



Controlling Water Contamination in Fuel

Ideally fuel would be free of water, but in reality, small amounts of water are always present. Small amounts aren't usually an issue as they remain suspended in the fuel and cause no damage.

When too much water is in the fuel, however, it can no longer be suspended and is termed "free" water. If left unchecked, free water leads to microbial growth, biodegradation, and corrosion in fuel tanks. It can also cause filter plugging and lead to more serious problems such as fuel injector failures.

Condensation is the most common source of water in fuel tanks. When temperatures inside and outside the tank differ, condensation will form in the headspace and "sweat" into the fuel. Use of diesel fuel additives and practicing preventive maintenance can reduce the amount of water entering your system:

- Regular fuel tank inspections can detect contamination early. Pull a sample from the bottom and check that it is still clear and bright. Hazy fuel is an indication that water is building up. Darker fuel is an indication of microbial growth or fuel beginning to break down. Visible particulates can be rust, dirt, pollen, etc. Remember, contamination can occur in equipment tanks just like in storage tanks.
- Condensation can be difficult to control. Painting above-ground tanks white and/or supplying shade can help keep tank temperatures more consistent and reduce condensation. It can help reduce fuel evaporation, too. For equipment tanks, filling at the end of the day eliminates headspace and equalizes the temperature of the fuel, leading to less condensation as temperatures drop overnight.
- For small amounts of water, Dieselelex® Gold contains a moisture-control component that helps to evenly suspend water in small particles that can pass through the system with no adverse effects.
- For larger amounts of water that cannot be suspended, demulsifiers in Dieselelex Gold and FS Clean Flow™ help promote the coalescing and dropping of the free water to the bottom of the tank.
- Once free water is shed to the bottom of the tank, microbial growth, biodegradation, and corrosion can occur. Regularly inspecting and draining water from tank bottoms is crucial. Installing above-ground tanks on an angle to allow for easy draining is recommended.

- Hydrosorb filters can be used to remove small amounts of remaining water. They are designed to capture water as it passes through the filter media, preventing it from reaching the engine.



Storage Tank

Equipment Tank

Equipment tanks can be contaminated even if storage tanks are clean.