

# Technical Data Sheet

## Eastman™ HALO 157

### Key Attributes

- A purpose designed lubricant with a viscosity of 9 cSt @ 100°C and 12,700 cSt @ -32°C
- Excellent load carrying and antiwear performance
- Excellent shear stability
- Good corrosion resistance
- Good elastomer compatibility
- Greater inter-gear film thickness
- High temperature stability

### Product Description

For many years MIL-PRF-23699 approved engine lubricants were employed in helicopter gearboxes, thus ensuring a common lubricant for both engines and transmission systems. More recently, high load carrying oils have been evaluated and found to offer advantages over conventional load carrying MIL-PRF-23699 oils. These higher load carrying oils complying with specification DOD-PRF-85734 were, again, originally intended only for engine applications. The two MIL Spec oils are thus of identical viscometric properties. Operators considered that lubrication performance of gearboxes could be enhanced by a higher viscosity, high load carrying lubricant possessing improved corrosion protective qualities.

Eastman™ HALO 157 is a clear amber colored fluid with a faintly aromatic odor reminiscent of turbine engine oils. It is based on selected polyol esters, the inherent characteristics of which are enhanced by additives. also fully compatible and miscible with other oils approved to specifications, MIL-PRF-23699 and MIL-PRF-7808.

Multiple testing has been completed in bearing and gearbox rigs and flight evaluations culminating in the NATO standard (AIR STANDARD ACS 4035) for a 9 cSt advanced Helicopter Gear Box Lubricant.

### Typical Properties

Property	Test Method	Typical Value, Units
Density @ 15°C	ASTM D 1298	0.986 kg/L
Viscosity, Kinematic		
@ 100°C	ASTM D 445	8.92 mm <sup>2</sup> /s
@ 40°C	ASTM D 445	52.8 mm <sup>2</sup> /s
@ -32°C	ASTM D 445	12700 mm <sup>2</sup> /s
Total Acid Number	SAE ARP5088	1.15 mg KOH/g
Pour Point	ASTM D 97	-51°C
Flash Point	ASTM D 92	263°C
Evaporation Loss 6.5 hrs @ 205°C	ASTM D 972	2.3%
Rubber (Nitrile) Compatibility AMS 3217/1, 72 hr @ 70°C, % Swell	FED-STD-791, 3604	7.1%
Rubber (Fluorocarbon) Compatibility AMS	FED-STD-791,	5.9%

## Corrosion &amp; Oxidation Stability @ 175°C, 72 hrs

Viscosity @ 40°C	FED-STD-791, 7.5% 5308
Total Acid Number Change	FED-STD-791, 0.28 mg KOH/g 5308
Sludge, 10 micron filter	FED-STD-791, 0 mg / 100 ml 5308
Steel Weight Change	FED-STD-791, -0.01 mg/cm <sup>2</sup> 5308
Silver Weight Change	FED-STD-791, -0.03 mg/cm <sup>2</sup> 5308
Aluminium Weight Change	FED-STD-791, -0.01 mg/cm <sup>2</sup> 5308
Magnesium Weight Change	FED-STD-791, -0.01 mg/cm <sup>2</sup> 5308
Copper Weight Change	FED-STD-791, -0.04 mg/cm <sup>2</sup> 5308
Air Release Value @ 50°C	ASTM D 3417 2.44 minutes
Corrosion Inhibition Ball Corrosion Test	SAE ARP4249 Pass
Compatibility with MIL-PRF-23699 (all grades), MIL-PRF-7808 (all grades) & DOD-PRF-85734	FED-STD-791, Pass 3403
Ryder Gear @ 100°C	FED-STD-791, 205% of Calester A 6508 (modified)
FZG Load Carrying Capacity Test for Transmission Lubricants A/16.6/90	CEC Method 13/13+ Failure Load Stage L-07-A-095

## Storage

All product should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and the obliteration of drum markings. Products must not be stored above 60°C, exposed to hot sun or freezing conditions.

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