

FLOW ASSURANCE CHEMICALS

OVERVIEW

Crude oils contain varying amounts of paraffin, asphaltenes, resins which can form precipitates. These are usually liquefied and stabilized in the crude oil under high temperatures & pressure encountered at the downhole. However, as the oil comes to the surface, its temperature & pressure gets reduced. As a result, they may begin to precipitate and form deposits on any cooler surfaces. These deposits can cause problems, such as blockage of pipelines, valves and other process equipments.

This cooling is especially critical with respect to lines from offshore oil fields to the land and landlines in winter or in cold territories. Wax deposition may be reduced in number of ways, including keeping the lines hot, diluting the oil with solvent, or using additives.

Typical additives include pour point dispersants (PPD), rheology modifiers, paraffin deposition inhibitors, wax dispersants, viscosity reducers, hydrate inhibitor, asphaltene inhibitors and similar. Together they are termed as – **FLOW ASSURANCE CHEMICALS**.



PRODUCT RANGE & APPLICATION

Brand Name – MAXDIP

PPD – Reduces pour point to facilitate flow at lower temperature.

PPD for Waxy Crudes – Treat high wax content and high molecular weight waxy crudes.

PPD for Asphaltenic Crudes – Treat crudes with asphaltene content from 0.5 – 1.0%.

PPD for Condensate Oils – Treat low molecular weight waxes with more lighter fractions oils.

PPD for Lubricating Oils – Reduce pour point of lubricating oils for colder areas.

PPD for Diesel – Reduce pour point of diesel / middle distillate and also reduce CFPP.

PPD for Biodiesel – Fatty acid esters are treated with PPD to reduce pour point.

PPD with Rheology Modifiers – Along with reduction in pour point, improve viscosities at lower temperature.

Paraffin Dispersants – Help in dispersing waxes to avoid agglomeration and blockages.

Viscosity Reducers – Treat heavy crude oils to maintain flow.

Hydrate Inhibitors – Oil producing wells are treated to prevent hydrate formation due to low temperatures and high pressures inside reservoirs.

Asphaltene Inhibitors – Facilitates asphaltene inhibition and dispersion to streamline flow.

PRODUCT RANGE CHEMISTRY

Range of PPD products with varying fatty alcohol combinations

- Acrylate polymers and copolymers
- Styrene maleate copolymers with complete or partial esterification
- Alfa olefin maleate polymers with complete or partial esterification
- EVA base copolymers & formulations

Range of Paraffin Dispersants

- Polymeric glycol & surfactant based

Range of Asphaltene Inhibitors

- Phenol formaldehyde base polymers

Range of Hydrate Inhibitors

- Amido amine salt formulations

Range of Viscosity Reducers

- Emulsion ter-polymers

* PPD – Pour Point Dispersant

REFERENCES

Thermax has been supplying various range of flow assurance chemicals to Indian giants and exporting to major well-known service companies who are our global references. Our exports go to South East Asia, Middle East, Russia and USA markets. Our newly developed product samples are under testing & approval stages with many service providers; few of which are already field tested and likely to get commercialized.

