fluid should be properly placed in such a way to cover entire stuck zone.

If high viscosities are anticipated during mixing, the spotting fluid is diluted with oil. On the other hand, Kar-Spot W is added when higher viscosities are needed.

Mixing Procedure

1. Thoroughly clean mixing pit and flush mixing lines with water and drain.
2. Fill mixing tank with required amount of Kar-SPOT W.
3. Add seawater or drill water and shear with centrifugal pump for 30 min.
4. Add barite to the required density and mix until a smooth blend is achieved.
5. If spotting fluid is too viscous dilute with oil and add additional barite. Add KAR-SPOT W when higher viscosities are required.

Packaging

KAR-SPOT W is supplied in 55 gal (208 liters) steel drums.

Table 1. KAR-SPOT W Fluid Formulations with Diesel Oil and Barite (100 Final Barrel)

Density (ppg)	KAR-SPOT W (55 gal drums)	Diesel (bbl)	Water (bbl)	Barite (50 kg sack)
8.0	8	52.8	34.5	31
9.0	8	52.7	30.9	80
10.0	8	52.6	27.2	131
11.0	8	52.5	23.6	181
12.0	8	52.1	20.3	230
13.0	8	51.5	17.2	279
14.0	8	50.7	14.2	328
15.0	8	49.6	11.7	378
16.0	8	48.4	9.2	427
17.0	8	46.9	7.1	475
18.0	8	45.3	5.0	524

Table 2. KAR-SPOT W Fluid Formulations with Diesel Oil and Hematite (100 Final Barrel)

Density (ppg)	KAR-SPOT W (55 gal drums)	Diesel (bbl)	Water (bbl)	Barite (50 kg sack)
8.0	8	52.7	35.1	28
9.0	8	52.5	32.3	76
10.0	8	52.4	29.5	123
11.0	8	52.0	26.9	171
12.0	8	51.6	24.3	218
13.0	8	51.1	21.8	265
14.0	8	50.4	19.6	313
15.0	8	49.7	17.4	360
16.0	8	48.8	15.3	406
17.0	8	47.7	13.4	454
18.0	8	46.5	11.7	500