

Shell EcoSafe S1 DU

Less-flammable hydraulic fluid

**SHELL
LUBRICANT SOLUTIONS**



DESCRIPTION

Shell EcoSafe S1 DU, formerly EcoSafe V, is a less-flammable hydraulic fluid designed for systems requiring a readily biodegradable, low-toxicity hydraulic fluid. Recognized by FM Global as a less-flammable industrial fluid, it has a high flash point, fire point and autoignition temperature for reduced risk of fire or explosions.

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 helps to deliver responsive performance from cold start to full-load heavy-duty operations. Its high viscosity index and shear stability provide consistent viscosity where wide variance in ambient conditions is common.

Shell EcoSafe S1 DU is a U.S. Department of Agriculture (USDA) Certified BioPreferred® product. It is readily biodegradable¹ and can be used in environmentally sensitive area applications in industrial, and mobile applications, including high-pressure systems where fire hazards are concerns.

¹ Shell EcoSafe S1 DU is biodegradable by greater than 60% after 28 days in the OECD 301B Carbon dioxide evolution test.

Previous name	Product
EcoSafe V-150	Shell EcoSafe S1 DU 32
EcoSafe V-200	Shell EcoSafe S1 DU 40
EcoSafe V-300	Shell EcoSafe S1 DU 60



SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

Shell EcoSafe S1 DU 46 is recognized by FM Global as a less-flammable industrial fluid and is a USDA-Certified Biobased Product in the USDA BioPreferred program.

For a full listing of equipment approvals and recommendations, please consult your local Shell Lubricant Solutions Technical Help desk.



TYPICAL PHYSICAL CHARACTERISTICS

PROPERTIES				
	Test method	Shell EcoSafe S1 DU 32	Shell EcoSafe S1 DU 40	Shell EcoSafe S1 DU 60
Kinematic viscosity at 0°C, cSt	ASTM D445	230.5	311.4	480.0
Kinematic viscosity at 40°C, cSt	ASTM D445	32.0	39.2	61.2
Kinematic viscosity at 100°C, cSt	ASTM D445	6.9	8.4	12.3
Viscosity index	ASTM D2270	184	198	204
Density at 15°C, kg/m ³	ASTM D4052	947	950	952
Flash point (Cleveland open cup), °C	ASTM D92	280	295	305
Fire point, °C	ASTM D92	320	335	355
Pour point, °C	ASTM D97	-33	-33	-30
Total acid number, mg KOH/g	ASTM D664	0.25	0.25	0.25
Vane pump testing, total wear, ring and vane, mg	ASTM D7043	-	<5	-

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

CONTACT US

For more information, please contact your Shell Lubricant Solutions representative or visit shell.us/ecosafe.

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