



## PRODUCT DATA

### EnerFrac™ X-Link 142

Borate self buffering Cross-Linker

#### Description:

EnerFrac™ X-Link 142 is an extremely versatile liquid borate cross-linker. It contains 1.50 lbs. of B<sub>2</sub>O<sub>3</sub> per gallon and is one of the most highly concentrated forms of a true liquid borate available on the market today. Because EnerFrac™ X-Link 142 is a freeze protected liquid, it is much easier to use than conventional dry powdered borate products. EnerFrac™ X-Link 142 can be metered more precisely than powders, maximizing gel performance. EnerFrac™ X-Link 142 cross-links the gel rapidly after contact. If desired, EnerFrac™ X-Link 142 may be used without the addition of a buffer in low temperature ( $\leq 150^{\circ}\text{F}$  ( $65.6^{\circ}\text{C}$ )) applications. In many waters EnerFrac™ X-Link 142 used at 2 - 3 gal/Mgal will provide cross-link at a pH of approximately 9.30. This lower cross-link pH allows the enzyme breakers to work better, thus breaking the cross-linked gel more completely. EnerFrac™ X-Link 142 may also be used with conventional buffers at temperatures to  $300^{\circ}\text{F}$  ( $148.9^{\circ}\text{C}$ ).

#### Physical Properties:

|                        |  |
|------------------------|--|
| Form: Liquid           | Chemical Family: Borate Salt                                   |
| Color: Clear           | Solubility: Water  |
| Odor: Mild             | Wt. per Gal: 10.0 lbs.   |
| Charge: Inorganic Salt | Flash Point: $>200^{\circ}\text{F}$ ( $93.3^{\circ}\text{C}$ ) |

#### Application:

It is strongly recommended that a cross-link test be performed prior to field application using the water and all materials that will be employed in the actual job. EnerFrac™ X-Link 142 should be added on the fly to the gel. For temperature applications  $\leq 150^{\circ}\text{F}$  ( $65.6^{\circ}\text{C}$ ), simply add 2.0 - 3.0 gal/Mgal to a 20 - 60 lbs. EnerFrac™ G-40 (Guar) gel. In most waters no other pH adjustment is required to achieve a cross-link. For higher temperature applications or a stiffer cross-link a buffer should be used to raise the pH. For temperature applications above  $150^{\circ}\text{F}$  ( $65.6^{\circ}\text{C}$ ) and up to  $300^{\circ}\text{F}$  ( $148.9^{\circ}\text{C}$ ) an external buffer should be used. The dosage will vary from 0.75 - 4.0 gal/Mgal. of gel depending on gelling agent concentration, pH and bottom hole temperature.

#### Compatibility:

EnerFrac™ X-Link 142 is compatible with all commonly used additives. Gels made with EnerFrac™ X-Link 142 can be broken using EnerFrac™ LEB, EnerFrac™ DEB, EnerFrac™ Gelbreak 102, EnerFrac™ Gelbreak 120, and EnerFrac™ Gelbreak 121.

#### Handling and Storage:

Keep container tightly sealed when not in use. Avoid contact with eyes, skin and clothing. Avoid breathing vapors. Wear rubber or neoprene gloves, apron and chemical splash goggles while handling. Refer to Material Safety Data Sheet (MSDS) for handling and hazard data.

#### Packaging:

EnerFrac™ X-Link 142 is packaged in 55 gallon drums.

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