

Fuel Right RX

Blue Ocean Fuel Technology



-  Dissolve and prevent sludge growth
-  Clean tanks, fuel lines and strainers
-  Prevent MIC corrosion
-  Improve lubricity
-  Stabilize fuel

August 2012

PRODUCT CATALOGUE



Today's ultra low sulfur diesel is prone to the formation of bacterial colonies often referred to as sludge. Sludge is a microbiological colony of different species of bacteria bound together to form complex environments. Sludge is acidic, highly corrosive and can lead to filter clogging, poor engine performance and premature failure of engine components if passed through the fuel system.

Bacteria is a natural resident in diesel fuel and interacts with water present in the fuel to form biocolonies (sludge). Once they begin to form these biocolonies, they can be difficult to control and eliminate even with the use of biocides.

Conventional fuel additives offer modest performance enhancements however, do not address the real problems in diesel fuel and have little to no impact on the prevention of sludge formation in diesel fuel.

Fuel Right chemistry is unique and uses a powerful combination of amine chemistries that dissolves existing sludge and prevents the formation of new sludge colonies. The filming amines provide a microscopic barrier throughout the fuel system protecting it from corrosion even in the presence of free standing water and remaining old sludge.

What does sludge look like?



"coffee grounds"



water separator full of sludge



fouled marine filter from a Racor water separator



black viscous tar clogging strainer



home heating furnace nozzle



filter from convenience store diesel fuel pump

Biomass can take on many different appearances. It is usually a system shut-down that results in awareness that the problem exists in the fuel system. A Fuel Right treatment program can resolve these problems and prevent them from reoccurring.

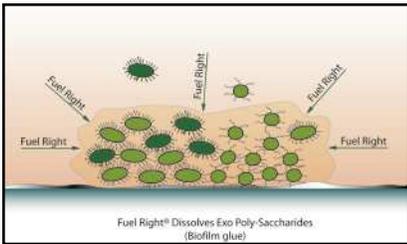
Filter fouling can be opaque!



Each of these filters appears to be similar however, they vary according to their weight. Filter 1 (far left) is clogged with biofilm and was inhibiting the operation of a boiler fuel system operating on ULSD. Fuel Right was introduced into the fuel storage tank with each delivery of fresh fuel. Over a four month period, the filters progressively improved. Filter 4 remains a fully functioning filter with the biofilm presence eliminated with no filter clogging evident.

The filters were examined and showed heavy biofilm development on the first filter and no evidence of biofilm on the fourth filter. Fuel treated with Fuel Right will reside inside the fuel canister preventing the formation of biofilm and dissolving any existing biofilm that may have been present prior to treatment.

We have proof that Fuel Right works!



Fuel Right's unique amine chemistry has the ability to break down the "glue" that holds the biofilm colony together allowing it to be re-dispersed back into the fuel system microscopically. It is then safely passed through the system and burned off.

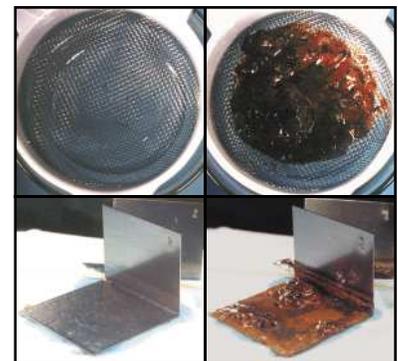
Conventional fuel additives are not effective at dissolving biomass contamination in diesel fuel. We specifically developed the "jar test" to compare how effective we are against our competitors. We have documented results and have not yet found a product that compares to Fuel Right's ability to break down sludge and protect the fuel system from corrosion. Ask us about it and we will share the results. We are also willing to test any fuel additive that you are currently using. We may already have the results on file.



Fuel Right dissolves sludge and prevents further development of sludge. The free remaining water will pass through the system harmlessly.



Treated with Fuel Right Without Fuel Right



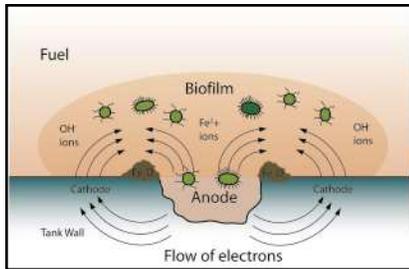
Fuel Right Competitor

"The Commonwealth of Pennsylvania requires tank inspections every five (5) years. Treatment with Fuel Right was started on a 20,000 gallon Mack Oil tank in Parkersburg, PA; seven (7) months later the tank was inspected. Mack Oil was prepared to do the usual week-long cleaning, using 2 persons in environmental protective clothing. When the tank was opened, no trace of sludge was found and the cleanup consisted of mopping up a puddle of water"

Bill Engle, Service Manager Berwyn, Coatesville, Parkersburg, PA



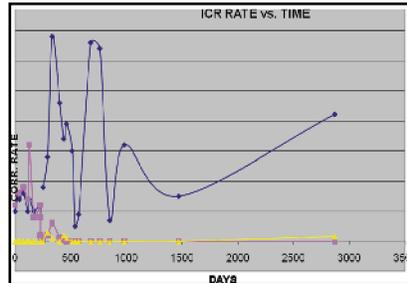
Corrosion. *We did our research and waited patiently for results!*



MIC (microbially influenced corrosion) is related to the presence of biomass in contaminated fuels. Fuel Right's unique filming amines provide a protective coating between sludge and free standing water preventing the formation of biofilm (sludge) and anodic corrosion sites.

Sludge contains anaerobic bacteria that excrete organic acids making sludge acidic providing an excellent environment for the formation of anodic corrosion sites.

MIC has been associated with accelerated corrosion of fuel tanks and premature tank failures. A tank failure negatively impacts the surrounding environment including underground water sources. Depending on the size of the tank failure, clean-up costs can be excessively high. It should also be noted that Fuel Right's unique amine system is also an effective MIC corrosion barrier in unleaded fuel tanks.



From left to right, jars 1 and 2 were untreated for 9 months to allow sludge to grow on the probes and corrosion rates to build. At nine months, it appeared that corrosion rates were somewhat stable, so jar 2 was treated with Fuel Right and on a monthly basis thereafter. As shown in the corrosion chart, corrosion rates dropped to zero within five days - even though the sludge buildup did not appear to dissipate measurably during that period. The corrosion rates remained at zero for the treated jar for the remainder of the test.

CONCLUSION: Fuel Right stops corrosion from occurring under a sludge buildup even though the sludge remains intact for a period of time.

Treatment of both jars 2 and 3 continued for an additional seven months. Fuel was changed monthly in all three jars, but no treatment was placed in any jar from that date on. *The test continued in that fashion for an additional 80 months (6 years 8 months) with no measurable corrosion occurring in jar 2 or 3.*

"We received a bad load of diesel and almost immediately started to see filter plugging in one of our boats. As a result of this, we were changing filters every 24 hours. Shortly after treating with Fuel Right, the problem disappeared and things were back to normal. Had I not been introduced to Fuel Right, my next step would have been to dispose of the fuel and clean the tanks. Fuel Right saved me thousands of dollars."

Vincent Borello, Moran Towing Company

It PAYS to FUEL RIGHT!

Why use Fuel Right?

Simply put, Fuel Right has been proven to be the best fuel system treatment available in the market today. The formula has been tested and fine-tuned over the past 20 years to ensure the highest quality ingredients are used producing the most effective results.

We developed a test to help rank fuel oil or diesel sludge-control additives in their relative ability to control sludge growth, keep metal surfaces clean and to protect steel tanks against corrosion in the presence of water and biological contamination.

To prove our claims, we have tested Fuel Right® against more than 85 competitors in the industry and Fuel Right has outperformed every one. We continue to add more competitive products to this list every year.

APPLICATION

- ✓ ULSD (ultra low sulfur diesel)
- ✓ Biodiesel
- ✓ #2 Heating Oil
- ✓ Marine Fuels

DISSOLVE SLUDGE

PREVENT MIC CORROSION

STABILIZE FUEL

RESTORE LUBRICITY

PREVENT FUEL LINE FREEZE-UPS

What does the Fuel Right Performance Guarantee mean?

- ✓ *Cleaner fuel system with sludge related issues eliminated*
- ✓ *Eliminate filter plugging*
- ✓ *Easier and faster starting*
- ✓ *Reduced smoking at exhaust*
- ✓ *Optimal fuel economy*
- ✓ *Extended fuel system component life*
- ✓ *No fuel line freeze-ups*
- ✓ *Cleaner tanks and fuel system*
- ✓ *Extended filter life*



We have the **PROOF!**



Year Round Sludge / Fouling / Corrosion / Freeze-up Control

These products consist of a time tested formula providing multiple benefits including;

- ✓ Dissolves any sludge in the fuel system
- ✓ Prevents formation of new sludge
- ✓ Cleans nozzles and injectors
- ✓ Stops and prevents MIC corrosion in fuel tanks
- ✓ Improves lubricity and reduces metal wear in pumps and injectors
- ✓ Prevents fuel line freeze-ups in colder temperatures
- ✓ Stabilizes your fuel
- ✓ Suitable for long-term fuel storage applications

Fuel Right 15K



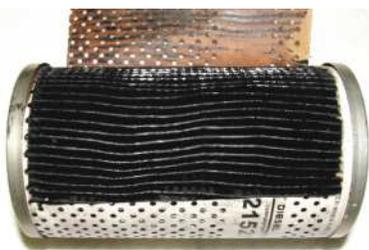
This is the most common blend of Fuel Right sold. This blend is safe for use in all types of applications. All Fuel Right blends contain NO alcohol and are warranty safe. Fuel Right meets government low sulfur content requirements and is listed with the EPA.

Our nomenclature is designed to make it easy to understand our product line. 15K is the acronym for 15,000...what does this mean? It automatically tells you that bulk treatment blend ratio is 1:15,000. 1 litre or 15K treats 15,000 litres of fuel.

Shock treatment ratio is 40% of 15,000 or 1:6,000. One litre of 15K shock treats 6,000 litres of fuel. You may want to shock treat when you have a severe sludge problem or you are treating a tank for the first time.

15K is our basic Fuel Right formulation with fuel line anti-freeze added to prevent fuel line freeze-ups. It is suitable for indoor and outdoor storage tanks.

This product is available in multiple package sizes although our 177ml and 1.89 litre are the most common sizes requested. 15K is also available in drum quantities.



Actual Atlantic Bulk Filter

" I meticulously maintain my diesel truck fleet so that these trucks are always able to refuel ships along the entire East Coast; this includes changing filters every 20,000 miles instead of the manufacturer recommended every 30,000 miles. When I was first introduced to Fuel Right, I scoffed at the idea that sludge could be a problem. Unfortunately, one of my trucks stalled on the Chesapeake Bay Bridge. Bob Tatnall (at Fuel Right) asked me to hold on to my filter and send it to him for analysis. When it was cut open, it was clogged with thick black sludge. Since then, Fuel Right has become our standard treatment and we have had no stalling problems"

Atlantic Bulk Carriers, Middletown, DE



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- ✓ *Prevents formation of new sludge*
- ✓ *Cleans nozzles and injectors*
- ✓ *Stops and prevents MIC corrosion in fuel tanks*
- ✓ *Improves lubricity and reduces metal wear in pumps and injectors*
- ✓ *Stabilizes your fuel*
- ✓ *Suitable for long-term fuel storage applications*

Fuel Right 30K

30K is the most economical version of Fuel Right and was developed for large bulk applications where primary concern was to treat large volume storage facilities to prevent sludge and corrosion concerns. 30K is the pure base Fuel Right formula without the addition of fuel anti-freeze or cold temperature modifiers.

Treatment ratio is 1:30,000. One litre treats 30,000 litres of fuel. 30K is only available in drum and a single drum treats 6,240,000 litres. For wholesalers who rotate their inventory on a regular basis, this product is ideal. 30K is suitable for card-locks, bulk storage, tanker treatment and any other larger volume storage.

30K is also well suited to warmer climate regions of the world.



Our Services

Laboratory Testing

If you are uncertain about whether or not your filter plugging is a result of a sludge issue or fungal problem, you can send your filter sample down to our laboratory in Wilmington, Delaware. Your samples will be analyzed and a full report provided to you with findings and recommendations for treating your specific problems.

If you wish to compare your existing fuel treatment product with Fuel Right, we would be happy to perform the 18 month test in our labs and provide a full report once the analysis is complete.



Contact Us

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"prior to spring of 2010, we always stopped treating our diesel with Fuel Right when winter ended. Then, after a tour of the Fuel Right plant, I realized what Fuel Right could do to benefit our diesel customers so I decided to treat every drop of fuel that we sold. The result of this decision is that our fleet customers have consistently commented to me that their drivers are pleased with both the improved performance of their engines as well as with the improved fuel economy which I understand is a function of operating with cleaner injectors."

Mike Hinds, Hinds Oil Company, Montrose Pennsylvania

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