



Product Information

LESS DAMAGING TOTAL LOST CONTROL

RTL is a coarse size organic plugging agent used to bridge and seal fracture formation in water (wbm), oil (obm) or synthetic base mud systems. It is a less damaging / less-invasive treatment for partial to total loss circulation zone in production formation. It builds a thin seal at the borehole surfaces by its unique fiber, granule and flake material characters and avoiding mud invasion to the fractured / loss zone. It has an unique shear thickening characteristic which to be more thicken during pass the loss zone by shearing (dilatants). In upper side it is possible the operator to resume drilling when the conventional LCM does not work to combat total lost. RTL is made of 100% organic materials and environmentally safe.

Physical Properties

Appearance	Grayish brown
Specific Gravity	0.8 - 1
Solubility in water @ 20°C	Insoluble
Particle size distribution	200 μ / 700 μ / 1500 μ / 3000 μ

Applications

RTL is designed to bridge and seal fracture formation while drilling with non-aqueous fluids. It is effective to seal partial to total loss especially in production zone to minimize formation damage compared conventional LCM that more damaging. Usage RTL will maximize chances of identification and production of the hydrocarbon reserves.

- The recommended treatment for partial losses (<50 bbl/hour) is 20 to 30 lbs/bbl (57 to 86 kg/m³) in 50 to 75 bbl spotted pills. Spotted 1 to 3 times for each treatment.
- The recommended treatment for total losses (>50 bbl/hour) is 60 to 75 lbs/bbl (171 to 214 kg/m³) in 50 to 75 bbl spotted pills. Spotted 1 to 3 times for each treatment.
- It is not recommended to mixed pills with any other lost circulation materials on same treatment.
- It is recommended to remove mud pump screen while treatment RTL and highly recommended to consult with MWD/LWD engineer before RTL spotted when use motor in down hole tools.
- RTL can also be used as front spacer for cementing job to increase a fracture gradient of weak formation by usage 10-25 lbs/bbl (29 to 71 kg/m³).

General Advantages

- Can be used in water (wbm), oil (obm) and synthetic mud system.
- Effective bridging and sealing agent for wide range of formation and severity of losses
- Effective sealing of heterogeneous formation with same fluid type and composition and able to increase the fracture gradient.
- It can be use to control partial to total lost circulation zone.
- It has an unique shear thickening characteristic which to be more thicken during pass the loss zone by shearing (dilatants)
- RTL is made of 100% organic materials and environmentally safe
- Easily be pumped through down-hole tools in concentration up to 100 lb/bbl (285 kg/m³)
- Temperature stable to 500°F (260°C)

Specialty Advantages

- Less-damaging / less-invasive treatment for partial to total loss circulation zone in production formation.
- Bio-degradable and partially acid-degradable will prevent formation damage by sealing the fracture by its unique fiber, granule and flake material characters, specially during drilling the production zone
- In shale layer can reduce hole instability due to shale swelling mechanism and will resulting in perfect drill holes and reduce the risk of stuck pipe
- Thin skin due to the use of RTL will be very easy to remove from the wall in the formation during well completion that is sufficient to conduct drilling fluid backflow.

Limitation

Can be wasted from the circulating system by shale shakers and solid control equipment.

Toxicity and Handling

RTL does not contain any component which is classified as dangerous to health, however, exposure to the dust can cause respiratory problems. Use of appropriate respirator, gloves, goggles and apron is recommended for employee comfort and protection. RTL is non-toxic and considered to be harmless in the marine ecosystem. RTL does not have a restricted classification for transportation by international or domestic regulatory agencies.

Packaging and Storage

RTL is packaged in 25 lb (11.3 kg) multi-wall paper bags, 40 bags / pallet. Store in dry, well ventilated area. Keep the container closed. Store away from incompatibles.



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