

ZX-D3-04

Demulsifier for Crude Oil

General Description

Demulsifier is mainly non ionic surfactant, which is polymerized by starting agent and propylene oxide and ethylene oxide, or formed by modifying or rebuilding the polymer. Demulsifier is mainly used for dehydration of crude oil or dehydration and desalination at refinery factory.

According to solubility it can be classified into water-soluble and oil-soluble. In accordance with the initiator (starting agent) it can be divided into alcohol, amines, phenolic resin, phenolic aldehyde amine resin, compound initiators etc.. In accordance with the application it can be divided into conventional demulsifier, ternary compound fluid demulsifier, extra heavy oil demulsifier, condensate oil demulsifier, high content of wax demulsifier, clean water type demulsifier, low temperature demulsifier, high flash point demulsifier, Orimulsion demulsifier etc..

Demulsifiers are mainly used for breaking the emulsions of crude oil in oil fields and for desalting and dehydration in refineries. Dry agents or finished products are available, with over 100 different models. This product can also improve the conditions for crude oil transportation and has a good effect on reducing viscosity and pressure.

The company independently developed this product, featuring fast demulsification speed, dry water removal, clear oil-water interface, and low-temperature demulsification functions. It has targeted formulas for various heavy oils, waxy oils, and crude oils with polymers, and has the characteristics of low dosage, low cost, and strong compatibility.

Beyond demulsifier is widely used in local oil fields and refineries, such as China Petroleum, Sinopec, Cnooc, Sinothem, Yanchang petroleum and exported to Iraq, Oman, Indonesia, Canada, Azerbaijan, Kazakhstan, Sudan and other international markets.

Composition

The demulsifier is a high-molecular compound formed by polymerizing various starting agents with different functional groups such as polyamines, polyols, bisepoxides, and various resins, along with propylene oxide and ethylene oxide.

Water-soluble demulsifier

Water-soluble demulsifier is the most important type of demulsifiers in the domestic market including dry agent and the finished product. Dry agent needs to be dissolved in methanol and water when it is used. Finished product can be dissolved in water and alcohol. The type and usage amount are decided according to the oil's specification.

Appearance	Pale yellow to brownish yellow viscous liquid or paste
Relative dehydration rate	≥ 93
pH value (at 25℃)	6~8
Flash point ℃	concentrated ≥ 90 , finished ≥ 20
Condensation point ℃	concentrated ≤ -20 , finished ≤ -20

Note: Finished product can be used directly, or used after diluted by water.

Mixed with oil-soluble demulsifier is strictly prohibited.

「Oil-soluble Demulsifier 」

Oil-soluble demulsifier is generally used xylene as solvent. It is soluble in aromatic hydrocarbons and alcohols and not soluble in water. Other aromatic hydrocarbons can also used as solvents according to different requirements. The type and usage amount are decided according to the oil's specification.

Appearance	Light yellow to brownish red uniform liquid
Relative dehydration rate	≥ 93
Flash point ℃	concentrated ≥ 60 , finished ≥ 20
Condensation point ℃	concentrated ≤ -20 , finished ≤ -20

Note: Oil-soluble demulsifier can be added into crude oil directly.

Mixed with water-soluble demulsifier is strictly prohibited, or it will plug the pump and pipe.

「Desalting demulsifier 」

Desalting demulsifier is used for desalination and dehydration of crude oil and residual oil to prevent catalyst poisoning. Test standard is based on chloride salt, the salt content can be down to 5mgNaCl/L after desalination, even 3mgNaCl/L for more kinds of oils.

Appearance	Pale yellow liquid
Relative dehydration rate	≥ 90
pH value (at 25℃)	6~8
Flash point ℃	concentrated ≥ 20 , finished ≥ 20
Condensation point ℃	concentrated ≤ -20 , finished ≤ -20

Note: Water soluble demulsifier can be added into oil directly, or dissolved in the desalting water first and then mixed with crude oil into the electric device.
Oil soluble demulsifier can be added into oil directly, but it can't be mixed with water and water-soluble demulsifier.

「Reversed phase Demulsifier 」

This product is mainly used for the treatment of oily sewage and o/w sewage. The characteristics of the product is that oil removal rate is high, dehydrating water is clean, oil floats rapidly, oil-water interface is neat. The product is mainly divided into two categories: polyether type and cationic type.

Polyether type:

Chemical composition:	Polyoxyethylene polyoxypropylene ether
Appearance	Light yellow to brownish liquid
Relative dehydration rate	≥ 93
pH value (at 25℃)	6~8
Characteristic:	High oil removal rate the oil water interface is homogeneous the oil recovery is easy to be recovered
Compatibility	With water soluble demulsifier for crude oil demulsification

Cation type

Chemical composition:	Cationic organic polymer
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Appearance	Light yellow to brownish liquid
Relative dehydration rate	≥ 93
pH value (at 25℃)	4~6
Characteristic:	High oil removal rate water is clean after been dehydrated float fast difficult to deal with the waste oil
Compatibility	Can be used in conjunction with inorganic flocculant

Note: The reversed phase demulsifier can be directly or diluted added to the system. The dosage ≤ 20 ppm.

Application

Packaging and storage

- 1、Packing: Iron or plastic drum, IBC tanks, or per clients request with clients' logo;
- 2、Storage: Stay away from fireworks, place in a ventilated place, light loading and discharging, prevent the breakage of package;
- 3、Shelf lift is 2 year.

Cooperation

- Our company can provide dry agent or any concentration of the finished products and guide the preparation of the production;
- Our company can provide different concentrations of oil soluble demulsifier, and guide the user to dilute the high concentration of products into low concentration of finished products;
- Any way cooperation to develop new products' series for users' local crude oil.