HDAX® 9200 Low Ash Gas Engine Oil

Premium Performance Low-Ash Gas Engine Lubricant

Product description

HDAX® 9200 Low Ash Gas Engine Oil is a premium performance, long-drain, heavy-duty, low ash crankcase oil specifically designed to lubricate a wide range of latest generation high output, turbocharged, low emission four-stroke natural gas and dual-fuel engines where low ash oils are recommended.

Formulated with premium base oils and additive technology to provide deposit control, exceptional oxidation and nitration resistance, extended oil and filter life, outstanding protection against ring and liner scuffing and wear, and excellent piston and ring belt deposit control to effectively protect against the formation and build-up of engine sludge.

Customer benefits

- **Exceptional engine performance**
  Optimized detergent-dispersant additive package contributes to combustion chamber and piston deposit control, liner protection, sludge & wear control and corrosion protection.

- **Long oil life**
  Improved oxidation & nitration resistance and strong base retention characteristics allow for flexibility in maintenance scheduling by prolonging oil service life. Low fluid volatility helps reduce oil consumption.

- **Valve recession protection**
  The level and type of ash-producing additives in the oil is designed to minimize valve recession with low levels of combustion chamber deposits to reduce the potential for pre-ignition and spark plug fouling.

- **Low wear**
  Offers outstanding protection against piston, ring, and liner scuffing, scoring, and wear.

- **Clean pistons**
  Works to keep pistons clean, which helps prevent ring sticking and maintains clean, varnish-free piston skirts.

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Approvals, performance and recommendations *continued*

- New generation high output, turbocharged, low emission, Lean-burn and stoichiometric four-cycle stationary spark ignition engines burning sweet natural gas or LPG, operating under high load, high temperature conditions.
- Four-cycle gas engines in cogeneration applications.
- Four-cycle medium-speed stationary spark ignition engines operating on sweet natural gas or LPG.
- Four-cycle medium-speed stationary dual-fuel pilot injection engines operating on sweet natural gas or LPG.
- Formulated to meet Non-Selective Catalytic Reduction catalyst compatibility requirements and is suited for installation requiring low phosphorus oil to help prevent exhaust catalyst poisoning.
- Suitable for use with fuels containing low levels of sulphur and chloro-fluoro-carbons (CFC). In sour gas/high CFC applications, lubricants with higher base reserve may be required.

Approvals, performance and recommendations

This product is approved by the following OEMs for use in their products:

- Caterpillar Energy Solutions GmbH (former MWM): Technical Circular 0199-99-2105 (up to 0.6% sulphated ash) for CG132, CG170 and CG260 series engines
- Jenbacher TA 1000-1109, for the following engine types/ versions and with catalytic convertors.
    - Type 2 and 3 - Fuel Class A[1]
    - Type 4 (versions A, B and D, C and E) - Fuel Class A[1]
    - Type 6 (versions C and E, F and J) - Fuel Class A[1]
    - Type 2 and 3, 4A, 4 (B and D, C and E), 6 (C and E, F and J) - Fuel Class S[2]
- Aggreko Jenbacher 420 B & C range gas engines (used by Aggreko)
- RMB/ Energie: Natural Gas
- Waukesha: Cogeneration applications
- TEDOM 61-0-0281.1 for fuel types G (Natural gas) and P (Propan-butane)

This product is developed independently by Chevron to comply with the following requirements:

- Proof of Performance gained during extensive field trials in Caterpillar 3516 E+ and 3516 TALE engines

[1] Natural Gas, associated petroleum gas, mine gas, bio gas (Sulphur < 200 mg/10 kWh).
[2] Hydrogen fuel gases, thermoselect gases and steel mill gases as well as wood gas, syngas and pyrolysis gases with a high hydrogen content

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Service considerations

The sulfated ash, alkalinity reserve and phosphorus content of gas engine oils can be properly matched to the needs of individual applications, taking account of engine design, operating conditions, fuel type and quality, with particular reference to sulfur content and whether or not the engine is fitted with an exhaust catalyst for emission control purposes.

Spark ignition, gas-fuelled engines may be sensitive to the sulfated ash level of the lubricant and to the chemical nature of the ash. Excessive ash can lead to problems such as spark plug fouling, exhaust valve guttering and build-up of pre-ignition-inducing combustion chamber deposits. On the other hand, many engines require a certain amount of lubricant ash to ensure satisfactory valve seat lubrication and to minimize valve seat recession.

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Typical Test Data

HDAX® 9200 LOW ASH GAS ENGINE OIL	TEST METHOD	RESULTS
SAE Grade		**40**
Product Code		**530040**
Density at 15°C, kg/l	ASTM D4052	0.881
Kinematic viscosity @ 100°C, mm^2/s	ASTM D445	13.5
Pour Point, °C	ASTM D97	-33
Flash Point, COC, °C	ASTM D92	278
Total Base Number, mg KOH/g	ASTM D2896	4.2
Sulphated Ash, %wt	ASTM D874	0.50

2401

ENVIRONMENT, HEALTH, and SAFETY. Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions, and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit the Product Information Center.

This Product Data Sheet (PDS) was produced for the Africa, Middle East and Pakistan region in good faith from the best information available at the time of issue. The specific information included may not directly reflect the local market or conditions. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. For the most up-to-date, country-specific information, please contact your local customer service center.