



Shell Varnish Removal Fluid

Synthetic based solvency enhancer for cleaning varnish in Rotating Equipment

Shell Varnish Removal Fluid is a synthetic based solvency enhancer, that improves the solubility of used oil. When added to in-service oil, at the recommended treat rate, Shell Varnish Removal Fluid improves the solubility of used oil and solubilizes oil varnish precursors, which may subsequently be removed by varnish removal filtration technology. This leads to longer oil life and mitigate against the risks associated with varnish formation in rotating equipment.

Shell Varnish Removal Fluid is recommended to be used in oil systems in rotating equipment such as steam, gas and combined cycle turbines in power generation or marine service. The product can also be used in air turbo-compressors in the fertilizer, petrochemicals and oil & gas industries. Furthermore, Shell Varnish Removal Fluid can be used in hydraulic systems and other gear, bearing and circulating applications. However, care must be taken if Shell Varnish Removal Fluid is added to systems where the operating oil viscosity is over 150 cSt at 40°C. In these system, the effect oil dilution must be taken into consideration, please consult your local Shell Representative.

This product can be used in any oil application where varnish contamination accelerates the formation of deposit and leads to valve sticking or the accumulation of system deposits. Note: this product should not be used with water based or grease systems.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **High Varnish Dissolution Capacity**

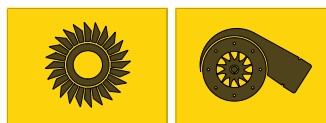
Shell Varnish Removal Fluid is designed with a low aniline point to impart improved capacity of varnish dissolution which allows the oil cleaning device removing the varnish from used oils thus effectively extend the oil life and the maintenance intervals of the operating system.

- **Excellent Compatibility**

When added at the recommended treat rates of 3 to 10% in the in-service oil, Shell Varnish Removal Fluid demonstrates excellent compatibility without negatively impacting the performance of the oil in areas such as flash point reduction or degrading surface properties including foaming tendency, air release or water separation.

When used at the recommended treat rates, mixtures are fully compatible with filter media and elastomers as commonly applied in rotating equipment. As noted above, care must be taken if Shell Varnish Removal Fluid is added to systems where the operating oil viscosity is over 150 cSt at 40°C. In these systems, the effect oil dilution must be taken into consideration.

Main Applications



Specifications, Approvals & Recommendations

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

Typical Physical Characteristics

Properties	Method	Shell Varnish Removal Fluid
Appearance		Bright and Clear
Colour	ASTM D1500	<1.5
Density	@15.6°C kg/m ³	910

Properties			Method	Shell Varnish Removal Fluid
Flash Point	°C		ASTM D92	222
Flash Point	°C		ASTM D93	192
Pour Point	°C		ASTM D5950	-39
Kinematic Viscosity	@40°C	mm ² /s	ASTM D445	29.3
Kinematic Viscosity	@100°C	mm ² /s	ASTM D445	4.71
Aniline Point	°C		ASTM D611	32
Acid Number		mg KOH/g	ASTM D974	0.05

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

Health, Safety & Environment

• Health and Safety

Shell Varnish Removal Fluid 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

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