



# TECHNICAL DATA SHEET

## ENVIROLUBE® TCLP-SAFE OPEN GEAR LUBRICANT

In almost every category of product, one brand stands out as the market leader in performance or quality. When it comes to protecting heavily loaded open gears, Whitmore's Envirolube® is recognized by OEMs and end-users alike as that product.

No other open gear lubricant offers the protection from wear that is available from Envirolube®. The combination of a dense protective film, plus special chemical Extreme Pressure additives ensures smooth operation, even on gears that operate under the most severe load conditions.

By using Envirolube® on heavily loaded gears, existing wear damage such as pitting or spalling is smoothed, restoring a smooth operating surface. This process is sometimes called "planishing".

The surfaces of new (or damaged) gears are not smooth. Microscopically they appear as a series of peaks and valleys called asperities. As gears engage, contact is limited to the tips of opposing asperities. With inadequate lubricants, these surface irregularities go through a cycle of "weld and break". This can improve the surface, but it can get out of control and lead to scuffing, deep irregular scratches that run vertically from the pitch line.

Envirolube® creates an effective layer of chemical and physical protection that prevents scuffing and pitting (surface fatigue). The opposing asperities experience extreme specific load, but are prevented from welding to each other. The pressure causes them to yield, and they are pushed down into the "valleys". The end result is radical improvement in surface smoothness to both new and damaged gears.

Envirolube® will not pack into the tooth root, will not flake off in cold weather, and does not form an abrasive paste when exposed to airborne dust.

### BENEFITS:

- WEAR PROTECTION, SURFACE SMOOTHING - extends gear life and reduces operating expenses. The need for special running-in compounds is eliminated.
- RUST PROTECTION - protects against rust and corrosion.
- ANTIOXIDANT - stabilizes asphaltic base and inhibits oxidation and hardening of the spent lubricant.

### APPLICATIONS:

Envirolube® meets or exceeds the requirements of major Original Equipment Manufacturers for open gear lubricants.

Envirolube® Light grade is for use only in severe cold weather conditions, not exceeding 32°F (0°C). Use Medium grade on unheated mills in weather conditions between 0°F (-18°C) and 110°F (43°C). Use Heavy grade on heated mills up to 220°F (105°C) or where gears are badly worn.

All Envirolube® grades are suitable for use in airless spray systems. Do not use with NBR rubber seals. Viton® is recommended.

ASTM #		TYPICAL CHARACTERISTICS		
		Light	Medium	Heavy
D-445	Kinematic Viscosity, (without diluent) cSt @ 100°C	200	659	1,263
D-445	Kinematic Viscosity (completed product) cSt @ 40°C cSt @ 100°C	125 6	820 --	2,034 --
Gardner Method	Density, lb/gal @ 60°F (15.5°C) Specific Gravity, g/cc @ 60°F (15.5°C)	7.60 0.910	8.44 1.013	8.47 1.017
D-2783	Four Ball EP Weld Point, kg	400	800	800
D-4172	Four Ball Wear, Scar Width, mm	0.63	0.55	0.55
	Lincoln Ventmeter @ 400 psi, °F (°C)	-55 (-48)	0 (-18)	15 (-9)
	FZG Stages Passed	Not Tested	Not Tested	>12

The above are average values. Minor variations which do not affect product performance are to be expected in normal manufacturing.

### PACKAGING

Shuttle Tanks	Drums	Kegs	Pails	Aerosol Cans 12 per case (Handi-Lube®)
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### THE WHITMORE MANUFACTURING COMPANY

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