

Diesel DH-1/ CF

High Performance Fuel-Saving Diesel Engine Oil

A growing number of users are looking for diesel engine oils that offer for fuel-saving performance, like that offered by some gasoline engine oils. And as the performance and power of diesel engines improves year by year, operating conditions are becoming more severe. There is thus a need for diesel engine oils that provide greater wear protection and detergency than the products of the past. With these market needs in mind, ENEOS created **Diesel DH-1/CF**, a fuel-saving engine oil that meets **JASO DH-1** and **API CF** standards.

● Special Features

1. JASO DH-1 Certified Oil

The JASO DH-1 standard came into effect in April 2001. To meet this standard, an engine oil must provide the improved anti-wear and corrosion protection, high-temperature oxidation stability, and soot control that modern low-emission engines require. The DH-1 standard contains performance requirements not found in the API service classifications, including enhanced wear protection for sliding-type valve trains (a feature of many Japanese-made engines).

Diesel DH-1/CF is diesel engine oil designed for the Japanese market. It has the performance of CF oils, plus it is certified as meeting the JASO DH-1 standard.

2. Outstanding Fuel-Saving Performance

The diesel engines used in today's passenger cars and small trucks provide better fuel economy, and diesel engine oils must provide fuel-saving performance to match.

Diesel DH-1/CF is available in **10W-30** and **15W-40** viscosity grades. Both provide outstanding all-season, fuel-saving performance.

3. Superior Engine Cleanliness

In severe driving conditions, engines get hotter. If you're using an oil with poor cleanliness properties, this heat can lead to lacquer formation and ultimately to carbonization of the oil. Carbon residue builds up as deposits on the rings and in the ring grooves, which interferes with piston cooling and can end up causing ring sticking and other problems.

Each year brings diesel engines with higher performance and output, while operating conditions are typically becoming more severe. This has created a need for engine oils with greater detergency than past products.

In the Caterpillar 1M-PC and the Nissan TD25 engine tests, **Diesel DH-1/CF** demonstrated exceptional detergency. This means you can count on **Diesel DH-1/CF** to unlock the full performance of your engine.

4. Outstanding Anti-Wear Performance & Oxidation Stability

Progressive wear of engine parts not only hurts fuel economy, but can lead to noise and vibration, and be the cause of reduced engine performance and engine trouble.

And progressive oxidative degradation of an engine oil can lead to increased viscosity, corrosion of bearings, or heavier deposits on and around the pistons.

Blended with a balance of carefully selected anti-wear and antioxidant additives, **Diesel DH-1/CF** demonstrated excellent anti-wear performance and oxidation stability in the Mitsubishi 4D34T4 engine test.

Evaluation Item	CD	CE	CF	DH-1	DH-1/CF
Corrosive wear to bearings	○	○	○		●
Deposit control	○	○	○		●
Viscosity increase caused by soot		○		○	●
Piston cleanliness		○		○	●
Valve train wear				○	●
High-temperature oxidative stability				○	●

● Applications

Diesel DH-1/CF is suitable for use in all land-based diesel engines, and specially designed to help the following engines perform at their fullest:

- (1) For large trucks & buses used for long-distance transport, for which fuel economy is of prime concern.
- (2) For diesel-powered earthmoving & construction machinery used year-round.

- (3) For diesel passenger vehicles & small trucks, providing improved fuel economy and cold-start performance.
- (4) For diesel tractors, diesel-powered fishing boats and other diesel-powered agricultural machinery.

● **Containers**

200-liter drums and 20-liter pail cans.

● **Typical properties of Diesel DH-1/CF**

API grade JASO standard SAE grade	CF DH-1 10W-30	CF DH-1 15W-40
Kinematic viscosity (40 °C), mm ² /s	66.6	102.1
(100 °C), mm ² /s	10.3	13.9
Viscosity index	142	138
Flash point (COC), °C	222	234
Pour point, °C	-32.5	-27.5
Acid number, mgKOH/g	2.7	2.7
Base number (ASTM D664), mgKOH/g	8.8	8.7
Sulfated ash, mass%	1.5	1.5

Note: the typical properties are subject to change without notice. (June 2011)



**Handling
Precautions**

▼ Follow these precautions when handling this product.

Composition :	Base Oil, Additives
Precautionary pictograms:	
Signal word:	Warning
Hazard Statement:	Causes serious eye irritation
Precautionary Statements: Prevention	<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.
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. • IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
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.