

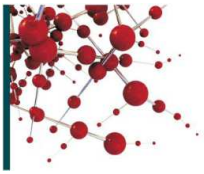


Oil Drilling and
Mining Industry



PRODUCT LIST





Barcelona has developed a product list addressed to the drilling and mining. Our list is based on our own specialties for the sector, as of commodities modified for the well use of each application.

OUR SPECIALIZED ADDITIVES FOR THE OIL DRILLING

- Dispersants to reduce viscosity and improve the properties of the cementation systems' flow based on sulfonated naphthalene:

BD CEMENTFLUID 1: Dispersant agent suitable to fluidize and increase the resistance of the concrete and the mortar.

BD CEMENTFLUID 8: Agent designed to improve the standards products used until now in the cement industry. Agent dispersant suitable to fluidize and increase the resistance of the concrete and the mortar.

- Hydrocarbons with different distillation points used as components for the drilling fluids y the mud drilling and the extraction of the Cooper based on distilled hydrated oil:

BD DRILLING FLUID (different levels): Agent reducer of the friction, carrier of other additives as guar gum, zirconite, etc.

BD SOLVENT COOPER (different levels): Agent specially designed for the lixiviation fluids composition in the extraction of the Cooper, during the electro obtention process.



LIST OF OUR COMMODITIES SPECIALLY FORMULATED FOR THE OIL DRILLING FLUIDS APPLICATION

ACIDS

Acetic Acid: Prevents the metal oxides precipitation.

Boric Acid: Maintains the viscosity of the fluids as the temperature improves.

Citric Acid: Prevents the metal oxides precipitation.

Hydrochloric Acid: Helps to dissolve the minerals and to initiate cracks on the acid rocks.

Formic Acid: Prevents the corrosion of the pipe.

Fluorhydric Acid: Dissolve the sandstone.

Nitric Acid 68%

Sulfamic Acid: Stimulation of the well.

Sulfuric Acid

BIOCIDE

Ammonium Chloride: Remove the bacterium in the water who produce corrosives by-products.

REGULATOR (Breaker)

Ammonium Persulfate: Lets a delay in the gel formation.

Sodium Chloride: Stabilizing Product.

Magnesium Oxide: Lets a delay in the gel formation.

Calcium Chloride: Stabilizing Product.

Calcium Chloride Powder

STABILIZATION OF CLAY

Sodium Chloride: Control the swelling or the displacement of the clay.

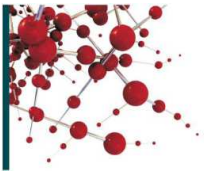
CORROSION INHIBITOR

Isopropanol: Product stabilizer and / or winterizing agent.

Methanol: Product stabilizer and / or winterizing agent.

Formic Acid: Prevents the corrosion of the pipe.

Ammonium Bisulphite: Used for the elimination of the oxygen and to avoid the oxidation of the machinery on having applied pressure with water for the extraction of the oil.



CROSSLINKER

Hydrotreated Light Petroleum Distillate (BD DRILLING FLUID): Carrier fluid for borate or zirconate.

Boric Acid: Maintains fluid viscosity as the temperature increases.

Methanol: Product stabilizer and / or winterizing agent.

FRICITION REDUCER

Hydrotreated Light Petroleum Distillate (BD DRILLING FLUID): Carrier fluid for polyacrylamide friction reducer.

Methanol: Product stabilizer and / or winterizing agent.

GELING AGENT

Hydrotreated Light Petroleum Distillate (BD DRILLING FLUID): Carrier fluid for guar gum in liquid gels.

Methanol: Product stabilizer and / or winterizing agent.

Monoethylene Glycol: Product stabilizer and / or winterizing agent.

IRON CONTROL

Acetic Acid: Prevents precipitation metal oxides.

Citric Acid: Prevents precipitation of metal oxides.

NON-EMULSIFER

Lauryl Sulfate: Used to prevent the formation of emulsions in the fracture fluid.

Isopropanol: Product stabilizer and / or winterizing agent.

Monoethylene Glycol: Product stabilizer and / or winterizing agent.

PH ADJUSTING AGENT

Sodium Hydroxide: Adjusts the PH of fluid to maintains the effectiveness of other components, such as crosslinkers.

Solid Sodium

Potassium Hydroxide: Adjusts the PH of fluid to maintains the effectiveness of other components, such as crosslinkers.

Acetic Acid: Adjusts the PH of fluid to maintains the effectiveness of other components, such as crosslinkers.

Sodium Carbonate: Adjusts the PH of fluid to maintains the effectiveness of other components, such as crosslinkers.

Potassium Carbonate: Adjusts the PH of fluid to maintains the effectiveness of other components, such as crosslinkers.



SURFACTANTS

Lauryl Sulfate: Used to increase the viscosity of the fracture fluid.

Naphthalene (BD CEMENTFLUID): Carrier fluid for the active surfactant ingredients.

Methanol: Product stabilizer and / or winterizing agent.

BLOCKAGE AGENT

Butyl Glycol

Diethylene Glycol

Monoethylene Glycol

Triethylene Glycol

SOLVENTS

Acetone

LEAK CONTROL

Bentonite: promotes the filtration when forming the plaster and control de API filter.

DENSITY CONTROL ADDITIVES

Calcium Carbonate: These materials are used to control partially or totally the fluid lost that can be produced during the drilling of the Well.

Calcium Carbonate Powder

Sodium Carboxy Methylcellulose (CMC): There is in use in the mud's of perforation as a thickener colloid that is applied to the moment to withdraw the drill of perforation of the hole and this way to avoid accessions.

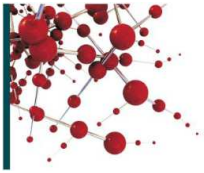
VISCOSITY CONTROL ADDITIVES

Xanthan Gum: Viscosifier.

ADDITIVES TO TREAT CONTAMINANTS

Sodium Bicarbonate: Remove the soluble components by a reaction that makes them an insoluble precipitation.

Sodium Carbonate: Remove the soluble components by a reaction that makes them and insoluble precipitation.



■ SALINE FORMULATIONS

Potassium Chloride: To develop solid-free systems, used as completion fluids or workover.

■ OTHER APPLICATIONS

Nitric Acid 68%

Sulfuric Acid

Ammonium Bifluoride

Sodium Cyanide: Primarily used in mining to extract the gold and silver from the rock.

Magnesium Chloride

Magnesium Hydroxide

Sodium Hypochlorite

Methyl Ethyl Ketone

Potassium Nitrite

Sodium Nitrite

Sodium Silicate: additives in water based drilling fluids, by helping to give fluidity to facilitate drilling mud handling.

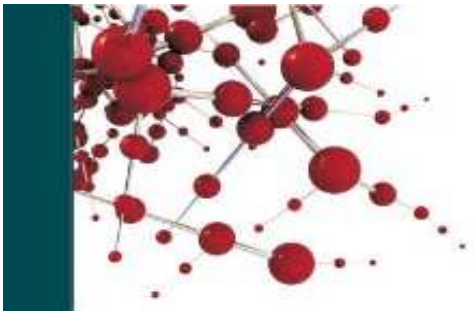
Solid Sodium Hydroxide

Toluene

Urea Beads

Xylene

Cenosphere: They act to reduce the density without increasing the content in water. This provides in turn a better resistance to the compression of the cement.



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