
Zista Group
Drilling Fluids Materials

ZISTA Group of companies is one the pioneers in supply and export of Middle-Eastern niche raw materials to different markets, including Oil Drilling Sector. We are proud to be one the largest supplier of Natural Bitumen (Gilsonite) for Drilling application along with several more minerals and chemicals with a competitive edge.

Please check below a summery of our products for Drilling Application.


Bitumen Based Additives

Natural Bitumen (Gilsonite)

- Emulsification in water with Sea Water and Oil
- Stabilizing wellbores and acting as a filter-cake additive for WBM and OBM
- Maintaining a low shearing rate to be under HTHP
- Producing proper mud cakes
- Gilsonite acts as Shale Stabilizer
- Using Gilsonite is very cost effective as FLC additive

- High softening point of Gilsonite (160 degrees Celsius and above) results in over 50% fluid loss reduction comparing to other additives.
- Being a non-toxic material, Gilsonite adapts best to HSE limitation applied to Oil Based and Synthetic Based muds

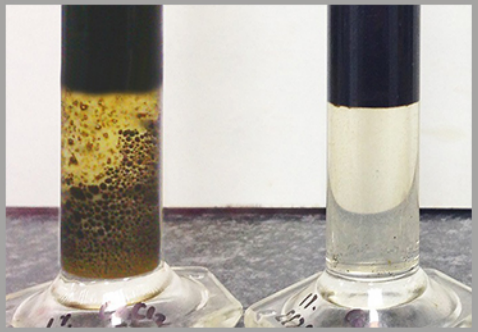
Packaging

25 Kg Craft Paper
1 MT Jumbo Bags
Shrink Wrapped Pallets and Wooden Crates

Origin

Iran

Emulsified Asphalt



- Capability to inhibit the hydration and expansion of shale
- Prevention of the collapse of unstable formations
- Improvement in the quality of mud cake
- Lubricity Improvement with good plugging performance

Packaging

25 Kg Craft Paper

Shrink Wrapped Pallets and Wooden Crates

Origin

China

Sulfonated Asphalt

- Better Lubricity and Flow
- Emulsification in water with Sea Water and Oil.
- Stabilizing wellbores and acting as a filter-cake additive for WBM and OBM
- Maintaining a low shearing rate to be under HTHP
- Producing proper mud cakes

Packaging

25 Kg Craft Paper

Shrink Wrapped Pallets and Wooden Crates

Origin

China

India

Iran

Oxidized Bitumen Powder

- The oxidized asphalt serves as the dispersed phase
- The role of reducing fluid loss
- Oxidized Bitumen Powder has the functions of consolidating the borehole wall, drag reduction, and suspending barite.
- Can be used in water-based drilling fluids, which can increase the lubricity of the filter cake and have anti-sticking effect.
- The functions of reducing filtration loss and preventing collapse
- Can block the pores of the filter cake and adjust the cohesive force between the solid particles in the filter cake
- Physical plugging shale inhibitor, which has a lubricating effect in water-based drilling fluids.

Packaging

25 Kg Craft Paper
Shrink Wrapped Pallets and Wooden Crates

Origin

China


Chemical Based Additives

Caustic Soda

- Economical solution to control pH
- Concentrated and effective at small treatment levels
- Increases pH which reduces corrosion of steel exposed to drilling fluids
- Suitable for most Water Based Drilling Muds (WBM)
- When treating muds with lignosulfonate or lignite, which have low pH (±4), typical usage is one sack of caustic soda for every four sacks of lignosulfonate or lignite product.

- Caustic Soda is used to maintain or increase pH. Increasing pH with caustic soda precipitates magnesium (Mg^{2+}) and suppresses calcium (Ca^{2+}) in high-hardness waters such as seawater, reduces corrosion, and neutralizes acid gases such as carbon dioxide (CO_2) and hydrogen sulfide.

Packaging

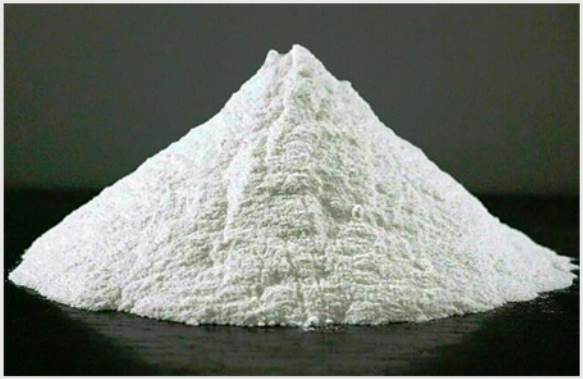
25 KG Bags Palletized

Jumbo Bags

Origin

Iran

Sodium Carbonate (Soda Ash)



- Reduce soluble calcium in water-based muds
- Increase pH
- Flocculate spud muds
- Widely available and economical source of carbonate ions to precipitate calcium while increasing pH
- Concentrate chemical; effectively removes calcium in most drilling fluids at small treatment levels
- Increases pH and should not be used to treat cement contamination or higher pH fluids; less soluble at high pH.
- Overtreatment results in carbonate contamination; even minor amounts of excess carbonate ions can cause large increases in yield point, gel strengths, and fluid loss

Packaging

For Light: 1,000 KG Jumbo Bags

For Dense: 1,250 KG Jumbo Bags

Origin

Iran

Calcium Chloride

Onshore and offshore oil and gas producers rely heavily on custom-formulated clear brine fluids containing calcium chloride for all types of drilling and completion applications.
These fluids are used in oilfield completion and work over operations to reduce water activity and create osmotic forces to prevent absorption of water by shales. The divalent calcium ion inhibits clay swelling, dispersion and migration.
Water containing high concentrations of calcium chloride can be used as a kill fluid in production wells, especially those containing heavy concentrations of carbon dioxide.

Packaging

1,000 KG Jumbo Bags

Origin

Iran

Mineral Based Materials

Bentonite

- The most common use of bentonite is in drilling fluids. The bentonite in the flush fluid lubricates and cools the cutting tools while protecting against corrosion.
- The drilling liquid conveys the drill cuttings to the surface. When the purge pumps have idle periods, the thixotrophy of the bentonite hinders the stone material from dropping back into the drilled shaft.
- As a flushing fluid, bentonite seals the drilled shaft from water ingress downwards and at the sides of the shaft. The mineral forms a firm sludge cake on the bore wall, which provides the borehole with additional stability.

Packaging

1,500 kg Jumbo Bag
25 kg Bag

Origin

Iran

Barite

- Minimally abrasive
- Essentially chemically inert and insoluble, functions only in a physical manner
- Does not react with other drilling fluid additives or interfere with their function
- Barite can be used to increase the density of any mud system. Mud weights up to 20 lbm/galUS can be achieved in most drilling fluids while still maintaining good rheological properties.
- Barite is also excellent in formulating special kill fluids and barite plugs that often reach 22 lbm/galUS for well control procedures.

Packaging

1,500 kg Jumbo Bag

25 kg Bag

Origin

Iran

Hematite

- Muds contain fewer solids than similar-density barite muds because of the 15% higher specific gravit
- Rheological values in muds improve; generally plastic viscosities are 2–30% less than barite muds
- Use of Hematite muds can result in higher rates of penetration
- Less Hematite weighting agent than barite is required to achieve the same mud weight, which reduces mud costs
- Hematite weighting agent has a higher bulk density than barite; so more weight is held in the same volume bulk tanks, and a smaller volume is required at the well site
- Less Hematite weighting agent than barite is required to achieve the same mud weight, which reduces mud costs
- It has a narrower particle-size distribution with a larger average particle size compared to barite
- It is a harder mineral than barite, so it is more resistant to particle-size degradation

Packaging

1,500 kg Jumbo Bag

25 kg Bag

Origin

Iran

Gypsum

- Gypsum are maintained with higher filtrate calcium and lower alkalinity than lime fluids to increase their inhibiting affect on clays.
- Gypsum are more resistant to salt and salt water than lime fluids, as long as solids are kept in line.
- Gypsum are used when large sections of gypsum or anhydrite are to be drilled. Because of the limited solubility of $CaSO_4$ in water, additional gypsum or anhydrite will not dissolve into the fluid system but will be carried as a solid

Packaging

Jumbo Bag

25 kg Bag

Origin

Iran

Calcium Carbonate

- CALCIUM CARBONATE is used as a bridging agent and/or weighting material in oil base and water base drilling fluids, work over fluids, and completion fluids. It comes in a wide variety of particle sizes ranging from 325 mesh to 30 mesh. Custom sizing for particular applications is also available.
- It is used to prevent fluid invasion of permeable zones, and to prevent loss of circulation during drilling, workover, and completion activities.

CALCIUM CARBONATE is applicable in all drilling fluids, aqueous and non-aqueous.
It can be used to prepare a pill for spotting purposes.

Packaging

Jumbo Bag
25 kg Bag

Origin

Iran


Starch Based Additives

Walnut Shell

- Good hydrophilic, resistant to oil immersed.
- High hardness, wear resistance, and good pressure resistance.
- Easy to backwashing and regeneration. It can be directly used for backwashing before filtering
- Strong adsorption and dirt-cutting ability. Its adsorption rate is 27-50%.
- Easy to dissolve in acid and alkali solution

Packaging

Jumbo Bags

25 kg Bags

Origin

Iran

Corn Starch

It is designed to reduce fluid loss and increase viscosity of drilling muds. The effectiveness becomes mostly apparent in salt-saturated drilling mud systems, where the use of other polymers may not produce the desired result. It may be used in clear brines as well as in well-completion and workover fluids.

Packaging

Jumbo Bag

25 kg Bag

Origin

India

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