



CAT – 6991

HYDRATE CONTROL

1 - GENERAL DESCRIPTION

CAT-6991 has a unique chemical structure that inhibits the formation of hydrates by extending the formation or “induction” time. Hydrates, which are solid, crystallized ice-like structures, can form and grow in the gas liquid interface with water present in sufficient amounts.

Hydrates spread in the production system and can stick to pipe walls, causing blockages. This can cause an interruption in production and create a serious safety hazard.

The formation of hydrates relies on system conditions such as:

- Temperature and pressures
- Gas composition (Note: H₂S and CO₂ increase the hydrate formation temperature)
- Amount of salt present in the water
- Amount of free water in the pipeline or degree of water saturation of the gas
- Velocity and turbulence
- Pipeline topography
- Pressure and temperature changes in the system

2 - PRINCIPAL USES

CAT-6991 is a polymer formulated in water-based solvents to prevent the formation of hydrates in subsea and downhole equipment where they typically form.

CAT-6991 is used in continuous injection systems to replace large volumes of alcohol inhibitors. This product provides flow assurance by preventing the formation and agglomeration of hydrates.

3 - PRODUCT BENEFITS

- Prevents hydrates from forming and sticking to pipelines, flow-lines, wellheads and other production equipment
- Increases production throughput volumes by inhibiting at a low dosage rate
- Reduces chemical consumption and storage compare to methanol
- Reduces capital expenditures on new projects
- Reduces delivery frequency and costs compared to alcohol
- Has a higher flash point than alcohol
- Has lower toxicity than alcohol
- Limits loss due to evaporation
- Improves safety

4 – FEEDING AND DOSAGE

A treatment program should be designed for each individual system.

CAT-6991 is normally continuously fed by means of a chemical proportioning pump and may be fed directly from the drum or OWC unit as supplied.

Dosage level varies from 500 to 25.000 ppm, depending on the temperatures, pressures, and tendency for hydrate formation.

Technical representative will recommend the optimum dosage necessary to ensure maximum program performance according to your specific system parameters.

5 - HANDLING - STORAGE - SHIPPING

As a standard precaution with all chemicals we recommend the use of protective equipment such as goggles and rubber gloves when handling. Consult the Material Safety Data Sheet as the only official source of Environmental and Safety information.

The product can be stored for at least 2 years from date of shipping if kept in its original, unopened container and under normal warehouse conditions. Protect from freezing and from exposure to high temperature.

CAT-6991 is available in non-returnable containers of different sizes.