

DEB

ENZYME BREAKER

Description

DEB is a powdered enzyme breaker used to break water based gels made from any guar or guar derivative including HPG and CMHPG. DEB reduces the viscosity of the gel to less than 15 cPs, enhancing clean up and frac water return. DEB can significantly reduce proppant pack permeability damage caused by unbroken gel. DEB is packaged in convenient, easy to use, individual one pound bags.

Properties

Form: Powder
Color: White
Odor: Mild
Charge: NA

Chemical Family: Protein
Solubility: Water, brine
Bulk Density: 33 lbs/ft³
Flash Point: None

Application

DEB has a pH optimum range of 3.5 to 4.5 at 104° F (40°C). Effective activity is demonstrated over the range of pH 3.5 to 6.0. Values below 3.5 and above pH 8.0 rapidly deactivate the enzymes. DEB has a temperature optimum of 122°F (50°C) to 140°F (60°C) at pH 4.5. Temperatures above 140° F rapidly deactivate the enzyme. Temperatures below 122° at pH 4.5 result in extended stability. DEB should be added continuously on the fly. Best results are obtained when DEB is first dissolved in water (1 lb. DEB dissolved in a minimum of 1.0 gal. of water). The enzyme is now in liquid form and can be added on the fly with much greater ease. In addition, it will be distributed more uniformly throughout the gel and better breaks will result. Recommended use rate is ½ - 1 lb/Mgal. in regular gels and 2 lb/Mgal. in cross-linked gels.

Compatibility

DEB must not be mixed with any other additives prior to use.

Handling/Storage

Store in a dry location. Keep container tightly closed and any opened 1 lb. bags tightly sealed. Exposure to moisture greatly reduces product shelf-life. DEB is non-toxic and virtually harmless. The dust may be irritating to the eyes and nose. A paper dust mask, safety glasses and cloth gloves are recommended when handling. Refer to Material Safety Data Sheet (MSDS) for handling and hazard data.

Packaging

DEB is packaged in individual 1 lb. bags, 50 bags per fiber keg, 50 lbs. per keg.