



## AUTOMATIC TRANSMISSION FLUID

# BRAVOIL™

### Technical Data Sheet

## SYNTHPOWER TO-4 HD FULLY SYNTHETIC

### PRODUCT DESCRIPTION:

SYNTHPOWER TO-4 HD is a high-quality oil specifically formulated for heavy-duty off-highway equipment used in various industries such as earthmoving, mining, logging, road transport, and agriculture. It is designed to provide optimum performance and protection for power shift transmissions, final drives, and wet brakes. The oil is made from top-grade base oils and tested performance additives, ensuring reliable and efficient operation in demanding conditions.

### APPLICATION:

SYNTHPOWER TO-4 HD is a specialized oil that is engineered to meet the stringent performance standards of various heavy-duty equipment and transmission systems. It is designed to cater to the requirements of Caterpillar TO-4, Komatsu power shift transmissions, ZF torque converter transmissions, and Allison C-4 automatic transmissions. Additionally, SYNTHPOWER TO-4 HD is suitable for use in heavy-duty manual transmissions, gearboxes, final drives, and hydraulic systems commonly found in off-highway equipment. It is highly recommended for use in industrial torque converters and hydraulic systems that require this specific type of fluid.

### FEATURES & BENEFITS:

- Good compatibility with all common seals, O rings, packing materials and clutch materials that leads to reduced downtime.
- Good low temperature fluidity.
- Quick start up of equipment.
- Excellent oxidation resistance and thermal stability for long fluid life.
- Protects against sludge and varnish formation.
- Protects against wear.
- Protects against rust and corrosion
- High shear stability
- Foam resistance

### PERFORMANCE LEVELS: Meets or Exceeds:

- Caterpillar TO-4
- Allison TES 439
- Komatsu KES 07.868.1
- Allison C-4
- ZF TE-ML-03C
- API GL-4

### TYPICAL PROPERTIES:

PARAMETERS	TEST METHOD	UNIT	SYNTHPOWER TO-4 HD			
Grade			10W	30	50	60
Kinematic Viscosity @ 104°F /40°C	ASTM D7042	cSt	TBR	TBR	TBR	TBR
Kinematic Viscosity @ 212°F /100°C	ASTM D7042	cSt	5.5	11.0	19.5	26.0
Viscosity Index (min)	ASTM D2270	-	140	140	140	140
Density @15°C/ 60°F	ASTM D4052	g/cm <sup>3</sup>	TBR	TBR	TBR	TBR
Flash Point (min)	ASTM D92	°C	200	200	200	200
Pour Point (max)	ASTM D97	°C	-42	-42	-42	-42

### 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.