

HydraHib

Shale inhibitor

APPLICATION

Clay hydration suppressant

ADVANTAGES

- Excellent shale inhibition and limitation of cuttings dispersion
- Reduced accretion potential on BHA and bit balling
- Tolerance to common contaminants, including cement, hard water, CO₂, drill solids, and crude oil

The HydraHib[†] shale inhibitor is a liquid polyamine shale suppressant used in inhibitive water-base drilling fluids. The inhibitor suppresses clay hydration by intercalating and reducing the space between clay platelets so that water molecules will not penetrate and cause swelling. The additive effectively inhibits shale or gumbo clays from hydrating, minimizes the potential for bit balling, and provides superior cutting integrity.

The recommended concentration is 1.5%–6% by volume depending on shale reactivity and the amount of shale in the interval drilled. The HydraHib additive concentration should be monitored using filtrate amine titration. Premix dilution rates should be based on calculated amine depletion rates and the polyamine concentration in the premix.

It is important to monitor cuttings condition at the shakers during drilling operations. Cuttings should be firm and dry inside. Sticky and balled-up cuttings may indicate insufficient inhibition from a low concentration of HydraHib inhibitor. The initial mixture may contain more HydraHib inhibitor than specified in the drilling fluid program to act as a buffer against consumption (for example, 6%–9%).

Typical Physical Properties

Physical appearance	Liquid
Specific gravity	1.0–1.1
Odor	Pungent
pH (5% solution)	8–10
Flash point	>212 degF [>100 degC]
Pour point	≤ 32 degF [0 degC]
Solubility in water	Soluble

Limitations

- To reduce the likelihood of ammonia development, the pH should be maintained around 9.3. Additions of sodium bicarbonate and citric acid as separate treatments (not added simultaneously) are recommended prior to cement jobs. Overtreatments with citric acid may lead to citrate salt formation, increasing the potential for dispersion of clays and accretion.
- Before performing any additions to the active system, pilot tests should be carried out to verify their effect on rheology and filtrate.

Toxicity and handling

Bioassay information is available upon request.

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

Packaging and storage

Standard pack unit: bulk or 55-galUS [208-L] drums.

Keep containers tightly closed in a dry, cool, and well-ventilated place. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping, and stacking.