

BIOBORMD*

The Best Prescription for Marine Diesel Fuel!

Marine Diesel Performance Additive

Technical Data Sheet

To stabilize fuel during storage.

Double dose the entire fuel tank capacity, then top off the tank. After the application of BioborMD and refueling is complete, run the engine/s for at least 15 minutes to insure that BioborMD conditioned fuel has been run through the entire fuel system.

Increases power.

Cetane is increased by up to 3 numbers allowing combustion to start earlier and the engine to run smoother. Once combustion has started, our combustion enhancers provide for a more complete fuel burn. Both combined with a clean and efficient fuel system results in more available horsepower and torque from the same amount of fuel, leading to overall increased fuel economy.

Combats sludge

Sludge detergents and dispersants break up sludge small enough that most pass harmlessly through your fuel filter and injectors. Any larger particles while being broken down, that enter the fuel pick up are caught by the fuel filter, which is normal engine protection. Your diesel fuel is stabilized, which prevents the formation of sludge due to fuel degradation. This stops "the sludge cycle" and sludge build up while maintaining a clean and efficient fuel system.

To prevent gelling and ice.

Apply the recommended amount of BioborMD directly to the fuel tank (see application chart). If the amount of fuel needed is not known, apply soon after the delivered amount is known. BioborMD can be applied after fuel delivery but mixing will not be as fast. It is best applied before refueling to insure faster mixing and distribution.

Combats algae and water buildup.

If you have biological contamination, then you have water in your tank. BioborMD allows water and diesel fuel to mix, this emulsion then leaves the tank as the engine calls for fuel. This is how water is removed from your tank. It is then burned during the combustion process and sent out as steam in the exhaust. When the water is gone, the environment required for biological life is also gone. If you experience biological contamination, use Biobor®JF—the leading diesel fuel biocide from Hammonds.

Corrosion protection.

With continued use corrosion inhibitors virtually stop further fuel system corrosion.

–USAGE RATIOS–

Initial–

Apply at the ratio of 16 ozs. to every 60 gallons of fuel or–
One gallon to every 500 gallons of fuel.

Maintenance–

apply at the ratio of 8 ozs. to every 60 gallons of fuel.
One gallon to every 1,000 gallons of fuel.

–PHYSICAL AND CHEMICAL PROPERTIES–

Material is: Liquid
Appearance: Amber color
Flash Point: 135° F Typical
Specific Gravity: @ 25° C (77° F): 0.94

* **–NOT A BIOCIDES–**

See **BIOBOR® JF** for fuel biocide treatment.



HAMMONDS FUEL ADDITIVES, INC.

910 Rankin Road • Houston, Texas 77073
Phone (800) 582-4224 • Fax (281) 847-1857
www.hammondscos.com



The Best Prescription for Marine Diesel Fuel!

Marine Diesel Performance Additive

Material Safety Data Sheet 1

SECTION 1. GENERAL INFORMATION

Name: BioborMD Marine Diesel Performance Additive

CAS#: Mixture

CHEM Name: Blend of petroleum distillates

FORMULA: Proprietary

MOLECULAR WT: N/A

EMERGENCY Chemtrec numbers:

USA: (800) 424-9300

INTERNATIONAL: 001-703-527-3887

Address: Hammonds Fuel Additives, Inc.
910 Rankin Road
Houston, Texas 77073

Contact: Hammonds Fuel Additives, Inc.
Telephone: (281) 999-2900

ISSUE DATE:

REVISED DATE:

SECTION 2. PERSONAL PROTECTIVE EQUIPMENT

Rubber gloves and splashproof goggles are recommended as a standard operating procedure.

SECTION 3. HAZARDS INFORMATION

EYES: Irritation of exposed tissue.

PERMISSIBLE CONCENTRATION: 100 ppm (estimated)

UNUSUAL CHRONIC TOXICITY: None known.

INHALATION:

Overexposure will cause dizziness, headaches and lack of coordination. Unlikely to occur under normal usage conditions.

BIOLOGICAL: N/A

INGESTION: Irritation of gastrointestinal tract.

FLAMMABLE LIMITS IN AIR (% by volume): Not known.

UNUSUAL FIRE AND EXPLOSIVE HAZARDS: Not known.

SKIN: Irritation of exposed skin due to defatting of skin.

SECTION 4. HAZARDS INFORMATION

FIRE EXTINGUISHING TO AVOID: Water.

FIRE EXTINGUISHING AGENT RECOMMENDED: Dry Chemical CO₂, and Chemical Foam.

SPECIAL FIRE FIGHTING PRECAUTIONS: Firefighters should wear self-contained breathing apparatus in the positive mode with full facepiece due to likelihood of fumes, smoke and hazardous decomposition products.

SPECIAL INSTRUCTIONS: Handle as combustible petroleum product.

STORAGE: Keep container tightly closed during transport and storage. Stored in a warm location and away from extreme heat and sources of ignition. Keep container upright; do not roll; do not store in plastic, or rubber, or lined containers.

NORMAL HANDLING: Wear rubber gloves and splashproof goggles, particularly if handling large quantities.

VENTILATION: Standard room ventilation should be sufficient in large area; local exhaust recommended for confined areas and at vapor source.

SPILL OR LEAK: Ventilate area. Remove sources of ignition. Contain spill with dikes or absorbents to prevent migration and entry into sewers or streams. Take up small spills with dry chemical absorbent. Large spills may be taken up with explosion proof pump or vacuum and finished off with dry chemical absorbent. May require extraction of contaminated soil.



HAMMONDS FUEL ADDITIVES, INC.

910 Rankin Road • Houston, Texas 77073
Phone (800) 582-4224 • Fax (281) 847-1857
www.hammondscos.com



The Best Prescription for Marine Diesel Fuel!

Marine Diesel Performance Additive

Material Safety Data Sheet 2

SECTION 5. MATERIAL CHARACTERISTICS

MATERIAL IS: Thin liquid

FLASH POINT 135° F Open Cup.

APPEARANCE: Amber

BOILING POINT: <300° F

VAPOR DENSITY: <1

SPECIFIC GRAVITY:@ 25° C (77°): 0.94

pH: N/A

SOLUBILITY IN WATER: Negligible

VAPOR PRESSURE: (mm Hg@20°C): <5

EVAPORATION RATE: (ButylAcetate=1): <1

VOLATILES BY VOLUME (@20°C): 40%

SECTION 6. REACTIVITY DATA

STABILITY: Product is stable

CONDITIONS TO AVOID: Excessive heat. Decomposition can occur @ 350° F

HAZARDOUS DECOMPOSITION: Oxides of Carbon and Nitrogen

HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBILITY: Strong oxidizing agents. Potential dangerous reaction with strong acids or bases.

DO NOT store in rubber or rubber-lined container.

SECTION 7. FIRST AID MEASURES

INGESTION: Get medical attention immediately. **DO NOT** INDUCE VOMITING.

INHALATION: Remove to fresh air—get medical attention

EYE CONTACT: Rinse in cool, flowing water for 15 minutes; get medical attention.

SKIN CONTACT: Wash with soap and water—get medical attention if skin irritation persists

SECTION 8. ENVIRONMENTAL CONCERNS

DEGRADABILITY/AQUATIC TOXICITY: Not known

RCRA STATUS OF UNUSED MATERIAL: Dispose in permitted hazardous waste site

EPA HAZARDOUS SUBSTANCE: Yes—Reportable quantity = 100 lbs. for ignitable substance.

WASTE DISPOSAL METHODS: Incinerate as a waste oil at a registered site; disposer must comply with Federal, State and Local disposal or discharge statutes

SECTION 9. REFERENCES

GENERAL: Merck Index, Tenth Edition; Supplied Material Safety Data

PERMISSIBLE CONCENTRATION REFERENCES: ACGIH, NIOSH, OSHA; See Registry of Toxic Effects of Chemical Substances for specific test results and the latest regulatory standards.



HAMMONDS FUEL ADDITIVES, INC.

910 Rankin Road • Houston, Texas 77073

Phone (800) 582-4224 • Fax (281) 847-1857

www.hammondscos.com



The Best Prescription for Marine Diesel Fuel!

Marine Diesel Performance Additive

Material Safety Data Sheet 3

SECTION 10. HAZARDOUS INGREDIENTS

This product is a mixture of petroleum derivatives.

This Material is NOT known to contain any Carcinogen listed under OSHA Communication Standard 29 CFR 1910.1200.

Name: Aromatic Naphtha Glycol Ethers

Cas#: 64742-94-5 111-76-2

Appx. % by weight: 18-32% 6-12%

Hazard: N/A SARA 313

Contains no "Extremely Hazardous Substances (SARA 311/312)"

SECTION 11. TRANSPORTATION INFORMATION

EMERGENCY NUMBER: (800) 424-9300 (Chemtrec) INTERNATIONAL: 001-703-527-3887

DESCRIPTION: Proprietary mixture of petroleum derivatives

DOT HAZARD CLASS: 3. Packing group: 111.

UN/NA Number:

NA 1993; Combustible liquid N.O.S., Contains Aromatic Naphtha and Glycol Ethers. Not regulated when shipped in a container less than 120 gallons, by ground within the US.

UN 1993; Flammable liquid N.O.S., Contains Aromatic Naphtha and Glycol Ethers. When shipped in a container over 120 gallons, by sea or air, or overseas.

STORAGE: Keep container tightly closed during transport and storage. Stored in a warm location and away from extreme heat and sources of ignition. Keep Container upright; do not roll; do not store in unflourinated plastic - or rubber - or lined containers.

SECTION 12. ADDITIONAL INFORMATION: DISCLAIMER

The information contained in the Material Safety Data Sheets have been derived from analysis of published data, publicly available, and supplied component Material Safety Data Sheets. This information and these recommendations are offered in good faith and believed to be correct as of the date hereof. Information and recommendations are supplied upon the condition that the recipients will make their own decision as to safety and suitability for their purposes. While this information is considered accurate, Hammonds Fuel Additives, Inc. makes no warranty, expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, are made with respect to the product or information and recommendations regarding this data or the results to be obtained from the use thereof. Hammonds Fuel Additives, Inc. makes no representation as to completeness or accuracy. In no event will Hammonds Fuel Additives, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon the information and recommendations.

Distribution of the Material Safety Data is only one component of your workplace hazard communication program. It is the employer's responsibility to ensure that all employees are properly trained to recognize, evaluate and protect themselves from the risks associated with the storage, use and disposal of this and any other chemical material.



HAMMONDS FUEL ADDITIVES, INC.

910 Rankin Road • Houston, Texas 77073
Phone (800) 582-4224 • Fax (281) 847-1857
www.hammondscos.com