



HDAX[®] 9200 Low Ash Gas Engine Oil

Premium Performance Low-Ash Gas Engine Lubricant

Product Data Sheet

Customer benefits

- **Exceptional Engine Performance**
Optimized detergent-dispersant additive package offers 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 characteristic provides maximum 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 provides minimum valve recession with low levels of combustion chamber deposits to minimize 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.

Applications

- 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

Product features:

- 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.

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- Formulated to meet NSCR 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-fluorocarbons (CFC). In sour gas/high CFC applications, lubricants with higher base reserve may be required

Performance Standards

- Caterpillar Energy Solutions GmbH (former MWM): Technical Circular 0199-99-2105 (up to 0.5% sulphated ash) for CG132, CG170 and CG260 series engines
- GE Jenbacher TA 1000-1109, Fuel Class A^[1] for the following engine types/versions and with catalytic convertors.
 - Type 3 All Versions
 - Type 4 Versions A, B & C
 - Type 6 All Versions (Including F, G, H)
- MTU preliminary approval MTL 5074 for Series 4000 gas engines*
- RMB/ Energie : Natural Gas
- Waukesha VGF, VGP and 220GL Series engines, natural gas including Cogeneration
- 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).

* This preliminary approval can be used to carry out a field test, which, on successful conclusion, will result in a formal approval for use in MTU gas engines and listing in the Fluids and Lubricants Specification. The preliminary approval has no expiration date.



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continued

Typical Key Properties

HDAX 9200 LOW ASH GAS ENGINE OIL		
TEST	TEST METHODS	RESULTS
SAE Grade		40
Product Code		530040
Density at 15°C, kg/l	ASTM D4052	0.881
Kinematic viscosity at 100°C, mm ² /s	ASTM D445	13.5
Pour Point, °C	ASTM D5950	-18
Flash Point, COC, °C	ASTM D92	278
Total Base Number, mg KOH/g	ASTM D2896	4.2
Sulphated Ash, %wt	ASTM D874	0.50

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.

This bulletin was prepared in good faith from the best information available at the time of issue. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. It is the responsibility of the user to ensure that the products are used in the applications for which they are intended.

Produced by Chevron Lubricants; Africa, Middle East and Pakistan.

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 www.caltexoils.com.

For more information, go to www.chevronlubricants.com