

ETHANOL BLENDED FUEL FACT SHEET

As part of the Energy Policy Act of 2005, the U.S. Congress put into place the requirement for increases in the amount of biofuel (usually ethanol) that must be mixed with gasoline sold in the United States. In response to this requirement, Chevron and other refineries will begin to produce and sell gasoline containing 10% ethanol (E10) in Utah beginning the end of March 2010. Make sure you contact your fuel distributor for more information on their plans to distribute E10. *Recently, UST Rules were approved requiring owners or operators to notify DERR/UST if an UST system is to contain ethanol blended fuel **greater than 10%** or biodiesel blends greater than 20% (R311-203-2(a)(5)).*

Unlike gasoline, ethanol is completely miscible (mixable) in water. When water enters the tanks (for example through spill buckets, sumps or loose fittings at the top of the tanks) the ethanol in the gasoline blend will absorb the water. If enough water is present the water/ethanol mixture will separate from the gasoline and be drawn to the bottom of the tank. This is a process called Phase Separation. The separation of the ethanol/water mixture from the fuel will lower the octane of the remaining gasoline in the tank. This can cause customers to experience poor engine performance. If sufficient amount of Phase Separation takes place within the tank the submersible pumps will pick up this water/ethanol mixture and dispense it into vehicles, which will cause the customer's vehicle to stall.

Ethanol can loosen deposits on the internal surfaces of tanks and piping and may increase the amount of sludge and particulates at the bottom of the tanks. If sludge is present in the tank prior to introducing E10, the UST should be cleaned prior to receiving the first load of E10.

In order to prevent product contamination and proper system operation, it is important that owner and operators of Underground Storage Tanks properly prepare their USTs to contain this fuel blend and take ongoing precautionary measures to prevent Phase Separation.

E10 CONVERSION CHECKLIST

Preparation prior to receiving first load of E10

- ✓ Using water finding paste, check for water in the tank. No level of water is acceptable.
- ✓ Remove and properly dispose of any water. If sludge is present have the tanks emptied and cleaned.
- ✓ Make sure all visible fittings and connections at the top of the tank are tight, check that all sumps and spill buckets are free of water and all lids over the tank are tight to prevent water from entering them.
- ✓ Fix any water infiltration problems.
- ✓ Purchase special water detection paste for ethanol fuels.
- ✓ Order ethanol compatible filters that are designed to detect phase separation and shut down the dispensers. Have extra filters on hand in case they are needed.

First Delivery and Ongoing Maintenance

- ✓ Before Initial delivery, empty the tanks close to the lowest possible level. The first delivery should fill the tank to at least 80% capacity to prevent problems from any residual water in the tanks.
- ✓ Install ethanol compatible fuel filters.
- ✓ Check for water, with the ethanol compatible water detection paste, often (hourly) for the first 48 hours.
- ✓ On a daily basis (ongoing) check tanks for water using this same paste.
- ✓ Monitor dispensers for slow flow and change filters if needed.
- ✓ Inspected all spill buckets and sumps (weekly) for water incursions. Empty and clean all liquids and debris from spill buckets and sumps if needed.

If you have any questions concerning E10 conversion, please contact David Wilson at (801) 536-4138. Please visit our website <http://www.undergroundtanks.utah.gov/> for additional information.