

Additives for Fracture Stimulations



Similar to what is found in your kitchen and laundry room

Ingredient	Common Name	Frac Fluid use	Common use
Gellant	Guar bean gum	Water viscosifier, forms gel to suspend sand	Thickener used in cosmetics, toothpaste, and sauces
Gellant	Cellulose polymer	Water viscosifier (thickener) to suspend sand	Thickener for cosmetics and household products.
Crosslinker	Borate salt	Increases gel viscosity	Used in laundry detergents, hand soaps and cosmetics
Gel Breaker	Sodium borate salt	Gel breaker to lower viscosity for efficient cleanup	Laundry detergent and pharmaceuticals
Gel Breaker	Cellulase/Hemicellulase	Gel breaker (enzyme) to lower viscosity for efficient cleanup	Used in commercial food processing, laundry detergents, and pharmaceuticals.
Friction Reducer	Polyacrylamide	Minimizes friction between fluid and pipe	Flocculant for water treatment, soil conditioner for farming
Clay Control	Chlorine compound	To prevent clay swelling when contacted by water	Additive for feed/farming
Flowback Enhancer	Surfactants	Promotes the return of fluid from the formation to the wellbore	Cosmetics
Scale Inhibitor	Phosphonate	Prevents scale from forming on pipes	Pharmaceuticals, water treatment, desalination systems.
pH Control	Sodium or potassium carbonate	Maintains effectiveness of gel crosslinker	Used in washing soda, soap, hot tubs and water softeners
Carrier Fluid	Mineral oil	Carrier fluid for powdered additives	Cosmetics, pharmaceuticals, lubrication electric components
Bactericide	DBNPA (amide)	Kills bacteria in mix water	Cooling tower treatment
Pre-Frac well treatment	Hydrochloric Acid	Cleans and dissolves scale	Cleaner (muriatic acid), stomach acid
Carrier Fluid Antifreeze	Propylene Glycol	Freeze proofing of water based carrier fluids	Pharmaceuticals (cough syrup), food processing

