



ESSENTIAL DRILLING SYSTEMS

A Division of Innovative Formulations Inc.

OIL AND GAS INDUSTRY PRODUCT LINE

ESSENTIAL DRILLING SYSTEMS is committed to bringing innovation and high quality products to the oilfield through an ever-growing portfolio of additives. With significant global engineering and product depth, as well as particular expertise in ultra-high temperature applications, **ESSENTIAL DRILLING SYSTEMS** offers advanced chemical solutions to meet the ever-growing demanding oilfield challenges around the world.

CALL US TOLL FREE AT 1-800-888-888

CEMENT ADDITIVES

Chemistries for gas migration and fluid loss control broader technological organization provide strong support by concentrating on polymerizations, physical and chemical analyses, and process development.



DRILLING FLUID ADDITIVES

Chemistries for Filtrate and rheology control, lubrication, emulsification and shale stabilization Our R&D resources are focused on breakthrough innovations for specialty oil and gas applications



STIMULATION ADDITIVES

Chemistries for sand treatment, dust control and corrosion inhibition Our team is focused on customization of core chemistries to meet specific oil and gas application requirements and solve challenging problems

ESSENTIAL DRILLING SYSTEMS A Division of Innovative Formulations Inc.

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Phone: 770-253-7708 Fax: 770-254-1493

CEMENT ADDITIVES PRODUCT LINE

Our advanced liquid and dry cementing lattices enhance several key cementing properties, allowing for simpler slurry designs. These additives can be used across a wide range of design densities to extend the slurry, enhance stability, control fluid loss, and mitigate gas migration.



DISPERSANTS:

Modifies and adjusts the rheological properties of the cement slurry to help ensure proper placement in the annulus of the wellbore. Our polycarboxylate-type dispersants are highly efficient and compatible with all common cementing additives.

GAS MIGRATION CONTROL ADDITIVES:

ESSENTIAL DRILLING SYSTEMS gas migration control additives are liquid or free-flowing powders that improve bonding to the formation and pipe. These products aid in maintaining a full column of cement and offer excellent free-water control, minimizing annular gas migration.

MECHANICAL IMPROVEMENT:

ESSENTIAL DRILLING SYSTEMS flexible expanding cements help ensure well integrity by resisting stresses encountered throughout the well lifecycle. Unlike conventional cement systems, EDS cement expands after setting, improving cement bonding and blocking hydrocarbon migration. Its low Young's modulus allows it to absorb cement sheath stresses without cracking. This reduces the risk of annular pressure buildup, sustained casing pressure (SCP), mechanical well damage, cement sheath failure, collapsed casing, tensile cracks, cement deboning, and costly remedial cementing jobs.

RETARDERS:

Adjusting the thickening time of the cement slurry is critical to operations at elevated temperatures. Our retarders are developed to work in particular temperature ranges providing a predictable, linear response of thickening time.

OIL & GAS DRILLING ADDITIVES

PRODUCT LINE

ESSENTIAL DRILLING SYSTEMS high performance drilling fluid additives have earned a strong reputation with nearly two decades of delivering customized solutions to service providers in a broad range of drilling conditions. From deep water and extended-reach drilling to conventional applications, ESSENTIAL DRILLING SYSTEMS branded family of polymers deliver exceptional value.



DRILLING SYSTEM:

Improve well economics and performance with fewer products and easier well site transportation costs. EDS high performance water-based fluid system combines the key ingredients into one product, allowing for simple enhancement and improved performance.

NON-AQUEOUS EMULSIFIERS :

Our emulsifier's produce highly stable invert emulsion fluids with enhanced emulsion stability over a wide range of oil/water ratios, mud weighs and temperatures. They can be formulated in tight emulsion, relaxed-filtrate or all-oil configuration depending on the application.

WATER BASED FLUID LOSS CONTROL ADDITIVES:

ESSENTIAL DRILLING SYSTEMS water-based additives rely on special deformable micro-particles that survive high salt and high temperature environments to provide down-hole plugging in bottom hole temperatures up to 400 °F (204 °C).

NON-AQUEOUS FLUID LOSS CONTROL ADDITIVES :

Engineered to perform with oil-based drilling fluids in temperatures up to 500 °F (260 °C), ESSENTIAL DRILLING SYSTEMS oil-based polymers provide excellent fluid loss control with low formation damage.

OIL & GAS DRILLING ADDITIVES

PRODUCT LINE

ESSENTIAL DRILLING SYSTEMS high performance drilling fluid additives have earned a strong reputation with nearly two decades of delivering customized solutions to service providers in a broad range of drilling conditions. From deep water and extended-reach drilling to conventional applications, ESSENTIAL DRILLING SYSTEMS branded family of polymers deliver exceptional value.



LOST CIRCULATION MATERIALS:

ESSENTIAL DRILLING SYSTEMS lost circulation materials (LCM) are environmentally preferred and can be applied through the drill string into any fracture to create a strong bridge across the loss zone. This unique process can be applied with the rig equipment to place the slurry inside the fracture and then perform a squeeze to begin the dewatering process. EDS products can cure losses instantly without time or temperature dependency.

RHEOLOGY CONTROL AGENTS:

Our rheology control agents provide accurate rheological control of non-aqueous fluids at low dosage in all base oils.

SCALE INHIBITORS:

ESSENTIAL DRILLING SYSTEMS shale inhibitors inhibit water transfer into shale formations resulting in a more stable wellbore. Our complete line of products mitigate reactive formation swelling, avoiding stuck pipe and non-productive time.

SYNTHETIC AND PARA-SYNTHETIC LUBRICANTS:

Reducing torque and drag not only accelerates rates of penetration (ROP), but also increases bit and tool life. EDS Synthetic and Para-synthetic lubricants can be used for both water-based and emulsion fluids to enhance ROP, reduce friction, and help prevent bit "balling."

CORROSION INHIBITORS

ESSENTIAL DRILLING SYSTEM Corrosion additives will protect metal surfaces from corrosion during well acidizing operations.

ESSENTIAL DRILLING SYSTEMS PRODUCTS

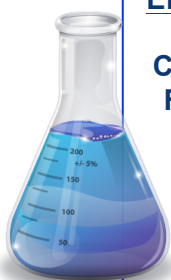
PRODUCT LINE

ESSENTIAL DRILLING SYSTEMS: high performance stimulation additives deliver customized solutions to address unconventional challenges (to services providers). With years of proven experience and results in restoring or enhancing the well productivity, our specialty chemicals and blends provide exceptional value in corrosion inhibition and other areas.



EDS CEMENT ADDITIVES

Dispersants: Wellbore Cementing



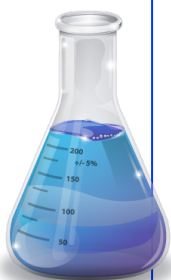
EDS-D635 Dispersant for Wellbore Cement

Chemistry Type: Polycarboxylate derivative

Function(s): Cement Additives

EDS D635 wellbore cementing dispersant is highly efficient over a broad application temperature range up to 140 °C (280 °F) bottom hole circulating temperature (BHCT), generating low and stable slurry viscosities to minimize pump pressure. It is also synergistic with sulfonated polymeric fluid loss control additives. It slightly retards the cement setting.

Gas Migration Control Additives: Wellbore Cementing



EDS-GM-233 Copolymer Latex Additive for Wellbore Cement

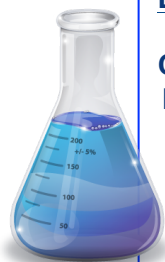
Chemistry Type: Synthetic Copolymer

Function(s): Cement Additives

EDS GM-233 can be used in well-borne cement at temperature ranges up to 121 C (250 F) EDS GM-233 provides gas migration control in both fresh water and low saltwater environments. It acts as a fluid loss agent and stabilizer in cement slurries and improves cement bonding to casing formations.

EDS CEMENT ADDITIVES

Gas Migration Control Additives: Wellbore Cementing



EDS-GM-235 Copolymer Latex Additive for Wellbore Cement

Chemistry Type: Synthetic Copolymer

Function(s): Cement Additives

EDS GM-235 can be used in well-borne cement at temperature ranges up to 121 C (250 F)

EDS GM-235 acts as a fluid loss agent, suspension aid and stabilizer in cement slurries. EDS GM-235 also improves cement bonding to casing and formations and shows excellent compatibility with other cementing additives.



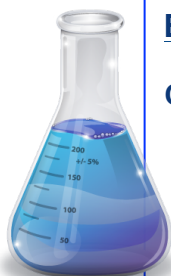
EDS-GM-255 Copolymer Latex Additive for Wellbore Cement

Chemistry Type: Synthetic Copolymer

Function(s): Cement Additives

EDS GM-255 can be used in well-borne cement to provide gas migration control in high salt water environments and high bottom hole circulating temperatures (BHCT) EDS GM-255 also acts as a fluid loss agent, suspension aid stabilizer in cement slurries, as well as prevents dewatering and premature cement setting.

Mechanical Improvement: Wellbore Cementing

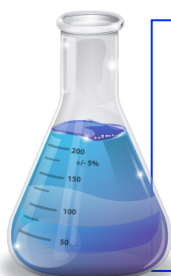


EDS-MI-133 Powdered Copolymer reinforce for High Salt & High BHCT Wellbore Cement

Chemistry Type: Styrene Butadiene Copolymer (SB)

Function(s): Cement Additives

EDS MI-133 is a reinforcing aid for wellbore cementing that improves the formulation of lower density cements in mechanical properties and resiliency.



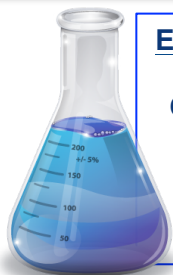
EDS-MI-135 Powdered Copolymer Elastomer for Wellbore Cement

Chemistry Type: Butadiene & acrylonitrile Copolymer (NBR)

Function(s): Cement Additives

EDS MI-133 is a dispersible powdered copolymer that improves compressive and flexural cement strength in applications up to 260 C (500 F).

EDS CEMENT ADDITIVES



EDS-MI-155 Copolymer Elastomer for Wellbore Cement Compositions

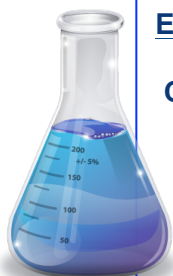
Chemistry Type: Butadiene & acrylonitrile Copolymer (NBR)

Function(s): Cement Additives

EDS MI-155 reinforcing aid for wellbore cementing enables the formulation to lower density cement with improved compression and flexural strength

Retarders:

Wellbore Cementing



EDS-R-437 Setting Retarder for Wellbore Cement Compositions

Chemistry Type: Cement Additives

Function(s): Cement Additives

EDS R-437 setting retarder for wellbore cementing can be used over a wide temperature range up to 140 C (280) EDS-R437 is used in combination with and accelerator to (CaCl₂) to tailor the setting time, it provides a linear dosage retarding response between 65—105 C (140-220 F) and therefore ideal for the low to medium temperature ranges.

OIL & GAS STIMULATION ADDITIVES

Corrosion Inhibitors:

Wellbore Cementing



EDS-CI-557 Biodegradable Corrosion Inhibitor for Acidizing

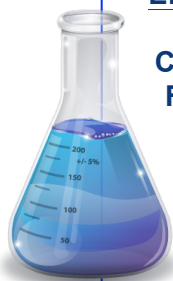
Chemistry Type: Propargyl Alcohol Derivative

Function(s): Stimulation Additives

EDS CI--557 Biodegradable corrosion inhibitor for acidizing operation performance up to 121 C (250 F). It show an excellent compatibility with other additives in the acidizing package and is highly efficient at low dosages due to synergistic action of components to optimize the corrosion protection.

OIL & GAS DRILLING FLUID ADDITIVES

Drilling Systems: Fluid Additives



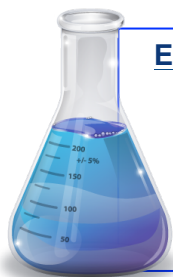
EDS-FA-008 Blend of Nonionic / Anionic Polymers for creating (WBM) Systems

Chemistry Type: Blend of Polymer, natural fibers and minerals

Function(s): Drilling Fluid Additive

EDS FA-008 is a multifunctional blend that includes polymers, fibers and minerals for a complete high performance water based drilling fluid systems. EDS FA-008 provides the stability, speed and performance of an oil based fluid system in a water based formulation.

Non-Aqueous Emulsifier Systems: Fluid Additives

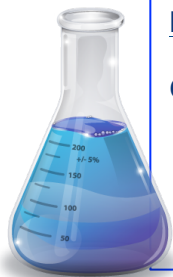


EDS-FA-635 P Emulsifier for Relaxed Filtrate in Oil & Synthetic based drilling Fluid

Chemistry Type: Vegetable oil derivative blend

Function(s): Drilling Fluid Additive

EDS FA-635 is a multifunctional blend that is a primary emulsifier for creating emulsions in relaxed filtrate applications where high stability in water in oil emulsions is desired..

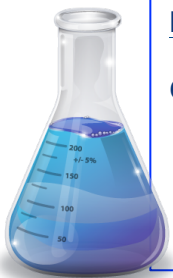


EDS-FA-635 S Emulsifier for Relaxed Filtrate in Oil & Synthetic based drilling Fluid

Chemistry Type: Vegetable oil derivative blend

Function(s): Drilling Fluid Additive

EDS FA-635 S is a multifunctional of synthetic tall oils and modified organic acids stable in in-situ emulsions in water and oil emulsions drilling fluids when combined with calcium.

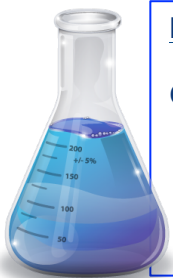


EDS-FA-637 P Primary Emulsifier for diesel, mineral & synthetic based drilling Fluid

Chemistry Type: Vegetable oil derivative blend

Function(s): Drilling Fluid Additive

EDS FA-637 P is a multifunctional blended emulsifier that provides high performance wetting and emulsification properties. Provides superior rheological properties.



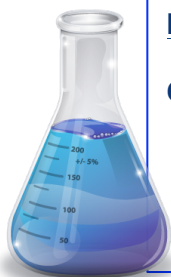
EDS-FA-637 S Secondary Emulsifier for diesel, mineral & synthetic based drilling Fluid

Chemistry Type: Alkyl polyamide and vegetable oil derivative

Function(s): Drilling Fluid Additive

EDS FA-637 S highly concentrated secondary emulsifier that provides high performance emulsification properties in both diesel and synthetic fluids.

OIL & GAS DRILLING FLUID ADDITIVES



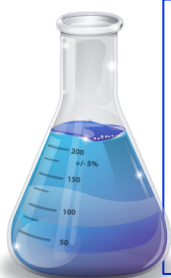
EDS-FA-615 Wetting agent for oil and synthetic based drilling fluids

Chemistry Type: Alkyl polyamide and vegetable oil derivative

Function(s): Drilling Fluid Additive

EDS FA-615 is a highly concentrated oil based mud wetting agent surfactant used in wet well drilling to enhance rheology and emulsion stability in both synthetic and traditional invert emulsion fluids.

Aqueous Base Fluid Loss Control Additives: Fluid Additives

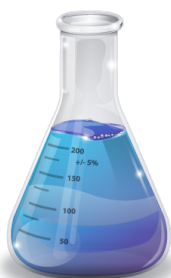


EDS-FA-135 Bio-based Copolymer Latex for Fresh and Salt Water based Drilling Fluids

Chemistry Type: Styrene Butadiene Copolymer (SB)

Function(s): Drilling Fluid Additive, Fluid Loss

EDS FA-135 is highly concentrated bio-based copolymer latex that provides fluid loss control and wellbore stability for high performance water based drilling fluids in fresh or salt water with temperature ranges up to 232 C (450 F). It plugs pores to reduce filter cake permeability and



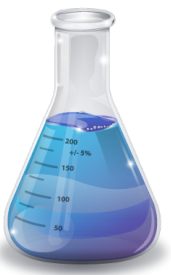
EDS-FA-137 Bio-based Copolymer for Aqueous based Drilling Fluids

Chemistry Type: Styrene Butadiene Copolymer (SB)

Function(s): Drilling Fluid Additive, Fluid Loss, Control additive

EDS FA-137 is highly concentrated bio-based that provides fluid loss control and wellbore stability for high performance water based drilling fluids in fresh or salt water with temperature ranges up to 177 C (350 F). It plugs pores to reduce fi

Non- Aqueous Base Fluid Loss Control Additives: Fluid Additives

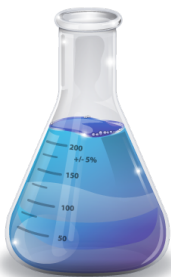


EDS-FA-233 Copolymer fluid loss control additive for oil based drilling fluids

Chemistry Type: Synthetic Copolymer

Function(s): Drilling Fluid Additive, Fluid Loss, Control additive

EDS FA-233 is highly concentrated copolymer that provides fluid loss control and wellbore stability for high performance diesel, ester, mineral oil (LTMO) and iso-olefin based drilling systems. Offers better perform



EDS-FA-239 Copolymer fluid loss control additive for UHTHP drilling fluids

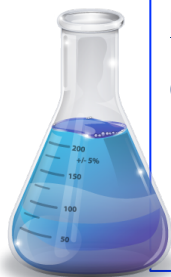
Chemistry Type: Synthetic Copolymer

Function(s): Drilling Fluid Additive, Fluid Loss, Control additive

EDS FA-239 is highly concentrated copolymer that provides fluid loss control and wellbore stability for high performance diesel, ester, mineral oil (LTMO) and high pressure (HTHP) drilling fluids formulations. Application temperatures from 204-260 C (400-500 F)

OIL & GAS DRILLING FLUID ADDITIVES

Lost Circulation Materials: Fluid Additives

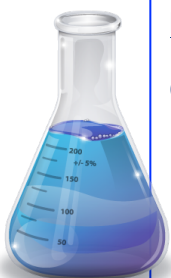


EDS-FA-833 Blended materials for Wellbore stability and seepage loss

Chemistry Type: Blend of polymers, asphalt, natural fibers and minerals

Function(s): Drilling Fluid Additive,

EDS FA-833 is highly concentrated graphite-based blend including fibers and minerals plus carbon products designed to help reduce seepage losses during the drilling of a depleted zone. Used in synthetic based fluids. Provides broad range particle distribution (PSD)



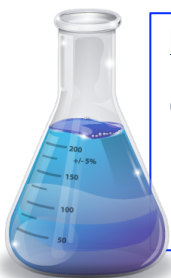
EDS-FA-877 Dewatering plug with large particle size distribution

Chemistry Type: Blend of polymers, asphalt, natural fibers and minerals

Function(s): Drilling Fluid Additive,

EDS FA-877 is highly concentrated dewatering system that can be applied directly into wellbore to create a strong bridge. A broad particle size distribution (PSD) range can assist in reducing and eliminating major mud losses by filling all vugular and cavernous formulations. Can cure mud losses without time or temperature dependency

Rheology Control Agents: Fluid Additives

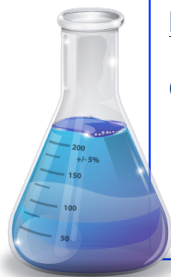


EDS-FA-433 Low-end rheology Modifier for oil and synthetic based drilling fluids

Chemistry Type: Blend of polymerized fatty acids

Function(s): Drilling Fluid Additive,

EDS FA-433 is highly concentrated rheology modifier that helps to increase low shear rheological properties with minimal effect on high shear properties.

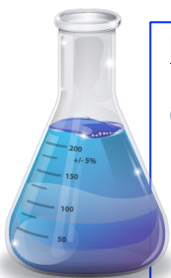


EDS-FA-337 Low-end rheology Modifier for oil and synthetic based drilling fluids

Chemistry Type: Synthetic copolymer

Function(s): Drilling Fluid Additive,

EDS FA-337 is highly concentrated deflocculant and thinner for water based drilling fluids that provides a cost effective prevention of mud gelation under static, high salt tolerance in water based drilling fluids.



EDS-FA-355 Solids free polymeric viscosifier for synthetic muds and oils

Chemistry Type: Polymeric viscosifier

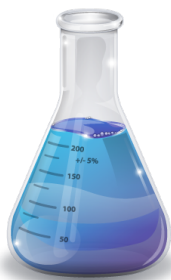
Function(s): Drilling Fluid Additive,

EDS FA-355 is highly concentrated viscosifier for oil and synthetic based drilling muds than offers an engineered rheological profile to provide low equivalent circulating densities (EDSs) at low concentrations and with greater suspension properties.

OIL & GAS DRILLING FLUID ADDITIVES

Shale Inhibitors:

Fluid Additives

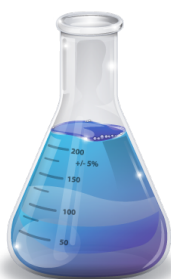


EDS-FA-733 Dispersible treated liquid asphaltite

Chemistry Type: Modified Asphalt dispersion

Function(s): Drilling Fluid Additive,

EDS FA-733 is highly concentrated inhibitor dispersible treated asphaltite and hydrocarbon resin blended in a non-toxic, environmentally preferable surfactant that helps with shale inhibition of highly reactive shale formations and is stable at temperature up to 252 C (450 F)



EDS-FA-735 Dispersible treated liquid asphaltite

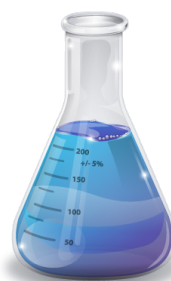
Chemistry Type: Modified Liquid quaternary ammonium salt

Function(s): Drilling Fluid Additive,

EDS FA-735 is highly concentrated shale inhibitor designed as a replacement for bagged potassium chloride (KCL), providing excellent shale and clay control without the logistical handling and missing challenges.

Lubricants:

Fluid Additives

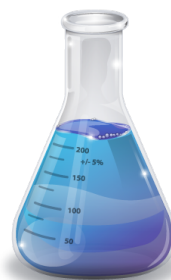


EDS-FA-435 Bio-based lubricant for freshwater based drilling fluids

Chemistry Type: Fatty acid and vegetable oil blend

Function(s): Drilling Fluid Additive,

EDS FA-435 lubricant provides lubricity to fresh and salt water based fluids. It can be used safely and effectively in both onshore and offshore wells..

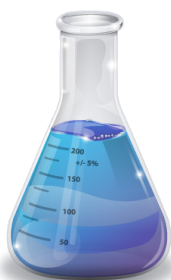


EDS-FA-475 Bio-based lubricant for freshwater based drilling fluids

Chemistry Type: Glycol and vegetable oil blend

Function(s): Drilling Fluid Additive,

EDS FA-475 lubricant provides lubricity to fresh and salt-water based fluids. Designed to have low pour point for use in cold climates as well as good heat and electrolyte stability.



EDS-FA-437 Bio-based lubricant for freshwater based drilling fluids

Chemistry Type: Sorbate mono oleate blend

Function(s): Drilling Fluid Additive,

EDS FA-437 highly concentrated lubricant that can be used in all water based fluid systems. provides lubricity to fresh and salt water based fluids. It can be used safely and effectively in both onshore and offshore wells..