

SUPREME™ SYNTHETIC HYBRID

Introduction

SUPREME™ SYNTHETIC HYBRID Motor Oils, are specifically designed to meet the demanding needs of hybrid engines. Internal combustion (IC) engines when combined with battery power go through significantly more start-ups than just a regular internal combustion engine. Engine start-up is the time in an engine's cycle where the most wear can occur. Enter SUPREME SYNTHETIC HYBRID motor oils to provide the best protection for a hybrid IC engine's unique needs. Designed to meet the needs of a hybrid IC engine by providing exceptional lubrication of critical engine parts while providing enhanced protection for the latest emission control systems, turbochargers and gasoline direct injection IC engines.

SUPREME SYNTHETIC HYBRID Motor Oils start with a pure advantage. They are formulated using Petro-Canada Lubricants Synthetic base oils, which are among the purest base oils in the world. We use the **HT Purity Process** to remove performance-hindering impurities. Our base oils are **99.9% pure**. That purity can help maximize the performance of our motor oils. In combination with leading-edge additive technology, they deliver exceptional resistance to thermal breakdown, outstanding low temperature fluidity, and excellent IC engine protection against wear and deposit formation under the most severe driving conditions.

SUPREME SYNTHETIC HYBRID Motor Oils are specially formulated to exceed the latest API Service Classification for gasoline service, **API SN Plus with Resource Conserving**. With available SAE 0W-20 and 0W-16 grades, they meet the needs of most hybrid vehicles.

SUPREME SYNTHETIC HYBRID 0W-20 also exceeds the latest ILSAC GF-5 specification and is approved against GM's **dexos1™ Gen 2** global gasoline engine oil specification to meet the warranty requirements of GM vehicles that specify a dexos1™ Gen 2 fluid.

The dexos® specification and trademark are exclusive to General Motors, LLC.

Features and Benefits

- **Extended Engine Life**
 - Designed to protect the hybrid engine meeting its unique needs
 - Outstanding protection against wear, rust and corrosion
 - Outstanding turbo-deposit control
 - Bearing life greatly extended
 - Minimizes wear due to stop-start driving
 - Improves engine performance through enhanced aeration control
 - Protects against low speed pre-ignition (LSPI)
- **Our Best Resistance to High Temperature Thermal Breakdown**
 - Cleaner running engines
 - Reduces deposits of varnish, sludge and carbon on engine parts
 - Protects turbochargers from deposit formation
 - Minimizes piston-ring sticking
 - Improves lubrication because oil-ways stay clean
- **Our Best Low Temperature Fluidity**
 - Permits easier unaided cold weather starts
 - Reduces wear during low temperature start-up and operation
- **Reduced Oil Consumption**
 - Low evaporation loss results in less oil top-up
 - Enhanced seal compatibility to prevent leaks
- **Compatible with High Ethanol Fuels (up to E85)**
 - Protects against engine corrosion
 - Prevents water separation
- **Protection of Exhaust Emission Control Systems**
 - Formulated to meet reduced phosphorus and sulphur levels, and to provide reduced phosphorus volatility in order to protect and extend the life of emission control systems

What is the HT difference?

Petro-Canada Lubricants starts with the HT purity process to produce water-white, 99.9% pure base oils. The result is a range of lubricants, specialty fluids and greases that deliver maximum performance for our customers.



Improved Fuel Economy Performance

SUPREME SYNTHETIC HYBRID Motor Oils meet or exceed the **API SN Plus with Resource Conserving** requirements for fuel economy improvement and fuel economy retention versus previous generation motor oils. They not only provide better initial fuel economy, but they are better at maintaining it over the oil drain interval.

Applications

SUPREME SYNTHETIC HYBRID Motor Oils are recommended for year-round use in internal combustion gasoline hybrid engines. **SUPREME SYNTHETIC HYBRID Motor Oils** meet or exceed new car warranty requirements for North American and Asian vehicles where **ILSAC GF-5** (SAE 0W-20 only) or **API SN Plus** engine oils are recommended. They are fully back serviceable to all previous ILSAC and API performance ratings including ILSAC GF-4 and API SM (SAE 0W-16 excluded).

SUPREME SYNTHETIC HYBRID Motor Oils are fully compatible with all other synthetic and conventional motor oils.

Always consult owner's manual to select the appropriate viscosity grade.

Petro-Canada SUPREME™ SYNTHETIC HYBRID Motor Oils Recommended Applications

■ Approved or Licensed □ Meets

SAE Viscosity Grade	0W-16	0W-20
API		
SN, SN Plus	■	■
SN Resource Conserving	■	■
SM*		□
ILSAC		
GF-5		■
GF-4*		□
Chrysler		
MS-6395		□
Ford		
WSS-M2C947-A/B1		□
General Motors		
GM dexos1™ Gen 2		■ D10380HG024
Asian OEMs		
Honda, Hyundai, Kia, Mazda, Toyota	□	□

* back-serviceable

dexos1™ Gen 2 supercedes dexos1® (First Generation), GM6094M and GM4718M.

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Typical Performance Data

PROPERTY	ASTM TEST METHOD	SUPREME SYNTHETIC HYBRID	
		0W-16	0W-20
Density, kg/L @ 15°C	D4052	0.845	0.845
Colour	D1500	<3.5	<3.0
Flash Point, COC, °C / °F	D92	232/450	232/450
Pour Point, °C / °F	D5950	-45 / -49	-45 / -49
Kinematic Viscosity cSt @ 40°C cSt @ 100°C	D445	40.6 7.8	44.3 8.3
Viscosity Index	D2270	164	166
Cold Cranking Viscosity, cP @ °C / °F	D5293	5310 @ -35 / -31	5510 @ -35 / -31
Borderline Pumping Viscosity, cP @ °C / °F	D4684	14600 @ -40 / -40	17400 @ -40 / -40
Volatility (Noack), % loss	D5800	11	11
Sulphated Ash, % wt.	D874	0.92	0.87
Sulphur, mass %	D4294	0.274	0.272
Phosphorus, mass %	D4951	0.08	0.08
Base Number, (BN), mg KOH/g	D2896	8.2	8.1
High-Temperature High-Shear (HTHS) Viscosity, cP @ 150°C and 1E+06/s	D4683	2.4	2.6

The values quoted above are typical of normal production. They do not constitute a specification.

To order product or to learn more about how Petro-Canada Lubricants
can help your business visit: **lubricants.petro-canada.com**
or contact us at: **lubecsr@petrocanadalsp.com**



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