

Latest news!

Temperature-resistant corrosion inhibitors



Introduction

Nowadays refiners are faced with trends towards lower crude oil qualities while at the same time new regulations request lower sulfur levels in finished products. Under these conditions trouble-free operation of the hydroprocessing units becomes vital for the profitable business of the refinery.

Ammonium salt formation and corrosion is very common at hydroprocessing units. Ammonium salts can deposit directly on compressor blades, tube walls, heat-exchanger surfaces and fractionator trays. In general the ammonium salts are highly soluble in water.

But often the installation of a water-wash is not possible or will provide negative impacts on the process or products. Limitative factors are the allowable water concentration in hydrocarbons or the very high construction costs for a suitable washing system.



Fouled and corroded heat exchanger bundle

Corrosion reactions will be accelerated, if insufficient free water is present to wash away the salt deposits. Especially ammonium salt related corrosion in high temperature areas above the dew point of water is a problem difficult to be solved by conventional treatment programs.

ACF Plus Technology

Kurita's patented ACF technology is a proven control program to prevent ammonium salt fouling and corrosion. Products are based on a very strong organic base that directly reacts with the corrosive species and converts them into non-corrosive and non-depositing liquid ACF components.



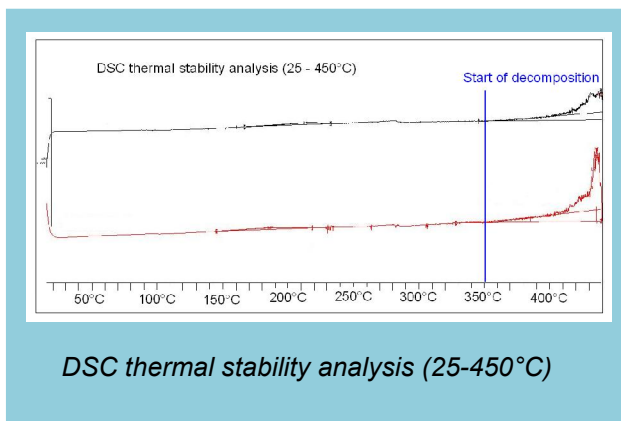
Electrochemical corrosion test

The liquid **ACF Plus** additives for hydroprocessing applications are special formulations. They are based on the combination of Kurita's patented ACF products with a new developed high temperature resistant inhibitor.

The inhibitor forms a non-permeable and temperature resistant protection layer on the metal surface. This avoids the diffusion of corrosive ions or molecules to the metal surface. Additionally it will maintain the rapid transport of the formed liquid ACF components from the high temperature areas.

As indicated in the DSC analysis below it can be injected up to a temperature of 360°C. The DSC thermal stability analysis is a proven and authentic

analytical method to determine the additive decomposition temperature.



A typical application of the new **ACF Plus** technology is the injection after the reactor feed/effluent exchangers of a hydrotreater or hydrocracker unit.

This new chemical technology will not require a water-wash system and will provide excellent protection against ammonium salt corrosion especially in high temperature areas. It will give a higher operational availability, which enjoys all the advantages of a chemical program.

Your advantages at a glance

- Complete removal of ammonium salts
- Excellent corrosion protection
- Water-wash system is not required
- Cutback of maintenance costs
- Increased operational availability

Ensure your advantage now!

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