ATF Hydrotreatment Process for Selective Mercaptan Removal

**Background**

This low temperature & low pressure hydrotreatment process selectively removes mercaptans from ATF while minimizing removal of other sulfur compounds. The process uses commercial / IndianOil R&D developed hydrotreating catalyst. The process is environmental friendly and clean as it does not involve handling of caustic.

**Process Description**

ATF feed mixed with Hydrogen and Hydrotreated ATF product is heated to a reaction temperature through a network of heat exchangers before entering the fixed bed downflow reactor in presence of hydrotreating catalyst. The reactor effluent is then fed to the stripper where H2S along with other dissolved gases is removed. A part of the stripper bottom is recycled to the reactor. The product ATF passes through sand filter and salt dryer before sending to storage.

**Salient Features**

- Low severity operation
- Selectively removes mercaptan to < 10 ppm
- Removal of other sulphur compounds as per requirement
- Negligible Hydrogen consumption (300-700 ppm)
- Commercial hydrotreating catalyst

**Process Flow Scheme**

[Diagram showing the process flow scheme with reactor, stripper, Hydrogen Feed, ATF Feed, H2S, and ATF Product]
Advantages

• Simple process configuration
• No handling chemicals like caustic
• The process also improves colour and acidity.
• Hydrogen consumption, being low, can be easily met from existing sources
• Possible to use reformer off-gas instead of pure hydrogen
• Flexibility with respect to feedstock having higher mercaptan, where conventional Merox may be limiting

Our Back up Strengths

• Pilot plant data bank & evaluation facilities
• Feed/product/catalyst characterization facilities
• State-of-the-art process simulators
• Full process guarantee
• Excellent technical support & troubleshooting expertise
• Operating Experience of Hydroprocessing units

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