

HOUGHTON OFFSHORE PRODUCTS

The additives used in the development of our offshore products have been selected to balance both environmental demands with performance demands.

Sub Sea Control Systems

The additives used in the development of our water-base offshore products have been selected to balance environment with performance demands.

Aqualink Production Control Fluids

Aqualink 300F **developed for use in conventional oil & gas production control wells**

Aqualink 325F **contains less glycol suitable for operations in warmer climates**

Aqualink HT804F **brine compatible high temperature thermal stability up to 180°C**

Aqualink water based hydraulic control fluids are biodegradable and environmentally acceptable. They have been formulated to meet the operating and technological demands of existing and future subsea oil and gas production fields.

The range of Aqualink products provide individual performance characteristics for use in conventional and high temperature wells together with formulations that also provide stability in well bore brines.

The Aqualink development programme compliments the efforts being made by Houghton to introduce a range of new improved subsea control fluids for the Offshore Industry.

Aquaglycol 24F Umbilical flushing fluid

Provides a low cost alternative to Aqualink 300 for use in flushing out umbilicals prior to installation. Aquaglycol 24 can also provide a cost effective control fluid for operations in systems awaiting maintenance and suffering from persistent leakage.

Aqualink SC Assembly Grease

Aqualink SC Assembly grease and packing compound is a biodegradable material that has been developed for use in subsea control systems that have been designed to function with water glycol subsea control fluids. Aqualink SC assembly grease is resistant to seawater and fully miscible with water glycol hydraulic control fluid. Recommended for assembling subsea equipment and the filling of male and female stab plates sitting on the seabed waiting for connection.

BOP Systems

The additives used in the development of our water-base offshore products have been selected to balance environment with performance demands.

Stack-Magic ECO-F BOP Fluid Concentrate

Dilute at 1 to 2% with fresh water potable water

Stack-Magic concentrate has been specially formulated to provide maximum operational efficiency of B.O.P, Multiplexed and Wellhead Control Hydraulic Systems, while providing protection to the various metals used throughout the system. Stack-Magic incorporate increased anti-corrosion and lubricity additives, which will operate successfully in deep waters and under extremely low temperature conditions, ensuring immediate response to the actuation of the hydraulic system. Stack-Magic is fully biodegradable providing improved environmental protection when discharged to sea.

Stack-Magic PLR (PLONOR) BOP Fluid Concentrate

Dilute 10 % with fresh potable water

A new concept in additive technology providing a "Green zone" BOP wellhead control fluid that proves to be of little to no risk to the marine environment. Houghton Offshore is a major supplier of water-based technology to the Offshore Industry and we recognise and continue to respond to the ever-increasing demands to maximise environmental acceptability, together with economies of scale for use.

Stack-Magic-PLR has been formulated to meet the current CEFAS and OSPAR requirements and falls into the "green" zone for use in Norway and is classified within the PLONOR "Provides Little Or NO Risk" classification, within the UK chemical notification scheme. There is also a pre mixed **Stack-Magic PLR Pilot line fluid**.

Commercial Anti Freeze

With the increased use of water based B.O.P. fluids comes the need for an effective antifreeze concentrate, capable of providing the necessary protection under the most severe sub-zero conditions. This material has been carefully selected for offshore winter use to be added to dilution's of Stack-magic BOP fluid in order to provide low temperature freeze protection of B.O.P systems. Can be used with both Stack-Magic ECO-F and Stack-Magic PLR.

Systems Cleaner G BOP systems cleaner

Environmentally acceptable anti-fungal and microbial treatment for contaminated BOP systems. Systems Cleaner-G provides a broad-spectrum anti-microbial treatment formulated to kill bacteria, fungi and other microorganisms. Providing a highly effective biological treatment for use in systems suffering from microbiological contamination. Can be discharged offshore meeting CEFAS test regulations.

Compensator Systems

The additives used in the development of our water-base offshore products have been selected to balance environment with performance demands.

Houghto-Safe 273CF and Houghto-Safe105CF

Houghto-Safe water glycol compensator fluids represents the most important development in Motion Compensator and Tensioner Hydraulic Fluids of recent times, they are biodegradable and both fire and explosive resistant, passing the stringent 50:1 compression ignition test, which is required to meet the US Navy specification MIL-H-22072.

Houghto-Safe CF fluids meet all the technical requirements of the major Motion Compensator and Tensioner equipment manufacturers. These fluids may be used throughout a wide range of climatic conditions, maintaining stable viscosity characteristics in equatorial waters, whilst being equally suitable for Operation under low temperature conditions.

Equipment preservation

Stack-Guard WG

Stack-Guard WG is a water glycol storage preservation fluid recommended for the internal protection of wellhead control stacks and other offshore equipment that after periods of storage will be commissioned to operate with water-based fluids. Stack-Guard incorporates antifreeze protection together with additives to provide both liquid and vapour phase corrosion inhibition, an important requirement when pockets of air maybe entrained within a system.

Marine Lubricants

Houghton produces a complete range of vegetable based and conventional hydrocarbon based lubricants and grease products for marine and industrial applications, Our superior quality Hydro-Drive range of hydraulic oils and Cosmolubric EP heavy-duty gear oils meet the majority of demands made by both Offshore and General Industries.

Hydro-Drive HPE sea-water emulsifying hydraulic oils

These oils have been developed for use in submarines, ROV's, underwater ploughs and other hydraulic and mechanical equipment that is inherently vulnerable to sea-water contamination. The heavier grades can also find applications as stern tube lubricants. The additive package used in these products is the result of many years of research work, and provides the oil with the ability to emulsify fresh and seawater whilst providing exceptional anti-corrosion properties for the protection of highly specialised and complex hydraulic systems.

Hydro-Drive B Series vegetable based hydraulic and lubricating oils

These oils have been designed for use in all types of underwater and topside hydraulic equipment being used in environmentally sensitive areas. Product grades are available in three viscosities ISO 22, 32 and 46.

These high quality biodegradable esters have been fortified with the latest additive systems to resist degradation by both heat and moisture.

Multi-Bio EP Grease

A multi-purpose, water resistant, rust preventative, extreme pressure lubricating grease.

Multi-Bio EP Grease is a soft biodegradable grease incorporating non-toxic solid lubricants, extreme pressure additives and a blend of anti-oxidants and corrosion inhibitors, combine to provide highly effective lubrication with excellent corrosion protection to metal surfaces. Formulated to reduce your maintenance and down time costs and the number of greases currently in use.

Multi-Bio EP Grease is extremely adhesive making it suitable for a wide range of applications in very wet and aggressive environments. Suitable for the lubrication of heavy loaded sliding surfaces, jack-up Legs and Bulldog gears, Cranes, Crane hooks, Heavy duty bearings, Sheaves, BOP transport guides, Slew Rings, Open gears and Pipe Rackers. The de-watering properties of Multi-Bio EP Grease make it very suitable for applications to wet slides and surfaces.

Drilling Additives

Houghton Offshore has developed new technology resulting in the formulation of environmentally acceptable lubricity additives for use with water based drilling muds and well bore brines.

Geo-Lube BL has been formulated to provide enhanced lubricity values to well bore brine formulations.

Geo-Lube WB has been formulated to provide additional lubricity to water based drilling fluids during directional drilling operations.

OCTG Rust Preventives

The cost of not protecting tubulars from corrosion is out of all proportion to the expense of providing that protection. Tubulars travel and are stored in harsh environments, temperatures vary widely, rain is blown into the crevices between threads and protectors, airborne particles abrade coatings and the atmosphere is usually salt laden since most pipe yards are on the coast. Protective coatings must consist of physical and chemical barriers, which remain effective in a wide range of conditions. It is with this thought in mind that we have developed the following products for tubular protection.

Rust Veto AS for Pipe thread protection

Rust-Veto AS is grease-type rust preventive formulated for use in extremes of climatic conditions. Designed specifically for the protection of drill pipe and casing threads, it will protect against corrosion during outdoor storage in hostile environments. Rust-Veto AS is **not** an API compound and should be removed from threads before running pipe.

Rust Veto 377 for internal protection of seamless tubulars

Rust-Veto 377 is a solvent-based rust preventive with excellent dewatering characteristics. On evaporation of the solvent, it deposits a soft greasy film, which gives excellent corrosion protection.

Rust Veto 201 for external protection of seamless tubulars

Rust-Veto 201 is designed for the long-term external protection of drilling tubulars that are subject to hostile coastal environments. Its translucent coating film is also suitable for covering identification marks which must remain visible. After evaporation a non-tacky plastic wax film remains which resists sagging and cracking.