



## AUTOMOTIVE CNG ENGINE OIL

# BRAVOIL™

### Technical Data Sheet

## SWITCH PLUS MINERAL

### PRODUCT DESCRIPTION:

SWITCH PLUS is an advanced engine oil designed specifically for heavy-duty spark-ignited CNG (Compressed Natural Gas) and LNG (Liquefied Natural Gas) fueled truck and bus engines, as well as small to medium-sized CNG generators. It offers exceptional performance in the demanding conditions of CNG and LNG operation and has the ability to extend oil drain intervals, providing cost-effective maintenance for these engines.

### APPLICATION:

- LNG/CNG Linehaul truck service
- LNG/CNG Delivery truck service
- LNG/CNG Waste truck service
- LNG/CNG Cement truck service
- LNG/CNG Oil Field truck service
- CNG Municipal Bus Service
- Small to Medium Size CNG Generators
- Off Road Equipment

### FEATURES & BENEFITS:

- Good piston and engine cleanliness
- Reduced levels of "ash" containing additives to control deposit formation
- Excellent tappet and liner wear performance in alternative fuel engines
- Delivers long drain performance protection despite Higher stress of CNG combustion

### PERFORMANCE LEVELS: Meets or Exceeds:

- API CF
- Cummins: CES 20074
- Detroit Diesel: DDC 93K216

### TYPICAL PROPERTIES:

| PARAMETERS                         | TEST METHOD | UNIT              | SWITCH PLUS |       |
|------------------------------------|-------------|-------------------|-------------|-------|
| Grade                              |             |                   | 15W40       | 20W50 |
| Kinematic Viscosity @ 104°F /40°C  | ASTM D7042  | cSt               | TBR         | TBR   |
| Kinematic Viscosity @ 212°F /100°C | ASTM D7042  | cSt               | 14.8        | 19.5  |
| Viscosity Index (min)              | ASTM D2270  | -                 | 135         | 120   |
| Density @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                | -33         | -24   |

### DISCLAIMER:

The test data provided is not a final specification; rather, it serves as a guideline and may vary within acceptable production tolerances. Bravoil reserves the right to modify this test data. Any updates will supersede previous versions, so please refer to the most recent Technical Data Sheet (TDS).

### 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.