

BIOBOR[®]

FAMILY OF

FUEL ADDITIVES

Product Catalog



See the entire line of Biobor[®] Fuel Additives
and available sizes inside...



BIOBOR[®] Fuel Additives

Some of the companies that recommend and or use **Biobor[®]JF** Aviation and Diesel Fuel Additives...

AVIATION



Pratt & Whitney[®]
Delta[®]



Lufthansa[®]

BOEING[®]

American Airlines[®]

UNITED[®]

DIESEL



JOHN DEERE



Mercedes-Benz

Used By—MAJOR AIRLINES

American Airlines	Southern Airlines
United Airlines	National Airlines
Delta Airlines	Capital Airways
Northwest	Air Jamaica
Lufthansa	TACA International Airlines
British Airways	Varig Airlines
Air France	Quantas
Iberia	Aerolineas Peruanas

Recommended By—AIRCRAFT MANUFACTURERS

Boeing Aircraft	Bell Helicopter
Airbus Industries	Fokker Aircraft
General Dynamics	Lockheed Aircraft
Grumman Aircraft	Sikorsky Helicopter
Beechcraft Aircraft	British Aerospace Aircraft
LearJet	McDonnell Douglas Aircraft
de Havilland	Saberliner Aircraft
Gulf Stream Aerospace	Hawker
Dassault Falcon Jet	Cessna

Recommended By—ENGINE MANUFACTURERS

General Electric Engines	Cummins Engine
Rolls Royce Engines	General Motors Diesel Engine Division
Pratt & Whitney Engines	John Deere Tractor
Caterpillar Tractor	Detroit Diesel

Approved By—U.S. MILITARIES MIL-S-53021A

U.S. Air Force	U.S. Coast Guard
U.S. Army	U.S. Merchant Marines
U.S. Navy	U.S. Border Patrol

DANGER Microbial Growth in Diesel Fuel and Fuel Lubricity

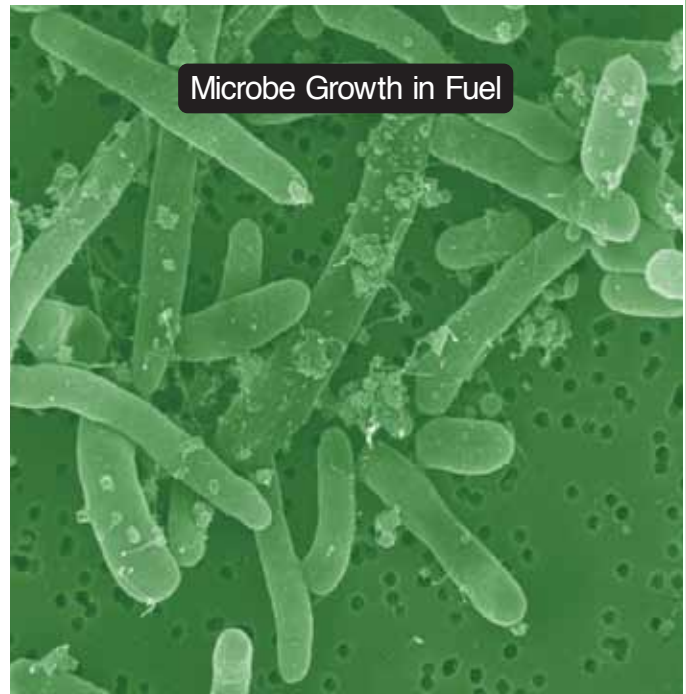
PROTECT diesel fuel from...



DIESEL

Microbial Growth:

When discussing issues in diesel fuel, microbial growth is widely known as the most common reason for fuel related engine failure. Inherently, diesel fuel and fuel tanks have the tendency to accumulate water whether by tank condensation, entrained water from fuel delivery or just receiving a bad batch of fuel. To compound this issue, today's ULSD can successfully carry much higher concentrations of water providing a breeding ground for HUM Bugs (or Hydrocarbon Utilizing Micro-organisms). Hum-bugs live in the water phase of a fuel tank and feed off of the fuel developing dark, slimy gel-like mats. As these colonies of bacteria and fungi grow (potentially at a rate of doubling every 20 minutes), they can quickly clog fuel filters, plug injectors and lead to excessive sludge accumulation. Additionally, their waste products are one of the leading causes of corrosion in fuel tanks and metal components. With the continued use of **Biobor®JF**, microbial growth will be eliminated from the fuel system leading to a sterile fuel system, extending the life of fuel filters and preventing corrosion issues.



Lubricity in Ultra-Low Sulfur Diesel:

Since the introduction of ULSD, engine manufacturers have recognized and encouraged the need for additional lubrication in today's diesel fuels. Due to the refining process necessary to reduce sulfur levels, the natural lubrication properties of diesel fuel have been greatly reduced. Essential to the protection and life of injection systems and fuel pumps, diesel engine owners are seeing a detrimental effect on these systems. **Biobor®JF** has been proven to restore these lubricity levels, exceeding ASTM standards and protecting injectors and pumps from premature wear. (ASTM-D6079 HFRR- engine manufacturer and industry standard testing)

Biobor®JF has been the worldwide standard for the treatment of microbial growth in diesel fuel since 1965. Originally developed for use in the commercial and military aviation industries, **Biobor®JF** has continued to provide a tract record of proven reliability and effectiveness in numerous diesel powered industries for over 48 years. To add to this impressive pedigree, **Biobor®JF** is the only diesel biocide that is recommended by name by many of the major diesel engine manufacturers across the globe.

BIOBOR®JF

Eliminates microbial growth in diesel fuel.
Adds lubricity to ULSD

Reduces cylinder wear by up to

50%

- Lubricates injectors and pumps
- Used by militaries—**WORLDWIDE**
- Recommended by Major Engine Manufacturers—**WORLDWIDE**



HFRR - Lubricity Test Results - ASTM D 6079

DIESEL	BIOBOR®JF Added at 135ppm	WEAR SCAR REDUCTION
590	470	120 (20%)



BIOBOR[®]JF

Diesel Biocide and Lubricity Additive

Fuel treated with
Biobor[®]JF
 will...

- **Eliminate microbial growth** in the fuel system
- **Reduce costly downtime** and maintenance
- Dramatically **extend fuel filter life**
- **Provide additional lubrication** to injection systems and ULSD
- **Increase the reliability** and production of your diesel fuel



“All the Fuel...All the Time”[®]

Microbial growth (sludge, slime & algae) is often recognized as the number one cause of engine breakdown and fuel tank contamination. This bacteria and fungi can quickly overtake a fuel system leading to excessive filter changes, costly maintenance and unnecessary downtime. **Biobor[®]JF** is the most widely used diesel biocide and lubricity additive to prevent and kill microbes and ensures reliable fuel and engine operation. Unique to the product, many major diesel engine manufacturers themselves recommend the use of **Biobor[®]JF** by name! With consistent use, or fuel delivered and pre-treated with **Biobor[®]JF**, microbial growth is eliminated and fuel filter life will be greatly extended. When your operation relies on diesel fuel, ask for **Biobor[®]JF**.

BIOBOR[®]JF

DIESEL

The Worldwide Standard Biocide and Lubricity Additive
SINCE 1965



4oz. Bottle



8oz. Bottle



16oz. Bottle



32oz. Bottle



1gal. Jug



5gal. Pail



55gal. Drum



330 gal. Tote

Part Number	Description	Case Pack	Treat Rate
BB04EZ01US	Biobor[®]JF 4 oz.	12	4 oz. treats 320 gal.
BB08EZ01US-2	Biobor[®]JF 8 oz.	12	8 oz. treats 640 gal.
BB16EZ01US-2	Biobor[®]JF 16 oz.	12	16 oz. treats 1,280 gal.
BB32EZ01US-2	Biobor[®]JF 32 oz.	6	32 oz. treats 2,560 gal.
BBJUG01US	Biobor[®]JF 1 gal.	4	1 gal. treats 10,000 gal.
BBPAIL01US	Biobor[®]JF 5 gal.	ea.	5 gal. treats 46,000 gal.
BBDRUM01US	Biobor[®]JF 55 gal.	ea.	55 gal. treats 514,000 gal.
BBTOTE01US	Biobor[®]JF 330 gal.	ea.	330 gal. treats 3,300,000 gal.

www.biobor.com



BIOBOR[®] DC +Plus CETANE

Diesel Conditioner and Enhancer

- **Boosts Cetane** levels for quick starts and reduced emissions
- **Cleans injectors**—restores power
- **Lubricates** injectors and fuel pumps
- **Prevents** filter plugging, particulates and extends storage
- **Improves** performance and economy
- **Controls** water and prevents corrosion
- **Boosts MPG** by 7.3% average



**SUMMER
FORMULA**

Part Number	Description	Case Pack	Treat Rate
BBDCPLUSJUG01US	Biobor [®] DC+ 1 gal.	4	1 gal. treats 2,000 gal.
BBDCPLUS2.5GAL01US	Biobor [®] DC+ 2.5 gal.	2	2.5 gal. treats 5,000 gal.
BBDCPLUSPAIL01US	Biobor [®] DC+ 5 gal.	ea.	5 gal. treats 10,000 gal.
BBDCPLUSDRUM01US	Biobor [®] DC+ 55 gal.	ea.	55 gal. treats 108,000 gal.
BBDCPLUSTOTE01US	Biobor [®] DC+ 330 gal.	ea.	330 gal. treats 650,000 gal.



BIOBOR[®] MD

Diesel Performance and Efficiency Enhancer

- **Increases cetane** levels
- **Cleans** injector deposits
- **Stabilizes** diesel for storage
- **Increases lubricity** in ultra-low sulfur fuels
- **Reduces soot** and smoke
- **Inhibits corrosion** and **controls water**
- **Anti-Gel and Cold Flow improvers** for winter operation



**ALL-SEASON
FORMULA**

Part Number	Description	Case Pack	Treat Rate
BBMD04EZ01US	Biobor [®] MD 4 oz.	12	4 oz. treats 30 gallons
BBMD08EZ01US	Biobor [®] MD 8 oz.	12	8 oz. treats 60 gallons
BBMD16EZ01US	Biobor [®] MD 16 oz.	12	16 oz. treats 120 gallons
BBMD32EZ01US	Biobor [®] MD 32 oz.	6	32 oz. treats 240 gallons
BBMDJUG01US	Biobor [®] MD 1 gal.	4	1 gallon treats 1,000 gallons
BBMDPAIL01US	Biobor [®] MD 5 gal.	ea.	5 gallons treats 5,000 gallons
BBMDDRUM01US	Biobor [®] MD 55 gal.	ea.	55 gallons treats 54,000 gallons
BBMDTOTE01US	Biobor [®] MD 330 gal.	ea.	330 gallons treats 325,000 gallons



BIOBOR[®] DC +Plus CETANE

Winter Diesel Conditioner and Enhancer

- Prevents fuel gelling and icing for improved winter operation
- Raises Cetane levels for quick starts and reduced emissions
- Cleans injectors of deposits, restores power
- Lubricates injectors and fuel pumps
- Prevents filter plugging, particulates and extends storage
- Improves performance, economy and reduces maintenance



**WINTER
FORMULA**

Part Number	Description	Case Pack	Treat Rate
BBDCWPLUSJUG01US	Biobor [®] DC+ 1 gal.	4	1 gal. treats 1,500 gal.
BBDCWPLUS2.5GAL01US	Biobor [®] DC+ 2.5 gal.	2	2.5 gal. treats 3,750 gal.
BBDCWPLUSPAIL01US	Biobor [®] DC+ 5 gal.	ea.	5 gal. treats 7,500 gal.
BBDCWPLUSDRUM01US	Biobor [®] DC+ 55 gal.	ea.	55 gal. treats 81,000 gal.
BBDCWPLUSTOTE01US	Biobor [®] DC+ 330 gal.	ea.	330 gal. treats 487,500 gal.



ColdFlo[®] with... LubriBor

Diesel Fuel Anti-Gel with Lubricity

Superior Cold Weather Operability and Engine Protection

- Inhibits wax crystal growth
- Reduces Pour Point of diesel fuel
- Reduces Cold Filter Plug Point by up to 30° F
- Jet fuel de-icer prevents ice blockages and fuel filter icing
- Adds lubricity to protect injectors and fuel pumps
- Minimizes the need for kerosene dilution
- ULSD compliant—contains less than 15 ppm sulfur



**WINTER
FORMULA**

Part Number	Description	Case Pack	Treat Rate
BBCFLB32EZ01US	ColdFlo [®] 32 oz.	6	32 oz. treats 750-375 gal.
BBCFLBJUG01US	ColdFlo [®] 1 gal.	4	1 gal. treats 3,000-1,500 gal.
BBCFLB2.5GAL01US	ColdFlo [®] 2.5 gal.	2	2.5 gal. treats 7,500-3,750 gal.
BBCFLBPAIL01US	ColdFlo [®] 5 gal.	ea.	5 gal. treats 15,000-7,500 gal.
BBCFLBDRUM01US	ColdFlo [®] 55 gal.	ea.	55 gal. treats 162,000-81,000
BBCFLBTOTE01US	ColdFlo [®] 330 gal.	ea.	330 gal. treats 975,000-487,500



BIOBOR[®]EB

ETHANOL BUSTER

AND Performance Enhancer

COMBATS THE HARMFUL EFFECTS OF ETHANOL IN GASOLINE

- Increases performance and efficiency
- Stabilizes and keeps fuel fresh
- Helps control water and phase separation

Rated “**Best Choice**” for corrosion protection by...

PRACTICAL SAILOR
MAGAZINE

“Fuel Additives that can Fight Corrosion”
–August, 2012



Effective in all gasoline and ethanol blends...
E-10 and E-15

Biobor[®]EB is a specifically formulated additive for gasoline and ethanol fuel blends which helps combat the negative effects of ethanol in fuel tanks and engines while increasing engine performance, efficiency and fuel stability.

The
ALLinONE
Additive

www.biobor.com

BIOBOR[®] EB

combats the **HARMFUL** effects of ethanol

GASOLINE



2oz. Pack



4oz. Bottle



8oz. Bottle



16oz. Bottle



32oz. Bottle



1gal. Jug



5gal. Pail



55gal. Drum

Part Number	Description	Case Pack	Treat Rate
BBEB02US	Biobor [®] EB 2 oz.	24	2 oz. treats 30 gallons
BBEB04EZ01US	Biobor [®] EB 4 oz.	12	4 oz. treats 60 gallons
BBEB08EZ01US	Biobor [®] EB 8 oz.	12	8 oz. treats 120 gallons
BBEB16EZ01US	Biobor [®] EB 16 oz.	12	16 oz. treats 240 gallons
BBEB32EZ01US	Biobor [®] EB 32 oz.	6	32 oz. treats 480 gallons
BBEBJUG01US	Biobor [®] EB 1 gal.	4	1 gallon treats 2,000 gallons
BBEBPAIL01US	Biobor [®] EB 5 gal.	ea.	5 gallons treats 10,000 gallons
BBEBDRUM01US	Biobor [®] EB 55 gal.	ea.	55 gallons treats 108,000 gallons
BBEBTOTE01US	Biobor [®] EB 330 gal.	ea.	330 gallons treats 650,000 gallons

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BIOBOR®

FUEL BRANDING Programs

Provide
Protected FUEL

Offer your customers the only additives approved and recommended by aviation and diesel engine manufacturers—WORLDWIDE!



PREMIUM DIESEL FUEL

- Offer a premium diesel fuel with pre-blended additive
- Builds customer loyalty and added value
- Increases customer performance and economy
- Reduces downtime and maintenance costs
- Cleans injectors and extends filter life
- Fleets, agriculture, construction, municipalities

Winter AND Summer Packages Available



MARINA BRANDING PROGRAM

Provide value-added fuel to your customer

- Gasoline—pre-treated with **Biobor®EB** prevents ethanol-related issues, improves performance and keeps fuel fresh
- Diesel—pre-treated with **Biobor®JF** biocide prevents bacteria and growth
- Diesel—pre-treated with **Biobor®DC+** improves engine performance and efficiency
- Full marina branding SIGNAGE PROVIDED



GENERATOR PROGRAM

Certified Standby Fuel

- Biobor®JF**—prevents microbial growth and filter blockages
- Biobor®DC+**—increases cetane, keeps fuel fresh, controls water, prevents corrosion and lubricates injectors

PROTECT the FUEL
your customers rely on!



AVIATION FUELS

Biobor® offers a full range of aviation approved and specified products for all of your aviation customer's needs.

- **Biobor®JF** - one of only two FAA and IATA approved jet fuel biocides for aviation use
- Microbial growth testing kits and **Turboline® FS-100** available



AVIATION

Fuel Additives



BIOBOR-JF

Jet Fuel Biocide

- Kills and prevents microbial growth
- Dual Phase – water and fuel soluble
- Prevents tank corrosion and filter clogging
- APPROVED for aviation use
- Recommended by turbine engine & airframe OEMS

Kills fungi, bacteria and micro-organisms which cause fuel tank contamination.

Part Number	Description	Case Pack	Treat Rate
BB32EZ01US-AV	BioborJF® 32 oz.	6	32 oz. treats 2,560 gal.
BBJUG01US-AV	BioborJF® 1 gal.	4	1 gal. treats 10,240 gal.
BBPAIL01US-AV	BioborJF® 5 gal.	ea.	5 gal. treats 47,104 gal.
BBDRUM01US-AV	BioborJF® 55 gal.	ea.	55 gal. treats 526,336 gal.

Available in 8oz., 16oz., 32oz., 1 gal., 5 gal., 55 gal. and 330 gal.



Turboline® FS100

High Temperature Fuel Stabilizer and detergent for aviation fuel

- **Maintains** engine power levels longer
- **Less soot and coke** in combustor
- **Fewer** fuel nozzle cleanings

Stops reactions that cause carbon and coke build-up as the engine heats

Part Number	Description	Case Pack	Treat Rate
TB16EZ01US	Turboline® 16 oz.	12	16 oz. treats 200 gal.
TBPAIL01US	Turboline® 5 gal.	ea.	5 gal. treats 8,000 gal.
TBDRUM01US	Turboline® 55 gal.	ea.	55 gal. treats 86,400 gal.

Improves aircraft availability and flight safety



LubriBor® CI

Corrosion Inhibitor and Lubricity Improver

- **Prevents corrosion** in aviation fuels
- **Lubricates** vital engine components
- **Aviation approved** ASTM D-910
- **Military approved** QPL-25017

Improves Fuel Lubricity and Reduces Fuel System Wear.

Part Number	Description	Case Pack	Treat Rate
LB16EZ01US	LubriBor® 16 oz.	12	16 oz. treats 1,200 gal.
LBPAIL01US	LubriBor® 5 gal.	ea.	5 gal. treats 48,000 gal.
LBDRUM01US	LubriBor® 55 gal.	ea.	55 gal. treats 528,000 gal.

Protects Against Corrosion



BIOBOR



DETECTOR KIT

EARLY WARNING!

Detects harmful microbial growth in fuel.

Part Number	Description	Case Pack	Treat Rate
HUMBUG01	HumBug Kit®	1 Case/12 Kits	NA

Detects fuel supply quality Prevents costly repairs

BIOBOR[®]

FAMILY OF **FUEL ADDITIVES**

Recommended for use with...



Additive Injection Systems

Precisely Blended, On-Spec Fuel
EVERY TIME.



HAMMONDS FUEL ADDITIVES, INC.
Houston, Texas • (800) 548-9166

www.biobor.com