



Renewable Lubricants, Inc.

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Bio-Bunker™ Super Dispersant Concentrate **Biobased Marine & Industrial Ashless Fuel Additive**



Bio-Bunker™ Super Dispersant Concentrate is a biobased, ashless additive for heavy middle distillate fuels that provides marine and industrial operators with cost improvements through improved fuel quality and reduced maintenance. This concentrated additive contains a biobased, biodegradable carrier. This allows the product to provide a higher flash point, and be more environmentally responsible and safer, than over cutting the chemistry with conventional aromatic solvent based carriers.

Asphaltene Problems: Asphaltene dropout, often referred to as black deposits or black paint, is increasingly common as higher yields of distillate products in refineries lead to lower quality residues. It is also a problem when mixing residual fuels to lower costs and solubility can be affected by reductions in temperature and pressure. Once black deposits form, they need to be removed mechanically, as they do not dissolve in solvents nor melt or flow away with heating. This makes asphaltene dropout very problematic. Bio-Bunker™ Super Dispersant Concentrate can improve solubility and reduce asphaltene dropout.

Cost Saving: Bio-Bunker™ Super Dispersant provides many benefits for industrial fuel application that translate into significant savings. This savings often exceeds the cost, delivering a “Zero Cost” solution with improved asset management.

Advantages / Benefits:

- Optimize the selection of fuel blend components for improved fuel quality and cost effectiveness
- Allow the blending of different fuels and fuel components without asphaltene flocculation
- Disperse existing sediment and sludge, and prevent new formation of sludge
- Disperse asphaltene agglomerations
- Improved combustion through improved fuel quality
- Reduce the need for tank cleaning and costly sludge disposal
- Reduce tank corrosion by dispersion of water into the oil
- Improved the storage stability of the oil (Stabilized)
- Prevent fouling of the oil preheater
- Less maintenance & disruption
- Biobased, Biodegradable, Environmentally Non-Toxic
- High Flash Point and Safer product for use

Directions: (SUPER HIGHLY CONCENTRATED FORMULA)

Maintenance Performance: to improve fuel system blending and preventing asphaltene dropout can be achieved cost effectively in most heavy fuels by blending in an average treat range of 1 gallon per 8,000 gallons to 1 gallon per 20,000 gallons of fuel, and some fuels have shown performance at very low treat rates of 1 gallon per 40,000 gallons of fuel (dose rate will vary depending on treatment schedule and fuel quality). It is recommended that fuels are sampled and analyzed to determine fuel quality for cost effective treat rates.

For fuel system Clean-up: to disperse existing sediment, sludge, and asphaltene agglomerations, blend an average treat range of 1 gallon per 4000 gallons to 1 gallon per 6000 gallons of fuel.

For proper mixing: Add Bio-Bunker™ to fuel before fuel reaches its cloud point and store Bio-Bunker™ Dispersant Concentrate above 10⁰ C before use. Although warming and in-line mixing is best for proper dispersing through-out the fuel, Bio-Bunker™ can be directly added to the fuel oil tanks that will be receiving fuel prior to fuel delivery.

For heavier residual oils: Warming the fuel and/or Bio-Bunker™ and using mechanical and/or in-line pump mixing, provides best performance.

Caution: Do not exceed flash points of fuels or oils when heating.
 Maximum Mixing temperature of Bio-Bunker™ should not exceed 90⁰C

Typical Properties:

Viscosity @ 40 ⁰ C	ASTM D-445	30 cSt
Flash Point, PMCC	ASTM D-93	338 ⁰ F (170 ⁰ C)

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<u>Availability</u>	<u>F.O.B. :Hartville, Ohio, USA</u>	<u>5 Gallon Pail</u>	<u>Drum</u>	<u>Totes</u>	<u>Bulk</u>
Product Item #		80524	80526	80527	80529