Technical Data Sheet

Shell **EcoSafe Revive**

Synthetic Based Solvency Enhancer for Cleaning Varnish in Rotating Equipment

Shell EcoSafe Revive is a synthetic based solvency enhancer, that can be incorporated into hydrocarbon-based, non-zinc turbine fluids to reduce the issues associated with varnish formation and product instability. Shell EcoSafe Revive is designed improve the solubility of pre-existing hydrocarbon-based turbine fluid in order to assist in mitigation of those fluids with elevated and high varnish potential ratings. Shell EcoSafe Revive does not replenish the existing anti-oxidants in used turbine fluids but rather helps by re-solubilizing additives that are trapped in varnish deposits.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **High Varnish Dissolution Capacity**

  Shell EcoSafe Revive is a patented technology that is designed to be added to current operating fluids to improve the solubility of the used fluid and reduce issues associated with varnish formation and product instability.

  Shell EcoSafe Revive does not replenish the existing anti-oxidants in used turbine fluids but rather helps by re-solubilizing the additives that are trapped in varnish deposits.

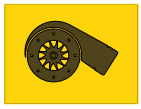
  Shell EcoSafe Revive also provides the following benefits for in-service fluids:

  • Improves lubricity of the fluid
  • Reduces soft particle contamination by ISO4406:1999
  • Reduces Ultra-Centrifuge sediment rating in used fluid

- **Excellent Compatibility**

  Shell EcoSafe Revive is miscible and compatible with all major commercial hydrocarbon-based turbine fluids. When used at the recommended treat rates, mixtures are fully compatible with filter media and elastomers as commonly applied in rotating equipment.

Main Applications



- Prior to the use of Shell EcoSafe Revive, sample of the used fluid should be sent to the lab for evaluation.
- Adding the recommended amount of Shell EcoSafe Revive reduces the reliance upon expensive varnish removal, abatement and remediation techniques.

Specifications, Approvals & Recommendations

For a full listing of equipment approvals and recommendations, please consult your local representative.

Typical Physical Characteristics

Properties			Method	Shell EcoSafe Revive
ISO Viscosity Grade			ISO 3848	32
Kinematic Viscosity	@40°C	mm^2/s	ASTM D445	29
Kinematic Viscosity	@100°C	mm^2/s	ASTM D445	6.41
Viscosity Index			ISO 2909	182
Density	@15°C	kg/m^3	ASTM D4052	984
Flash Point		°C	ASTM D92	269
Fire Point (COC)		°C	ASTM D92	291
Pour Point		°C	ASTM D97	-57
Total Acid Number		mg KOH/g	ASTM D664	0.35

These characteristics are typical of current production, variations in these characteristics in future production may occur.

Health, Safety & Environment

- **Health and Safety**

  Shell EcoSafe Revive is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

  Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

  Guidance on Health and Safety is available on the appropriate Safety Data Sheet, which can be obtained from https://www.epc.shell.com

- **Protect the Environment**

  Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

Additional Information

- Advice on applications not covered here may be obtained from your Shell Representative.