

## PRODUCT NAME

**BioGear S – Biodegradable Synthetic Gear Oil**

## MANUFACTURER

BioBlend Renewable Resources, LLC.  
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Elk Grove Village IL, 60007  
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## DESCRIPTION

BioGear S is a biodegradable, industrial, extreme pressure gear oil formulated from synthetic ester base stocks. The combination of these high-quality base oils and a robust additive package allows for maximum equipment protection for extended drain intervals, while simultaneously providing protection for the environment. The additional lubricity of the fluid allows for efficient operation in demanding conditions. Available in ISO grades 150, 220, 320 and 460.

## FEATURES AND BENEFITS

- Provides superior performance and protection in wide temperature ranges and extended drain intervals
- Excellent reduction of friction (lubricity) for efficiency in demanding conditions
- USDA BioPreferred Program – Meets the biobased content standards for use in federal projects
- Meets AGMA 9005-E02 Industrial Gear Specification

## PACKAGING

- 5 Gallon Pails
- 55 Gallon Drums
- 275 Gallon Totes

## SUITABLE USES

To be used in industrial gear applications across a wide range of industries especially where a full synthetic product is recommended, equipment runs in a wide operating temperature range or there is a desire to extend drain intervals. Use in equipment where a release into the environment is possible, where the authorities have mandated the usage of an EAL, or where a leak or spill could reach a waste stream.

## STORAGE AND SHELF LIFE

**Storage** – Keep in a cool, dry and well-ventilated place. Store in a properly labelled, original container.

Containers which are opened must be carefully resealed and kept upright to prevent leakage. To help maintain product quality, do not store in heat or direct sunlight.

**Shelf Life** - Product shelf life is 24 months from date of packaging. In some cases product can last longer, please contact your BioBlend representative for proper testing and confirmation instructions.

## CAUTIONS

Ensure adequate ventilation. Do not breathe vapor/dust. Use personal protective equipment and avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. See the Safety Data Sheet (SDS) for emergency, proper handling and disposal information.

## APPLICATION

- Follow recommendations provided in your equipment's owner's manual
- Follow your organization's manuals and/or best practices for preparation, cleaning, conversion, application and ongoing maintenance practices
- If you have further questions, please contact BioBlend Tech Services by filling out the contact us form on [bioblend.com](http://bioblend.com)

## AVAILABILITY

Worldwide.

## TECHNICAL SERVICES

For additional information including the Safety Data Sheet (SDS), Frequently Asked Questions, and Glossary please visit [bioblend.com](http://bioblend.com).

## APPROVALS AND CERTIFICATIONS

- Classified as Environmentally Acceptable Lubricants (EAL's) as per the EPA's guidance document that defines standards for Environmentally Acceptable Lubricants (EPA 800-R-11-002) and as required by EPA's 2013 U.S. Vessel General Permit (VGP)
- USDA BioPreferred Program – 81% Biobased content

## TYPICAL PROPERTIES

Property	ASTM Test Method	S 150	S 220	S 320	S 460
Product Code			BG4900220	BG4900320	BG4900460
ISO Grade		150	220	320	460
Specific Gravity	ASTM D1298	.87	.87	.87	.87
Viscosity @40°C, cSt	ASTM D445	150	220	320	460
Viscosity @100°C, cSt	ASTM D445	19	27	36	46
Viscosity Index (VI)	ASTM D2270		>160	>160	>160
Pour Point °F (°C)	ASTM D97		-40 (-40)	-40 (-40)	-40 (-40)
Flash Point °F (°C)	ASTM D92		>500 (260)	>515 (268)	>527 (275)
Gear Lubrication, FZG Load Stage	DIN 51354		13+	13+	13+
Water Separation, min	ASTM D1401		25	25	25
Copper Corrosion	ASTM D4048		1A	1A	1A
Rust Test, A & B	ASTM D665		Pass	Pass	Pass
Readily Biodegradable (meaning>60%)			Pass	Pass	Pass
Biodegradability, %	OECD 301B		>60	>60	>60
Minimally Toxic			Pass	Pass	Pass
Algae (EC 50), 72 hr, mg/L	OECD 201		>18,000	>18,000	>18,000
Daphnia (EC 50), 48 hr, mg/L	OECD 202		>11,000	>11,000	>11,000
Fish (LC 50), 96 hr, mg/L	OECD 203		>23,000	>23,000	>23,000
Not Bioaccumulative (Calculated value as per EPA standard)			Pass	Pass	Pass
Bio-based Content, %	ASTM D6866		>78	>78	>78

The values quoted above are typical of normal production. They do not constitute a specification.

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