

BIOGREASE M 3

Overview: BioGrease M 3 is the ideal environmentally friendly solution for marine applications. It is formulated from high purity vegetable oils and thickened with very shear stable lithium soap. The additive package contains environmentally friendly rust and anti-wear technology. This provides rust protection while the equipment is in service, but also for extended periods while the equipment is in storage. BioGrease M 3 utilizes an optimized blend of polymers which enable the product to function at temperatures well beyond the limits of other vegetable based products, as well as improving water resistance, pumpability, and adhesion while in service.

Specifications, Approvals, Recommendations:

- Classified as an EAL per the EPA's Vessel General Permit
- USDA BioPreferred Program

Physical Properties	M 3
NLGI Grade	3
Penetration , ASTM D217	220-250
Color	Amber
Texture	Smooth
Viscosity , ASTM D445 @40°C, cSt	220
Viscosity , ASTM D445 @100°C, cSt	28
Viscosity Index , ASTM D2270	165
Flash Point , ASTM D92, °F (°C)	500 (260)
Fire Point , ASTM D92, °F (°C)	540 (282)
Dropping Point , ASTM D2265, °F (°C)	>350 (176)
Water Washout , ASTM D1264, % loss max	5.4
Environmental Stewardship	
Readily Biodegradable (meaning>60%) OECD 301B, %	>60
Aquatic Toxicity OECD 201 - Algae (EC 50), 72 hr, mg/L OECD 202 - Daphnia (EC 50), 48 hr, mg/L OECD 203 - Fish (LC 50), 96 hr, mg/L	>32,000 >26,000 >56,000
Not Bioaccumulative* [*Calculated value as per EPA standard]	PASS
Additional Environmental Features and Characteristics	
Bio-based Content , ASTM D6866, %	>90

Applications & Industries: Slow moving (less than 900 rpm) marine applications where full boundary lubrication is needed. An example would be trunnions on hopper dredges.

