



Underground Storage Tank System Checklist for Equipment Compatibility with Biofuels (greater than 10% ethanol or 20% biodiesel by volume)

This checklist is to be completed by the owner/operator and an Iowa Licensed Installer. The owner must complete those items identified as the owner's responsibility in the checklist.

NOTIFICATION: Owners must notify the Department at least 30 days prior to switching to a regulated substance containing greater than 10% ethanol or greater than 20% biodiesel, or any other regulated substance identified by the department.

FACILITY INFORMATION

Facility Name: _____ Registration No.: _____
 Site Address: _____ No. of Tanks: _____
 City: _____ Zip Code: _____ Date of Inspection: _____
 Owner Name: _____
 E-blend planned: E15 E85 Other _____
 Iowa Licensed Inspector: _____
 Company: _____ IA License No.: _____
 Company Address: _____ Phone Number: _____
 City: _____ State: _____ ZIP Code: _____

Owners and operators must use a UST system made of or lined with materials that are compatible with the substance stored in the UST system. NOTE: Owners and operators storing alcohol blends may use the following codes to comply with the requirements of subrule 135.4(3): American Petroleum Institute Publication 1626, "Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations".

Review this checklist thoroughly for its requirements before converting to a biofuel or other regulated substance. Enter *Model/Brand, Manufacturer* and check either Yes or No in one or both columns under UL Listed or Manufacturer Approved. You can find information on UST system component compatibility at the UL Fuel Compatibility Tool (www.ul.com/apps/fl-fuel-compatibility-tool). If you cannot locate an appropriate listing or certification, a manufacturer's statement of compatibility may be available.

For existing fuel sites being converted for new substances, identify the UST compartment number to contain the biofuel.

Tank Compartment #: _____ Current content: _____ Proposed content: _____
 (refer to <https://programs.iowadnr.gov/tanks/pages/advanced.aspx> to search for compartment numbers.)

Table 1: Tanks and Product Piping

Component	Model/Brand	Manufacturer	UL Listed	Manufacturer Approved
Tank (capacity:)			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Auto Shutoff			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Sub Pump, O-rings, Gaskets			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Tank Sump			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
ATG Probe, float/sensor			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Ball Float			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Sump Sensor			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Pipe			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Thread Sealant			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Adhesive			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Flex Connectors			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Line Leak Detector			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Spill Containment (spill bucket)			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

Dispensers and Dispenser Sumps

All UST systems that store and dispense a biofuel must be fully compatible with the product dispensed.

Owners and operators should check dispensers for leaks and equipment failure. Any component of the dispenser that leaks or does not operate as designed must be removed and replaced with compatible components. Notify the DNR UST Section immediately of the failed component.

Table 2: Dispensers and Dispenser Sump

Component	Model/Brand	Manufacturer	UL Listed	Manufacturer Approved
Dispenser			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Pipe sealant			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Suction Pump			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Hoses			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Nozzle/Swivel			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Break-away			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Dispenser/Sump				
Pipe			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Pipe Sealant			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Flex Connector			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Containment Sump			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Seals/Gaskets			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Emergency Shear Valve			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Sensor			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Check valve (suction system)			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

Before Biofuel or other regulated substance is Transferred to the Tank

Once equipment compatibility has been established, the items below must be completed before biofuel can be transferred to the tank. Items that are the responsibility of the UST owner are indicated. The remaining items are the responsibility of the Iowa Licensed Installer.

- Inform the facility’s UST insurance carrier of plans to convert to a biofuel or other regulated substance. The UST insurance carrier may have additional requirements other than what the DNR requires. (Responsibility of Owner).
- Obtain an amended certificate of insurance indicating UST coverage for the product stored. (Responsibility of Owner).
- Check for water in the tank. No level of water is acceptable for biofuels due to the phase separation problems. (Responsibility of Installer initially and the owner thereafter.)
- All visible fittings and connections at the top of the tank are tight (no vapors escape and no water enters).
- Sump and spill containment covers prevent water from entering. (Installer)
- Water infiltration problems fixed if necessary.
- The tank has been cleaned of all water and sediment.
- Clean tank certificate obtained or comparable documentation (e.g., see API Publication 2015, Cleaning Petroleum Storage Tanks and NFPA 326, Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair). (Responsibility of Owner)
- Labeling: identify the fill port and paint access covers according to API RP 1637. Make sure transport driver cannot make the mistake of delivering biofuel to the wrong fill pipe. Label dispenser.

First Delivery

- Tank filled to 80 percent capacity (recommended by the Renewable Fuels Association or RFA) and kept as full as possible for 7 to 10 days. (Responsibility of Owner)
- Conduct a precision test of the tank system (0.1 gph leak rate) with ATG system within seven days after tank is filled to make sure system is tight and leak detection equipment is operating properly. Report any “Fail” results. (Responsibility of Owner)
- Test for water (use alcohol compatible paste if you stick your tanks) at the beginning of each shift for the first 48 hours after delivery (RFA). If there is water in the tank, remove it, find out how it got there and fix it so it doesn’t occur again. (Responsibility of Owner)
- Check for water daily with your stick or ATG system if product seems to pump slow, check and replace filters. (Responsibility of Owner)

Ongoing Maintenance

- Check regularly for water. No level is acceptable. (Responsibility of Owner)
- Calibrate the dispenser liquid meter at the time of conversion and at two weeks after conversion to verify meter accuracy. Particulate materials in the product may cause excessive wear of the meter, which would require more frequent calibration (API RP 1626).

Licensed Installers: Please comment on what equipment is needed to make the fuel path compatible with the E-blend planned or why the site is not compatible for the proposed substance to be stored. If work has been completed, identify what was replaced.

Installer Certification

I have inspected the visible UST system components, and reviewed available installation records of the UST system referenced on this checklist. I have found the information listed on the above checklist regarding the equipment/components of this UST site to be true and accurate.

Installer’s Signature: _____ Date: _____