

## INFORMATION

# CA-SP4

### CHEMICAL WASH/SPACER

#### DESCRIPTION

CA-SP4 is a wash/spacer fluid used to separate cement slurries from drilling fluids and remove residual mud from the formation and pipe surfaces. CA-SP4 removes mud by combination chemical/turbulent action. The properties of CASP4 are as follows:

Form	Granular Powder
Bulk Density	66 lb/cu ft
Purity	< 2% insoluble residue
Solubility (gm/100 gm water)	15

#### APPLICATION

CA-SP4 washes/spacers exhibit low viscosity, but maintain a yield point high enough to carry small fines from the wellbore. CA-SP4 washes go into turbulent flow at low pump rates which sweeps the surfaces of the pipe and formation leaving them clean and water wet to enhance cement bonding. This fluid also prevents mud/cement gelation by separating the usually incompatible stages. This helps to minimize cement channeling in the annulus.

#### RECOMMENDED TREATMENT

CA-SP4 can be mixed at concentrations ranging from 5 ppb up to 25 ppb depending on the volume of fluid desired to use and the complexity of the residual drilling mud.

#### PACKAGING

CA-SP4 is packaged in 100 lb multi-wall sacks, suitable for export.

CA-SP4 is a Messina trademark