



Formerly Known As: EcoSafe TF-32

Shell EcoSafe Turbine Fluid S5 X 32

- Extra Long Life
- Extra Efficiency
- Low Varnish Potential

Low Varnishing Top Tier Gas and Combined Cycle Turbine Fluid

Shell EcoSafe Turbine Fluid S5 X 32 is a next generation synthetic turbine fluid developed to meet the demands of the lubrication requirements for turbo-compressors, heavy duty gas turbines and combined cycle systems. Shell EcoSafe Turbine Fluid S5 X 32 has been designed minimize deposit and sludge formation and offer outstanding, long term performance under the most severe operating conditions.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

• Extended Fluid Life

Shell EcoSafe Turbine Fluid S5 X 32 delivers exceptional protection against fluid breakdown even under conditions of high oxidation and thermal stress. Excellent field performance demonstrates that Shell EcoSafe Turbine Fluid S5 X 32 offers extended service life and reduces maintenance costs when compared to mineral based turbine products.

• Enhanced Equipment Protection

The excellent resistance against varnish and sludge formation provided by Shell EcoSafe Turbine Fluid S5 X 32 allows turbine systems to operate reliably even during severe operating conditions such as peak load operations. Minimizing sludge, deposits and varnish formation helps reduce the wear of critical system components, and more importantly can prevent unplanned turbine outages resulted from valve sticking. Field experience with power generation facilities indicates that Shell EcoSafe Turbine Fluid S5 X 32 can also reduce the potential for micro-dieseling, electrostatic build-up and other conditions that can contribute to varnish formation and fluid breakdown. Shell EcoSafe Turbine Fluid S5 X 32 meets the requirements of modern gas turbines where the fluid is used for both the lubrication of the turbine and the hydraulic control system.

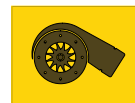
• Strong Oxidation and Varnish Control

Shell EcoSafe Turbine Fluid S5 X 32 turbine fluid uses inherently oxidatively stable base fluids formulated with a balanced additive package, which provides high resistance to oxidative degradation and the formation of corrosive species, deposits and sludge.

• High Resistance to Foaming and Rapid Air Release

The fluid is formulated with an anti-foam additive, which generally controls foam formation. This feature coupled with good air-release of the lubricant reduces the possibility of problems such as pump cavitation, excessive wear and premature fluid oxidation.

Main Applications



Specifications, Approvals & Recommendations

• General Electric GEK 32568K

Shell EcoSafe Turbine Fluid S5 X 32 meets and exceeds the specifications for General Electric's GEK 32568K. For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

Compatibility & Miscibility

• Seal Compatibility

Shell EcoSafe Turbine Fluid S5 X 32 is compatible with commonly used seals, hoses and metals. The fluid is also compatible with common gas turbine seals. Detailed compatibility data is available upon request.

• Lubricant Compatibility

Shell EcoSafe Turbine Fluid S5 X 32 is completely miscible with Shell Turbo T and Shell Turbo S4 products.

Typical Physical Characteristics

Properties			Method	Shell EcoSafe Turbine Fluid S5 X 32
Appearance			Visual	Clear and Bright
Color			ASTM D1500	L1.0
Density	@15°C	kg/m ³	ASTM D4052	986
Kinematic Viscosity	@40°C	mm ² /s	ASTM D445	32.9
Kinematic Viscosity	@100°C	mm ² /s	ASTM D445	6.5
Viscosity Index			ISO 2909	154
Flash Point		°C	ASTM D92	>240
TAN		mg KOH/g	ASTM D664	<0.2
Pour Point		°C	ASTM D97	<-51
Foaming Characteristics - Seq I Tendency Stability		ml/ml	ASTM D892	10/0
Air Release		minutes	ASTM D3427	<4
Copper Corrosion (3 hrs, 100°C rating)			ASTM D130	1a
Rust Protection, Sea Water (24 hours)			ASTM D665B	Pass - no rust
Oxidation Control Test : RPVOT		minutes	ASTM D2272	>600

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

Health, Safety & Environment

• Health and Safety

This product 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.