



Formerly Known As: **EcoSafe V-150**

Shell EcoSafe S1 DU 32

- Fire Resistant
- Readily Biodegradable
- USDA Certified BioPreferred® Product

Less Flammable Hydraulic Fluid

Shell EcoSafe S1 DU 32 is a less flammable hydraulic fluid designed for systems requiring readily biodegradable, low toxicity, hydraulic fluids. It can be used in environmentally sensitive area applications in industrial, marine and mobile applications including high pressure systems where fire hazards are a concern. It is formulated from high quality high VI vegetable oils and additives providing the properties required for hydraulic performance. Shell EcoSafe S1 DU 32 is a USDA Certified BioPreferred® product.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Fire Resistance**

Recognized by FM Global as a less flammable industrial fluid Shell EcoSafe S1 DU 32 has a high flash point, fire point and autoignition temperature for reduced risk of fire or explosions.

- **Excellent Wear Protection**

Formulated with a select additive system which provides outstanding antiwear, Shell EcoSafe S1 DU 32 provides antiwear and film strength properties necessary for hydraulic systems operating under moderate to severe conditions. Excellent anti-wear protection is demonstrated in vane pump tests (ASTM D7043) which helps achieve lower maintenance costs and less downtime.

- **Wide Temperature Operating Window**

A high viscosity index (VI) enables Shell EcoSafe S1 DU 32 to be used in a variety of applications including mobile systems where wide variance in ambient conditions is common. The fluid is shear stable allowing for a stable viscosity during operation. The low temperature performance properties enable responsive performance from cold start to full load heavy duty operations.

- **Readily Biodegradable**

Shell EcoSafe S1 DU 32 is readily biodegradable as it is biodegraded by over 60% after 28 days in the OECD 301 B carbon dioxide evolution test. This helps to minimize disposal concerns and reduce plant maintenance costs.

- **USDA Certified Biobased Product**

Shell EcoSafe S1 DU 32 is certified as USDA Certified biobased product in the USDA BioPreferred® program.

Main Applications



- **Mobile/Exterior hydraulic applications**

Hydraulic and fluid transmission systems in exposed environments are subject to wide variations in temperature. The naturally high viscosity index of Shell EcoSafe S1 DU 32 helps deliver responsive performance from cold start to full load heavy duty operation.

- **Federal Programs requiring BioPreferred® products**

Biobased products are derived from plants and other renewable agricultural, marine, and forestry materials and provide an alternate to conventional petroleum derived products. The USDA BioPreferred® Program has mandatory purchasing requirements for federal agencies and their contractors.

- **Environmentally Sensitive Areas**

Shell EcoSafe S1 DU 32 is readily biodegradable. It will have a reduced environmental impact in the event of a leak or accidental spillage in comparison to mineral based hydraulic fluids.

Specifications, Approvals & Recommendations

- FM Global

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

Typical Physical Characteristics

Properties			Method	Shell EcoSafe S1 DU 32
Kinematic Viscosity	@0°C	mm ² /s	ASTM D445	230.5
Kinematic Viscosity	@40°C	mm ² /s	ASTM D445	32.0
Kinematic Viscosity	@100°C	mm ² /s	ASTM D445	6.9
Viscosity Index			ISO 2909	184
Density	@15°C	kg/m ³	ASTM D4052	947
Flash Point		°C	ASTM D92	280
Fire Point (COC)		°C	ASTM D92	320
Pour Point		°C	ASTM D97	-33
TAN		mg KOH/g	ASTM D664	0.15

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

Health, Safety & Environment

• Health and Safety

Shell EcoSafe S1 DU 32 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.