

## INFORMATION

# SUPER-STOP-AS

ACID SOLUBLE LCM

### DESCRIPTION

SUPER-STOP-AS is a new-technology product which is designed to combat and cure severe lost circulation problems. SUPERSTOP-AS is a dry powdered/granular material incorporating synthetic polymers, inorganic minerals, and binders. SUPERSTOP-AS is non-toxic and is not harmful to the environment.

### APPLICATION

SUPER-STOP-AS can be applied in a variety of lost circulation situations, primarily when freshwater or low salt muds are used.

Most lost circulation is caused by loss of mud into fractures or natural voids in the formation. SUPER-STOP provides a means of filling and sealing these fractures and voids in a unique way which makes use of the water available in the mud or in the formation. SUPER-STOP-AS works by filling the fractures or voids with a slurry of water or mud containing the unyielded SUPER-STOP-AS material. This slurry thickens in-situ after being placed downhole, becoming a heterogeneous gelled mass of rubbery stable gel particles or chunks in a viscous inorganic/organic mass matrix.

SUPERSTOP-AS is highly acid-soluble and can be removed after placement by HCl treatment. This allows the sealing of vugs and fractures in productive formations, then removal of the plug and production of the zone after completion of the treatment.

### MIXING and PLACEMENT PROCEDURES

When loss of circulation occurs, prepare a slurry pill by mixing from 75 to 100 ppb of SUPER-STOP-AS into fresh water and pump the mixture while it is still pumpable (and not too viscous) and spot the pill across and above the zone of loss circulation.

Spot a balanced pill (same fluid column height inside and outside drill pipe), and pull up out of the pill when it is in position.

Allow sufficient time for the SUPER-STOP-AS pill to swell after spotting it in the zone of lost circulation. If the hole does not take fluid after spotting the pill and with the pumps off, or if it takes fluid only very slowly, it is useful to encourage some fluid loss into the thief zone by circulating above the pill (to provide some additional effective hydrostatic head by virtue of increasing the equivalent circulating density or ECD) or by applying gentle squeeze pressure. The objective is to fill the fractures or voids in the thief zone with the SUPER-STOP-AS slurry while SUPER-STOP-AS is yielding and becoming viscous. Normally it will take approximately 30 minutes to 1 hour for the SUPER-STOP-AS pill to swell and react from the time of initial mixing. This window of time determines how long the pill can be held in the surface tank before pumping, and how much pumping time is available before the pill becomes excessively thick. Additional time, if available, will allow greater swelling and increase the chances of stopping the loss of circulation. SUPER-STOP-AS normally will not become viscous enough to clog drill pipe, although a full-thickened SUPER-STOP-AS pill may require unacceptably high pump pressures to force out through the nozzles of a jet bit.

If severe loss of circulation occurs, various loss circulation materials such as fiber, mica, cellophane, nut plug, marble chips, etc. can be mixed with the SUPER-STOP-AS pill to give greater bridging within the zone of lost circulation. Care should be taken in selection of additive materials to avoid plugging bit nozzles if a bit is on the drill string.

SUPER-STOP-AS pills should normally be at least 50 bbl in volume, or enough to fill the hole across the thief zone and at least 300 feet above the top of the zone.

#### **PACKAGING**

SUPER-STOP-AS is available in sacks of 50 lb or 25 kg net weight.

SUPER-STOP-AS is a Messina trademark