

232EP READILY BIODEGRADABLE, INDUSTRIAL ISO 320 GEAR OIL

Description

EnviroLogic® 232EP is a readily biodegradable gear oil for use in industrial applications. EnviroLogic® 232EP is an ISO 320 viscosity grade, AGMA 6EP oil, having the highest anti-wear/extreme pressure properties, excellent corrosion and rust protection, and outstanding system cleanliness characteristics. In addition, it can directly replace petroleum oil based products of the same viscosity. The excellent performance characteristics of EnviroLogic® 232EP make it suitable in a wide variety of industrial gear applications where incidental exposure of the oil to the environment is of concern. Examples are off-shore oil and gas, marine transportation & construction, steel milling, mining, and power utility operations. In the event of an oil spill or leak, the fluid biodegrades thereby minimizing any environmental impact.

EnviroLogic® 232EP Series meets most stringent extreme FZG wear/extreme pressure test combinations of temperature, speed and pressure. It is self certified as an Environmentally Acceptable Lubricant (EAL) compliant with 2013 US EPA Vessel General Permit (VGP).

It meets or exceeds the following performance levels:

- Aegir
- AGMA 9005 (6EP)
- AGMA 250.04/251.02 (6EP)
- Berg
- Blohm + Voss
- Chesterton
- Cincinnati Milacron P-59
- David Brown S1.53.101
- DIN 51517, Part 3
- IHC Merewede
- James Walker
- Kamewa
- Kemel
- Ortlinghaus
- Rolls Royce
- Schottel
- U.S. Steel 224
- Wartsila

Property	Method	Spec.	Result
Kinematic Viscosity At 40°C, cSt	D445	288.0 – 352.0	320
At 100°C, cSt			41
Viscosity Index	D2270		> 175
Density(60°F), g/cm ³	D4052		0.85
Pour Point, °C	D97	-9 min.	-36
Flash Point (COC), °C	D92		180

Property	Method	Spec.	Result
Copper Corrosion 3 Hrs. @ 100°C	D130	1b min.	1b
Steel Pin Corrosion (4 hours, 140°F) Deionized Water Synthetic Salt Water	D665	Pass Pass	Pass Pass
Foam Properties	D892		
Sequence I, mL	Tendency/Stability	50/0	50/0
Sequence II, mL	Tendency/Stability	50/0	50/0
Sequence III, mL	Tendency/Stability	50/0	50/0
Demulse Properties (54°C) Oil / Water / Emulsion Minutes	D1401		40 / 40 / 0 10
TOST Oxidation Hours to TAN of 2.0 mg KOH/g	D943		> 1500 ---
Air Release @ 90°C	D3427 9 max.		8.0
Four Ball EP Weld Load LWI, kg	D2783 250 min. 45 min.		315 48.7
Four Ball Wear 54°C/1800 rpm/20 kg/1 Hr.	D4172 Mod. Scar, mm		0.34
Timken Wear OK Load, lbs. Fail Load, lbs.	D2782 60 min. ---		> 60 > 65
FZG (A/8.3/90) Pass Stage	D5182		14
FZG (A10/16.6R/90) Pass Stage			12
FZG (A10/16.6R/30) Pass Stage			12
FE 8 Bearing Roller/Cage, mg			0.7/48.8
Gear Oil Oxidation Δ 100°C K.V. @ 312 Hrs.	D2893B 6% max.		4.2%
Elastomer Compatibility Buna N (100°C 168 Hours) Viton (150°C 168 Hours)	D471 D471		Pass Pass
Biodegradability	D7373	60% min.	> 60
Ecotoxicity Fathead minnow Daphnia Algae	OECD 203 OECD 202 OECD 201	> 100mg/L > 100mg/L > 100mg/L	> 1000 mg/L > 130 mg/L > 120 mg/L

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