Technical Data Sheet

- Extended Oil Life
- Extra Protection from Deposits and Corrosion

# Shell **Mysella** ***S5 N 40***

***Long Life, Low Ash Stationary Gas Engine Oil***

Shell Mysella S5 N is a high performance quality oil blended for use in highly-rated, 4-stroke, spark-ignition engines which require a 'low ash' oil.
Shell Mysella S5 N satisfies the new generation of stationary gas engines designed to meet the emerging legislation limiting emissions of NOx, and those which employ the latest 'lean' or 'clean' burn technology.
Shell Mysella S5 N is specially developed to provide extended drain intervals in those natural gas engines where oil life is a limiting operational factor.

## DESIGNED TO MEET CHALLENGES

### Performance, Features & Benefits

- **Extended oil life**
  Significantly prolongs oil life relative to previous generation gas engine oils by resisting oxidation and nitration, viscosity increase and the formation of harmful acids, especially in demanding cogeneration (CHP) applications. (When used with landfill or biogases, oil life will be dependent on the level of contaminants in the gas.)
- **Engine protection**
  Shell Mysella S5 N offers excellent control of deposits and piston cleanliness in advanced engine designs. Shell Mysella S5 N is formulated with low ash and low phosphorus offering extended life to valves and spark plugs and full compatibility with emission catalysts.
- **System efficiency**
  Shell Mysella S5 N is designed to help prevent knocking and thereby enable engines to be run at full load and optimum efficiency and its viscosity control helps to minimise engine friction losses. Shell Mysella S5 N helps to provide excellent cleanliness for the heat recovery boilers, turbochargers and intercoolers thus allow total system to operate with consistent performance and efficiency over time.

### Main Applications



- Spark-ignited gas engines fuelled by natural gas, especially those creating high oil stress
- May also be used for landfill and biogases

### Specifications, Approvals & Recommendations

Shell Mysella S5 N is suitable in engine types where a "low ash" oil is required.

**Shell Mysella S5 N is approved by:**

- Wärtsila, top-listed approved for all SG, LPG, DF engines continuously running on gas fuel and for DF engines during short operating periods on alternate natural gas / distillate fuel operation.
- Bergen Engines (formerly Rolls-Royce) for B35:40, C26:33, K-G1, K-G2, K-G3, K-G4 gas engines
- Caterpillar for gas engines CG132, CG132B, CG170, CG170(1.0), CG170(K), CG170B, CG260, CG260(4.5)
- Caterpillar for MaK GCM 34 gas engine as Category 1 oil
- Cummins for QSV81G, QSV91G, QSK60G, HSK78G gas engines as per CES 14615
- Daihatsu for natural gas engines
- Everllence (formerly MAN ES) for gas engines and for PC type gas engines of the Pielstick brand
- INNIO Jenbacher for gas engines Type 6 Versions F, J Fuel Class A, B, C and CAT; Type 6 Versions C, E Fuel Class A and CAT; Type 4 Versions B, C, D, E Fuel Class A, B, C and CAT; Type 4 Version A Fuel Class A, B, C and CAT; Types 2 and 3 (except Type 3 Version F) Fuel Class A and CAT; for gas engines for special gas applications Fuel Class S and CAT.
- INNIO Waukesha for Cogeneration / Gas Compression Applications, including all 220GL Applications (Using Pipeline Quality Gas)

- Guascor for HGM, FGLD, SFGLD, 86EM gas engines
- HYUNDAI HiMSEN for Gas and Duel Fuel Engines running on gas or methanol fuel
- MAN Truck & Bus M 3271-2 for natural gas; M 3271-5 for stationary gas engines with catalysts, for natural gas, sewage gas, biogas, wood gas or landfill gas
- mtu (a Rolls-Royce solution) for gas engines Series 4000 L61 / L62 / L63 / L64 / L64FNER / T24N, L32 / L33 / L32FNER; Series 400 for natural gas, propane gas and with catalysts
- MWM for TCG 2016, TCG 2016B, TCG 2016C, TCG 3016, TCG 2020, TCG 2020(1.0), TCG 2020K, TCG2020K1, TCG 3020, TCG 2032, TCG2032B gas engines
- Perkins for gas engines 4000 series
- TEDOM for natural gas, propane-butane engines and with catalysts
- YANMAR for natural gas engines

**Shell Mysella S5 N meets requirements of:**

- Caterpillar stationary gas engine models, produced in the USA. Recorded successful operational experience is available for more than 15 years in hundreds of Caterpillar gas engines in Power and Gas Compression Applications

For engines under warranty, Shell advises contact with the engine manufacturer and Shell representative to choose the appropriate oil given the equipment operating conditions and customer maintenance practices.

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk

## Typical Physical Characteristics

| Properties | | | Method | Shell Mysella S5 N 40 |
|---|---|---|---|---|
| SAE Viscosity Grade | | | | 40 |
| Kinematic Viscosity | @40°C | $mm^2/s$ | ASTM D445 | 125 |
| Kinematic Viscosity | @100°C | $mm^2/s$ | ASTM D445 | 13.5 |
| Density | @15°C | $kg/m^3$ | ASTM D4052 | 890 |
| Flashpoint Cleveland Open Cup | | °C | ASTM D92 | 264 |
| Pour Point | | °C | ISO 3016 | -18 |
| BN | | mg KOH/g | ASTM D2896 | 4.5 |
| Sulphated Ash | | %wt | ISO 3987 | 0.48 |
| Phosphorus | | ppm | ASTM D4047 | 300 |

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

## Health, Safety & Environment

- **Health and Safety**

  Shell Mysella S5 N is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

  Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

  Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from https://www.epc.shell.com/

- **Protect the Environment**

  Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

## Additional Information

- **Oil Analysis**

  For optimum results regular oil analysis is strongly recommended

- **Advice**

  Advice on applications not covered here may be obtained from your Shell representative.

  Note: this product is not designed for automotive gas engines