

## GROB Gear Oil SAE 90 GL-4

### Product Description

**GROB SAE 90 GL-4** is a high-performance mineral gear oil formulated to provide reliable EP protection, wear resistance, and thermal stability for synchronized and non-synchronized gear systems. It is optimized to protect yellow metals such as brass, bronze, and copper alloys used in manual transmissions.

The formulation includes high-quality base stocks and selected additives to ensure:

- Smooth gear operation
- Enhanced protection under load
- Resistance to foaming and oxidation
- Extended equipment and lubricant life

### Product Features & Benefits

- **API GL-4 Performance:**

Provides balanced EP protection without harming synchronizers or soft metal components.

- **Wear Protection:**

Reduces gear tooth scuffing and bearing wear under high-torque conditions.

- **Oxidation Stability:**

Controls sludge formation and maintains oil life in long drain intervals.

- **Rust & Corrosion Inhibition:**

Ensures long-term protection of metal surfaces from water and air exposure.

- **Compatibility with Yellow Metals:**

Gentle additive package ensures safe use in synchronized transmissions.

### Application

- Manual gearboxes requiring API GL-4
- Axles and differentials (not requiring GL-5)
- Agricultural equipment and off-highway machinery
- Suitable for:
  - Passenger cars
  - Light and heavy-duty trucks
  - Tractors and utility vehicles

### Approvals & Specifications

- GL-4 ,
- MAN 341 Typ Z1
- ZF TE-ML 02B, 16A
- MIL-L-2105 (obsolete reference)

### Health, Safety, & Environment

- Avoid prolonged skin contact; wear appropriate protective equipment.
- Dispose of used oil responsibly at authorized collection points.
- Refer to the product's Safety Data Sheet (SDS) for detailed handling and safety instructions.

### Storage & Handling

- Store under 45°C in a dry, covered environment
- Keep container sealed and protected from contamination
- Avoid mixing with oils of different specifications
- Refer to SDS for full health and safety guidelines

### Typical Properties

Property	Method	Value
Appearance	Visual	Clear, light amber
Density @ 15°C	ASTM D4052	0.890 g/cm <sup>3</sup>
Kinematic Viscosity @ 40°C	ASTM D445	180 - 200 mm <sup>2</sup> /s
Kinematic Viscosity @ 100°C	ASTM D445	17.0 - 18.5 mm <sup>2</sup> /s
Viscosity Index	ASTM D2270	≥95
Pour Point	ASTM D97	-18°C
Flash Point (COC)	ASTM D92	≥240°C
Copper Corrosion (3h @ 121°C)	ASTM D130	1b
Foaming (Seq I, II, III)	ASTM D892	Pass
Timken OK Load	ASTM D2782	≥60 lb
FZG Load Stage	DIN 51354	Pass (Stage 10-11)

