

TECHNICAL PRODUCT SHEET

ECO HD R² VDS

10W—40, 15W—40



DESCRIPTION

ECO HD R2 VDS is a high-performance mid-SAPS heavy-duty diesel engine oil series, formulated with high-quality re-refined base oils and advanced additive technology. Designed to meet the requirements of modern diesel engines equipped with after-treatment systems, they provide strong thermal stability, reliable wear protection, and excellent engine cleanliness. The use of re-refined base stocks significantly reduces the product's carbon footprint while maintaining the performance expected from premium VDS-level lubricants.

APPLICATIONS

ECO HD R2 VDS are suitable for Euro IV/V/VI and US EPA 2007/2010 diesel engines operating with low-sulfur fuels, as well as earlier Euro II/III engines. They are ideal for mixed fleets running on- or off-highway, including heavy-duty trucks, buses, construction equipment, and agricultural machinery. Their broad specification compatibility makes them a versatile, reliable choice for operators seeking both strong performance and improved sustainability.

SPECIFICATIONS

ACEA	E11	DTFR	15C100
ACEA	E9	MTU	Cat. 2.1
ACEA	E7	VOLVO	VDS-4.5
API	CK-4	VOLVO	VDS-4
API	CI-4 Plus	RENAULT TRUCKS	RLD-3
API	CJ-4	MACK	EO-S-4.5
API	CI-4	MACK	EO-PP
API	CH-4	CUMMINS	CES 20086
API	SP	CUMMINS	CES 20087
API	SN PLUS	CUMMINS	CES 20100
API	SN	DEUTZ	DQC III-18 LA
Detroit Diesel	DFS 93K222/93K2223	DEUTZ	DQC III-10 LA
MAN	M 3775	JASO	DH-2
MAN	M 3575	ALLISON	TES 439
CATERPILLAR	ECF-3	FORD	WSS-M2C171-F1
CATERPILLAR	ECF-2	CHINA	D1
CATERPILLAR	ECF-1a		

PROPERTIES

ECO HD R2 VDS series offers excellent oxidation resistance, soot control, and shear stability to support extended drain intervals and consistent lubrication. Its mid-SAPS formulation ensures compatibility with diesel particulate filters and other after-treatment systems, while reduced volatility helps minimize oil consumption.



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BENEFITS

ECO HD R2 VDS series enhances engine durability, improves turbocharger reliability, and supports clean and efficient operation under severe conditions. By integrating high-quality re-refined base oils, it reduces environmental impact without sacrificing performance, offering fleets a dependable and lower-carbon alternative to conventional VDS-grade lubricants.

PHYSICAL-CHEMICAL CHARACTERISTICS

ECO HD R2 VDS	METHOD	SAE 10W-40	SAE 15W-40
Density at 15°C, g/cm ³	ASTM D4052	0.861	0.870
Viscosity, Kinematic (cSt) 40°C	ASTM D445	94.15	111.9
Viscosity, Kinematic (cSt) 100°C	ASTM D445	14.5	14.9
Viscosity index	ASTM D2270	160	138
Flash point, COC, °C	ASTM D92	232	236
Pour point, °C	ASTM D97	-33	-30
TBN, mgKOH/g	ASTM D2896	10.0	10.0
Dynamic Viscosity, °C/cP	ASTM D5293	-25°C/6,450	-20°C/6,250
HTHS, cP	CEC-L-36-A-90	≥3.5	-

The above mentioned characteristics represent mean values.

STORAGE

All packages must be stored in covered, well-ventilated areas. If outdoor storage cannot be avoided, barrels must be placed horizontally to prevent water ingress and to protect labels and markings from damage. Products must not be stored at temperatures above 60 °C and must not be exposed to direct sunlight, freezing conditions, or extreme temperature fluctuations.



HEALTH & SAFETY

This product is not considered to pose significant risks to health or safety when used as intended and in accordance with recommended personal hygiene practices. It must not be applied for purposes other than those for which it has been formulated. For detailed guidance on safe handling and use, refer to the Safety Data Sheet (SDS).



USED OILS

Used lubricants must be collected at designated collection points to prevent environmental contamination. They must not be mixed with solvents, brake fluids, or antifreeze.

