



Lubrizol Drilling Fluid Additives

Application Guide

| Product Name | Chemical Type | Key Function | Primary Application |
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| Lubricants and Dispersants | | | |
| LUBRIZOL® 2260 | Zinc dialkyldithiophosphate (ZDDP) | Lubricant enhancer/booster. | Especially effective in silicate and other water-based systems. Used to reduce torque and drag. Used to increase ROP, especially in horizontal and directional wells. Typically added to the primary lubricant at 5-20%. Lubricant blend is then added to the drilling fluid at 1-5%. |
| LUBRIZOL® 2632B | Polyolefin amide alkeneamine | Dispersant/wetting agent. | A succinimide-type agent for use in oil-based systems when stable water-in-oil emulsions are needed. Typical treat rate is 5 - 15 pounds per barrel. |
| LUBRIZOL® 2634 | Polyolefin amide alkeneamine | Environmentally friendly dispersant/wetting agent. | Viscosity reducer for oil-based high solids drilling muds. Increases the solids carrying capacity of the mud while maintaining rheological properties. Typical treat rate is 0.25 - 2 pounds per barrel. |
| LUBRIZOL® 5340G | Sulfurized olefin | Extreme pressure agent/lubricant | For use in oil-based systems. Synergistic with synthetic ester lubricity agents and extreme pressure chemistries including overbased sulfonates and phosphate esters. Can also be formulated for use in brine systems. Typical treat rate is 3 - 5%. |
| ClayGuard™ E | Blend of amine salts | Provides both temporary and permanent clay control protection. | Typical concentration range is 1 - 4 gal/1000 gallons. |
| Corrosion Inhibitors | | | |
| ALPHA 2090 | Cocoamine diquatary ammonium chloride | Used to formulate corrosion preventives; can also be used as a water-injection-system surfactant, water clarifier, and anti-foulant. | Oil well drilling, completion, production, and water flood systems. |
| ALPHA 2296 | Potassium salt of an alkyl phosphate ester | Corrosion preventative that controls general and pitting corrosion for oxygen, hydrogen sulfide and carbon dioxide. | For use in water-based drilling systems. Optimal treatment will vary depending on the application. Typical treat rate is 500-2,000 ppm. |
| Foamers | | | |
| CWF 211 | Alcohol ether sulfate blend | All purpose air foam drilling surfactant. | Foams in fresh water, saturated brines and in the presence of oil contamination. Typical concentration range is 1 gal per 1000 gallons. |
| CWF 311 | Alcohol ether sulfate blend | Foam fracturing - in nitrogen generated foam to provide sand transport and fluid loss control. Air foam drilling - as an aid in removing water and drill cuttings from the wellbore. Effective temperature range up to 350°F (177°C). | Foams in fresh or hard water, saturated brines and in the presence of oil contamination. Typical concentration range is 1 gal per 1000 gallons. |
| CWF 511 | Alcohol ether sulfate blend | Used in underbalanced drilling applications to generate a foam drilling fluid that tolerates salt to 12% and a small amount of oil contamination. | Highly effective fresh water foaming agent. Typical concentration range is 1 gal per 1000 gallons. |
| Emulsifiers | | | |
| ALPHA 6017 | Alkanolamide | Invert emulsifier/EP lubricant/oil-soluble dispersant and solubilizer. | For use in oil-based systems. Optimal treatment will vary depending on the application. Typical concentrations of 1-3% in the oil phase, based on total emulsion. |
| ALPHA 6332 | Alkanolamide and fatty acid blend | Secondary emulsifier in invert emulsion drilling fluid systems. Can be used as a primary emulsifier. | For use in diesel, low toxic oils and synthetic-based fluids. Optimal treatment will vary depending on the application. Typical concentration range is 2 - 10 pounds per barrel. |