



### SWITCH LA MINERAL

#### PRODUCT DESCRIPTION:

SWITCH LA is a high-quality crankcase oil that is specifically engineered for use in four-stroke natural gas and dual-fuel engines that require low-ash oils. It is formulated with top-notch base oils and additives to offer excellent resistance to oxidation and nitration, extend the lifespan of the oil and filter, and provide superior protection against wear.

#### APPLICATION:

SWITCH LA is also suitable for use in a variety of other applications, including gas-fueled spark ignition engines (natural gas and LPG) where conventional passenger car motor oils are recommended. It can be used in naturally aspirated and turbocharged gasoline engines in passenger cars, light truck gasoline engines, and four-stroke gasoline engines in portable power equipment, as long as the manufacturer specifies API SM or lower-performance oils.

#### FEATURES & BENEFITS:

- Special detergent and ashless dispersant additive system preserve power and performance by providing good control of piston and ring deposits, even under high temperature conditions
- Good nitration resistance protects against CNG related valve deposits
- Very good thermal and oxidation stability
- Single oil for fleet owners with CNG, dual-fuel and gasoline vehicles

#### PERFORMANCE LEVELS: Meets or Exceeds:

- Caterpillar
- Wartsilä
- MAN
- MTU
- GE - Jenbacher
- MWM (DEUTZ)
- Waukesha
- Perkins
- MDE
- MTU
- Superior STGV
- Jenbacher
- Cummins
- Hyundai
- API CF (Diesel Fuel Application)

#### TYPICAL PROPERTIES:

PARAMETERS	TEST METHOD	UNIT	SWITCH LA	
SAE Grade			30	40
Kinematic Viscosity @ 104°F /40°C	ASTM D7042	cSt	TBR	TBR
Kinematic Viscosity @ 212°F /100°C	ASTM D7042	cSt	11.5	14
Viscosity Index (min)	ASTM D2270	-	95	95
SP. Gravity @15°C/ 60°F	ASTM D4052	g/cm <sup>3</sup>	TBR	TBR
Flash Point (min)	ASTM D92	°C	220	220
Pour Point (max)	ASTM D97	°C	-9	-9
TBN	ASTM D2896	mg KOH/g	5.6	5.6
Sulphatd Ash	ASTM D871	Wt.%	0.5	0.5

#### HEALTH & SAFETY, ENVIRONMENT:

Prolonged and repeated contact with oil may cause skin disorders. Avoid contact. Wash immediately with soap and water. Do not discharge used oil in to drains or the environment. Dispose to an authorized used oil collection point. For further information on Safety Guidelines please refer to MSDS available on our website [www.bravoil.ae](http://www.bravoil.ae)

#### HEALTH & SAFETY:

This product is not likely to present any significant health or safety hazards when properly used in the recommended application and good standards of personal hygiene are maintained. Reference is made to the Safety Data Sheet (SDS) which is available on request via your local sales office or via the internet [www.bravoil.ae](http://www.bravoil.ae)

#### PROTECT THE ENVIRONMENT:

Take used oil to an authorized collection point. Comply with local regulation. Do not discharge into drains, soil or water.

#### STORAGE:

We recommend to store all packages under cover. In case outside storage is unavoidable, drums should be laid horizontally to avoid the possible ingress of water and damage to drum markings. Products should never be stored above 60°C, exposed to hot sun or freezing conditions.