

an ether oxygenate, such as MTBE or ETBE. Many oil companies are providing, or working to provide, clear labeling for gasoline pumps to let you know which oxygenated gasoline you are buying. If the pump isn't labeled, ask the service station attendant.

Use good tank-management techniques.

For many years, marinas have managed their tanks to minimize the effects of water contamination and deterioration. You should do the same with the tank in your boat. When storing your boat or gasoline container, make sure that the tank or container is either completely full or completely empty.

Use a water-separating fuel filter.

A water-separating fuel filter provides the greatest level of protection from possible problems with water contamination. So when you replace your fuel filter, choose the water-separating type.

Check hoses for deterioration at least once a year.

Newer engines are expected to be unaffected by oxygenated fuels, but some manufacturers are concerned that hoses on engines produced before 1980 could be prone to damage from alcohol-oxygenated fuels. Hoses that are susceptible to alcohol damage can become brittle or soft and, over time, stop functioning. EPA recommends that you follow the manufacturers' inspection requirements, with at least an annual inspection of hoses and other rubber components exposed to fuel. Components that appear deteriorated should be replaced.

Remember that by using reformulated gasoline you are improving the air you breathe.

**For more information, call, toll-free:
U.S. EPA, 800-621-8431**

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EPA Reformulated Gasoline And Your Motor Boat



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REFORMULATED GASOLINE AND YOUR BOAT ENGINE

What is reformulated gasoline?

As of January 1, 1995, every time you fill up your tank with gasoline, you are helping protect the quality of the air you breathe. By doing so, you become part of one of the nation's most important strategies to reduce pollution from motor vehicles.

Over five years ago, the U.S. Environmental Protection Agency (EPA) began working cooperatively with the petroleum and engine manufacturing industries to reformulate gasoline to reduce emissions of ozone-forming and toxic air pollutants. The result: A cleaner-burning gasoline which has significant health benefits, called *reformulated gasoline*.

Scientifically speaking, reformulated gasoline is very similar to conventional gasoline. The ingredients used to make reformulated gasoline are no different from those used to make conventional gasoline. Reformulated and conventional gasoline differ only in the levels of ingredients. Specifically, reformulated gasoline has lower amounts of certain compounds that contribute to air pollution; it does not evaporate as readily as conventional gasoline during the summer months; and it contains "chemical oxygen" (oxygenates).

Who is using reformulated gasoline?

The Clean Air Act requires the nine cities with the worst levels of ozone pollution to use reformulated gasoline. Those cities are New York, Philadelphia, Hartford, Baltimore, Chicago, Milwaukee, Houston, San Diego, and Los Angeles.

In addition, dozens of other cities are using reformulated gasoline voluntarily simply because it's a convenient, inexpensive way to improve air quality. In all, about one-third of the gasoline in the country is reformulated.

What are the benefits of reformulated gasoline?

The primary goal of the reformulated gasoline program is to protect public health by reducing vehicle emissions of pollutants that form ground-level ozone, often called smog. Reformulated gasoline also reduces toxic air pollutants from vehicles.

Ozone damages sensitive lung tissue and reduces lung function. Exposure to toxic air pollutants has been linked to increased rates of cancer.

Reformulated gasoline produces 15 to 17 percent less pollution than conventional gasoline, and further improvements are expected as new formulas are developed. This year, the new, cleaner gasoline will reduce smog-producing emissions by 305,000 tons—the equivalent of removing 8.1 million cars from our roads.

Can you use reformulated gasoline in boat engines?

Boat engine manufacturers have indicated that the use of reformulated gasoline in their engines is acceptable, although some offer special instructions if you use reformulated gasoline. There are a number of simple things you can do

if you are concerned about using reformulated gasoline in your boat engine. However, you should always check your owner's manual first.

How to make sure that your boat engine operates properly on reformulated gasoline:

Be sure that your engine is properly tuned.

The best thing you can do to make sure that your boat engine will operate properly on reformulated gasoline is to have your engine set to your manufacturer's tune-up specifications. While reformulated gasoline is very similar to conventional gasoline, there are differences. However, the differences are within the normal operating range of the engine and will not be noticeable unless your engine is out of tune and operating lean. An engine using reformulated gasoline will operate at its best when properly adjusted to the manufacturer's tune-up specifications.

Look for fuels that contain ethers.

Reformulated gasoline typically contains either an alcohol- or ether-based oxygenate. By nature, alcohol tends to have a greater affinity for water and is slightly more corrosive than ether-based oxygenates. If you haven't had water contamination problems with conventional gasoline in the past, you shouldn't have a problem using either type of reformulated gasoline.

But, if fuel is to be used in unusually humid conditions or stored for long periods, you should buy reformulated gasoline blended with

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