

All across the country, new fuel markets are opening and increasing the amount of ethanol blended into the nation's gasoline supply. That means that more gasoline marketers and retailers will be handling ethanol-blended fuel for the first time.

The U.S. ethanol industry has worked hard to provide a consistent, quality motor fuel that blends seamlessly with traditional gasoline blendstocks. As is the case with any fuel switch, however, retailers and marketers need to take basic preparatory steps to ensure a smooth transition to ethanol-blends fuels. This brochure provides retailers and marketers a quick reference tool outlining the most basic steps that should be taken. This is not a comprehensive reference tool, but is meant to provide a place to begin.

More information can be found at
www.ethanolRFA.org/industry/resources.

ADDITIONAL INFORMATION: Retail fuel storage conversion procedure should include a review of any corporate or branded fuel requirements. The state agency responsible for fuel quality may have a helpful checklist for retail conversion procedures. There may be labeling requirements for ethanol-blended fuels. This information is also available from the appropriate state agency.

DISCLAIMER: This brochure is meant to educate gasoline marketers and retailers, as well as anyone shipping, storing or selling ethanol-blended fuel. It is not a comprehensive guide to ensure compliance with all federal, state and local requirements. All parties must take the appropriate steps as outlined by the law and therefore should be in contact with the proper officials. The Renewable Fuels Association assumes no liability for any incidents involving ethanol or ethanol-blended fuels.



Ethanol-Blended Fuels

A Handling and Conversion Checklist



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RETAIL SYSTEM PREPARATION & POST BLENDING MAINTENANCE: TANKS, FILTERS, WATER

Ethanol is a flammable liquid with some similar properties to traditional unleaded fuels. Because ethanol is a solvent, there are some important differences in materials compatibility. A thorough review of the entire fuel delivery system must be performed and compatibilities confirmed prior to the introduction of ethanol or ethanol-blended fuels. This review must include tanks, tank liners, submersible pumps, gaskets, O rings, any metal fittings or system parts and Automatic Tank Gauge (ATG) systems. A complete list of compatible materials is available on the Renewable Fuels Association web page, www.ethanolRFA.org/industry/resources.

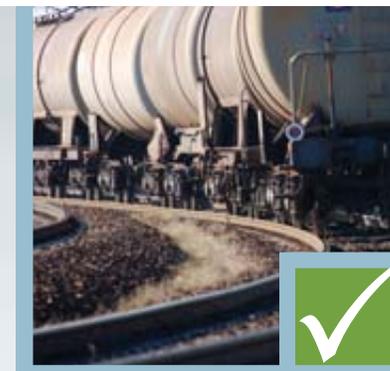


PREPARING FOR ETHANOL-BLENDED FUEL



Preparation for a conversion to ethanol-blended fuel should include the following items:

- ❑ Storage tank construction should be investigated and assured appropriate for ethanol-blended fuels use.
- ❑ Review the storage tank history for water contamination. REMOVAL OF ALL WATER AND SLUDGE FROM THE STORAGE TANK IS IMPERATIVE FOR PROVIDING QUALITY FUELS. Ethanol also differs from unleaded fuels in that it readily mixes with water. Any water contamination in storage or handling causes Phase Separation of the fuel (ethanol and water separating from the gasoline). Phase separation can be avoided by cleaning the storage tank and removing any water present.
- ❑ Ensure tight seals on the fill caps and proper water runoff from the storage covers.
- ❑ Check for tank tilt of underground storage tanks prior to introducing ethanol-blended fuels.
- ❑ Continuous monitoring to further prevent water entry.
- ❑ Daily checks for water accumulation are necessary. Bomb samplers or fuel thieves may be used in ongoing fuel quality verification.
- ❑ Alcohol compatible water detection paste must be used and dispose of any old paste.
- ❑ Retail fuel dispensers should be equipped with a minimum of 10 micron fuel filters (water absorbent filters are optional).



TAKING DELIVERY OF ETHANOL-BLENDED FUEL

Just prior to initial delivery of the ethanol-blended fuel, a check of the storage tank for any water accumulation should be performed and fuel inventory should be brought to low levels. The following measures should also be taken:

- ❑ Follow normal delivery procedures which should include safety, inventory and pump reading requirements.
- ❑ Verify that the fuel delivery driver is putting the correct compartment of fuel in the correct storage tank.
- ❑ It is also recommended that retail fuel pumps should be turned off at the breaker during initial conversion delivery.
- ❑ Once ethanol-blended fuel is available for sale, verify the correct accounting procedures for the fuel.
- ❑ Tanks should be checked for water accumulation once every 48 hours as well as verify the proper operation of the tank filtration equipment.

