

DIESEL CK-4/DH-2

API CK-4 / VOLVO VDS-4.5 / JASO DH-2

Diesel CK-4/DH-2 is diesel engine oil which meets stringent engine test and performance requirements of the API commercial classification "API CK-4" standard, VOLVO proprietary "VDS-4.5" standard and "JASO DH-2" standard.

Customers possessing vehicles from various manufacturers will be able to unify oil types and reduce the burden of inventory control.

● **Special Features**

1. Meets the latest diesel engine oil standard

"API CK-4" standard was established as the latest standard of the API commercial classification in December 2016 for the model car of 2017, and it has performance exceeding API CH-4, CI-4, CI-4 PLUS and CJ-4.

"VOLVO VDS-4.5" standard was established in October 2017 as the new VOLVO proprietary standard from "VOLVO VDS-4" standard, and it also conforms to the new engine of VOLVO.

"DH-2" of JASO M 355: 2017 is a diesel engine oil standard for buses and trucks equipped with exhaust gas after-treatment equipment such as DPF. It is printed on containers since October 2017.

Diesel CK-4 / DH-2 is a multi-grade diesel engine oil that can be used for heavy-duty trucks and buses equipped with the latest engines, construction machines, agricultural machines, etc. It can also be used for vehicles that recommend the existing API standard (CH-4 to CJ-4), VOLVO VDS-4 standard and JASO DH-2 standard.

2. Suitable for exhaust gas after-treatment equipment such as DPF

Diesel CK-4/DH-2 is compatible with latest emissions regulated vehicles equipped with exhaust gas after-treatment devices such as DPF and construction

machines / agricultural machines complying with Tier 4 exhaust gas regulations. API CK-4 standard suppresses clogging of DPF by reducing sulfated ash content (metal content in oil) to 1% by mass or less. Also, compatibility with the exhaust gas catalyst is improved by reducing the phosphorus content in the oil to 0.12 mass% or less, the sulfur content to 0.4 mass% or less, and further suppressing the evaporation to 13 mass% or less.

3. Extension of engine life

API CK-4 standard requires nine types of engine tests to have excellent viscosity increase suppression (soot dispersancy) and anti-wear performance (valve train, liner, piston rings, bearings).

Wear of various parts of the engine and adhesion of carbon / sludge are suppressed, because **Diesel CK-4/DH-2** is excellent in anti-wear performance, shear stability, detergency and oxidation stability by optimum blending of high-performance additives. As a result, the life of the engine will be prolonged.

● **Applications**

For heavy-duty trucks / buses, diesel engines such as construction machines and agricultural machines, especially for DPF equipped vehicles

● **Containers**

200-liter drums and 20-liter cans.

● **Typical Properties of Diesel CK-4/DH-2**

Approved Specifications	API CK-4 VOLVO VDS-4.5 JASO DH-2	
	10W-30	15W-40
SAE Grade		
Color (ASTM)	L3.5	L3.5
Density	g/cm ³	0.872
Viscosity (40°C)	mm ² /s	79.88
Viscosity (100°C)	mm ² /s	11.7
Viscosity Index		140
Flash Point	°C	226
Pour Point	°C	-45
Evaporation Loss (NOACK:250°C,1h)	mass%	12.2
Acid Number	mgKOH/g	2.21
Base Number (ASTM D664)	mgKOH/g	5.7
Sulfated Ash	mass%	1.00
Elements Phosphorus	mass%	0.10
Sulfur	mass%	0.39

Note: The typical properties may be changed without notice. (February 2018)



**Handling
Precautions**

▼ **Follow these precautions when handling this product.**

Composition :	Base Oil, Additives
Precautionary pictograms:	Not applicable
Signal word:	Not applicable
Hazard Statement:	Not applicable
Precautionary Statements:	<ul style="list-style-type: none"> • Do not handle until all safety precautions have been read and understood. • Wear protective gloves/protective clothing/eye protection/face protection. • Do not allow the eyes to become exposed to the product. Do not swallow the product. • Wash hands thoroughly after handling. • Do not eat, drink or smoke when using this product.
Prevention	
Response	<ul style="list-style-type: none"> • IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. • IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. • If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician. • IF ON SKIN: Wash with plenty of soap and water.
Storage	<ul style="list-style-type: none"> • The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight. • Containers that have been opened must be tightly sealed.
Disposal	<ul style="list-style-type: none"> • Dispose of contents/container in accordance with local/regional/national/international regulations. • If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.