

# LCL-60

## Borate Cross-Linker

41120-005



LIBERTY

### General Information:

LCL-60 is an aqueous borate cross-linker that yields high quality, viscous guar and hydroxypropylguar (HPG) based gels.

### Physical Properties:

Density ..... 10.33 – 10.58 lbs/gal.  
Solubility in Water ..... Complete  
Appearance ..... Clear to yellow liquid  
Odor ..... None  
Flash Point ..... > 200°F  
Ionic Charge ..... Non-ionic

### Recommended Uses:

LCL-60 is typically used at 0.2 to 0.5 gallons per thousand gallons of frac fluid. It is intended for use at pH's from about 9.0 to 11, with the higher pH levels at higher temperatures. It has been successfully tested at temperatures as high as 275°F. LCL-51 has been shown to be an effective additional delayer for LCL-60 fluids. Laboratory testing with all components of a proposed fluid is essential to ensure designed fluid properties.

### Packaging:

LCL-60 is supplied in 55 gallon poly drums, 275 gallon poly totes and Bulk storage.

### DOT Information:

**SODIUM HYDROXIDE SOLUTION, 8, UN 1824, PG III**

