



A HOLLYFRONTIER BRAND

# TECH DATA

## SENTRON™

### STATIONARY GAS ENGINE OILS

## INTRODUCTION

Petro-Canada Lubricants SENTRON stationary gas engine oils (SGEOs) are premium performance, long life engine oils specially formulated to lubricate stationary gas engines and compressors. SENTRON's extended drain intervals can mean lower maintenance costs, less used oil to dispose of and a more efficient and profitable operation.

SENTRON's exceptional performance is especially important in the severe service conditions common in compression, power generation and combined heat and power applications. Its outstanding anti-wear protection in combination with low tendency for deposit build-up helps to minimize bore polish and wear of cylinder liners and wear of piston rings.

That can mean:

- Longer service intervals
- Cleaner engines with less wear
- Less downtime
- Less backfiring
- Fewer service calls

SENTRON stationary gas engine oils are formulated with ultra pure, high quality base oils and highly advanced additive technologies to help deliver a combination of extended oil life, extended drain intervals and excellent control of engine deposits. Offering exceptional protection against wear and corrosion, SENTRON helps provide worry-free operation, increased engine durability and engine life, which can lead to a reduction in overall operating costs.

SENTRON stationary gas engine oils span the typical levels of sulphated ash and SAE viscosity grades required by gas engine manufacturers. Moreover, they have a proven track record of successful use under a wide range of operating conditions.

## FEATURES AND BENEFITS

### Longer oil life provides long-lasting equipment protection

- Exceptional resistance to breakdown caused by oxidation and nitration.
- Helps extend engine life by reducing varnish, sludge and carbon deposits.
- Helps improve engine performance.

### Extended drain interval can reduce maintenance and provide savings

- SENTRON LD 8000 can significantly extend oil drain intervals when compared to leading competitive conventional SGEOs. The extended drain interval helps to:
  - Reduce downtime and maximize production availability.
  - Lower operating costs by reducing maintenance costs.

### Outstanding anti-wear/anti-scuff protection helps to:

- Control and minimize valve recession.
- Reduce wear on piston rings, cylinder liners and bearings, prolonging engine life.
- Reduce operating and maintenance costs.

### Keeps engine parts clean by:

- Minimizing ring zone and valve stem deposits.
- Minimizing port blockage in 2-cycle gas engines.
- Improving engine lubrication by maintaining clean oil-ways.
- Maximizing the time between major engine overhauls.
- Preventing corrosion.

### Extremely low oil volatility helps to:

- Improve work environment through absence of oil odour.
- Minimize oil consumption.
- Reduce excessive engine combustion zone deposits for higher efficiency and reduced de-rating of the engine.

## APPLICATIONS

Petro-Canada Lubricants SENTRON stationary gas engine oils are premium performance engine oils specially formulated to lubricate large natural gas engines and their integrated compressors, running on natural gas. Specific SENTRON oils also meet the more severe operational needs of co-generation, biogas, sewage gas, coal bed methane and halogen landfill gas operations. SENTRON SGEOs can be used in reciprocating compressor crankcases where an OEM allows an SAE 40 oil. SENTRON can also be used in compressor lubricators as a compressor cylinder lubricant.

SENTRON stationary gas engine oils cover the three main levels of sulphated ash required by natural gas engine manufacturers. Please check with your Petro-Canada Lubricants Technical Services Advisor for suitability.

## ASHLESS

**SENTRON ASHLESS 40** (0.05% wt ash) is recommended for high performance in 2-stroke cycle engines. Helps minimize combustion chamber and spark plug deposits and minimizes port plugging.

## LOW ASH

**SENTRON LD 8000** (0.52% wt ash) is a premium low-ash formulation that combines a high degree of oxidative stability with nitration resistance, suitable for use in 4-stroke engines operating on natural pipeline gas, pre-treated sewage/bio-gas and selective pre-treated process gases. It provides revolutionary performance of up to 300%\* longer drain intervals over the leading global conventional competitor.

**SENTRON LD 5000** (0.57% wt ash) provides excellent performance for up to 200%\*\* longer drain intervals and exceptional overall engine protection for maximum reliability and savings. It helps minimize piston, ring zone, valve stem and combustion chamber deposits.

**SENTRON LD 3000** (0.47% wt ash) is recommended for most 4-stroke and some 2-stroke gas engines. It is suitable for use in engines fitted with catalytic converters. SENTRON LD 3000 helps provide a high level of performance in high output turbocharged engines that prefer a low ash oil.

**SENTRON CG 40 PLUS** (0.52% wt ash) is a uniquely designed low ash formula for 4-stroke gas engines running in biogas, sewage gas and landfill gas operations. SENTRON CG 40 PLUS is specifically designed to address current and future engines running in severely contaminated gas applications where higher BMEP engines are used.

**SENTRON VTP 10W-40** (0.59% wt ash) is specially formulated to meet the demands of stationary natural gas engines for exceptional cleanliness of the engine through all seasons. SENTRON VTP 10W-40 is suitable for use in applications where Cummins CES 20074 is specified.

**SENTRON VTP 0W-30** (0.58% wt ash) is a low ash, synthetic blend SGE0 formulated specifically as an all season solution for small to mid-sized engines that are difficult to start in severe winter conditions.

**SENTRON LD SYNTHETIC BLEND** (0.53% wt ash) is a 15W-40 multigrade extension of the SENTRON line, formulated as a synthetic blend to extend drain intervals and give better low temperature performance in comparison to mono-grade SAE 40's.

**SENTRON VLA 40** (0.30% wt ash) is a "very" low-ash stationary gas engine oil specifically designed for engines running at low loads (<60% MCR). Reduces ring sticking or breaking and valve burning, prevents detonation and pre-ignition, and reduces spark plug fouling in low-loaded engines.

## MEDIUM ASH

**SENTRON CG 40** (0.93%wt ash) is designed specifically for 4-stroke cycle gas engines running in severe service such as co-generation, sewage or sour gas or low halogen landfill gas operations.

**SENTRON SP 40** (0.75% wt ash) is specially formulated for high-performance stationary gas engines operating with steel pistons. Offers significant reduction of combustion chamber deposits and outstanding top ring groove deposit control.

**SENTRON SP 30** (0.70% wt ash) is an advanced performance SAE 30 monograde stationary gas engine oil that is formulated from wax-free base oils and a balanced additive system to provide performance that's unattainable with conventional SGE0s, including premium performance products. SENTRON SP 30 improves engine and oil life and reduces maintenance and fuel costs.

\*In Caterpillar G3500 TALE engines running in gas compression, with >90% loads and pipeline quality fuel.

\*\*All data generated were on engines in gas compression service under >90% load using pipeline quality fuel and typical field conditions.

## TYPICAL PERFORMANCE DATA

Property	ASTM Test Method	PETRO-CANADA LUBRICANTS STATIONARY GAS ENGINE OILS											
		SENTRON ASHLESS 40	SENTRON LD 3000	SENTRON LD 5000	SENTRON LD 8000	SENTRON LD SYNTHETIC BLEND	SENTRON VLA 40	SENTRON CG 40	SENTRON CG 40 PLUS	SENTRON SP 40	SENTRON SP 30	SENTRON VTP 0W-30	SENTRON VTP 10W-40
Ash Type	–	Ashless	Low Ash	Low Ash	Low Ash	Low Ash	Low Ash	Medium Ash	Low Ash	Medium Ash	Medium Ash	Low Ash	Low Ash
Sulphated Ash, % wt	D874	0.05	0.47	0.57	0.52	0.53	0.30	0.93	0.52	0.75	0.70	0.58	0.59
SAE Grade	–	40	40	40	40	15W-40	40	40	40	40	30	0W-30	10W-40
Flash Point, COC, °C/°F	D92	276/529	273/523	272/522	277/531	247/477	263/505	273/524	283/541	269/516	241/466	239/462	245/473
Kinematic Viscosity cSt @ 40°C/SUS @ 100°F cSt @ 100°C/SUS @ 210°F	D445	125/579 13.7/72.8	124/575 13.7/72.8	124/575 13.4/71.7	121/559 13.3/71.3	106/491 15.6/80.3	116/537 13.0/70.2	123/560 13.6/72.4	119/550 13.4/71.7	124/575 13.3/71.3	74/343 10.6/61.3	62/288 11.2/63.5	101/468 15.1/78.3
Pour Point, °C/°F	D5950	-27/-17	-27/-17	-30/-22	-27/-17	-42/-44	-24/-11	-27/-17	-27/-17	-33/-27	-42/-44	-45/-49	-42/-44
Acid Number (AN) <sup>†</sup> , mg KOH/g	D664	0.7	0.86	1.1	0.86	1.0	0.32	0.58	1.5	1.34	0.66	1.8	1.9
Base Number (BN), mg KOH/g	D2896	1.6	3.9	4.9	4.6	4.7	2.9	8.1	4.5	6.6	6.5	4.8	3.9

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

<sup>†</sup>Minor variations in typical test data are normal and should be expected under ASTM D664. To ensure maximum repeatability, used oil should be tested in the same lab under the same conditions that the fresh oil was tested.

## OPERATIONAL CONSIDERATIONS

SENTRON stationary gas engine oils with extended drain interval and oil life as well as excellent control of engine deposits and wear help provide worry-free operation and reduced cost to customers under normal recommended conditions. However, actual oil life is dependent upon system design and operating practices, and should be established by used oil analysis, according to engine manufacturers' recommendations. Petro-Canada Lubricants No-Nonsense Lubricants Warranty applies.

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