Maine Farm Safety Program

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Farm Fuel Safety

Accidents in the handling, use, and storage of gasoline, gasohol, diesel fuel, LP-gas and other petroleum products (solvents, paint thinners and naphtha) can result in serious fires and explosions. The chances of fire or explosion can be reduced by following safety precautions and by keeping fuel storage facilities in top condition.

Flammable Liquids and Gases

Gasoline, diesel fuel, LP gas, degreasing solvents, paint solvents, and certain paints are among flammable materials found on most farms. Keep these liquids away from open flames and motors that might spark. Keep all petroleum storage and handling equipment in good condition and out of reach of children. Inspect for leaks, deterioration or damage. Never store fuel in food or drink containers.

When transferring farm fuels, bond the containers to each other, and ground the one being dispensed from to prevent sparks from static electricity. Clean up spills right away and put oily rags in a tightly covered metal container. Change your clothes immediately if you get oil or solvents on them.

In addition, watch out for empty containers that held flammable or combustible liquids. Vapors might still be

Farm Fuel Safety Tips

- **Never store fuel in food or drink containers.**
- **Locate fuel storage tanks away from buildings.**
- **Watch for leaks or deterioration in fuel storage and delivery equipment.**
- **Keep fuels away from children.**

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present. Store these liquids in approved containers in well-ventilated areas away from heat and sparks.

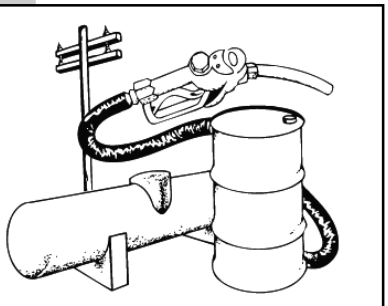
Be sure all containers for flammable and combustible liquids are clearly and correctly marked. Read and heed directions on all product containers, noting flammability and safety precautions.

Do not keep gasoline inside the home or transport it in the trunks of automobiles or recreation vehicles. If gasoline must be transported, carry only a small amount in a labeled safety can on the floor of the back seat. Roll down the windows so moving air can sweep away vapors.

Before cutting or welding a fuel tank, fill it with water to drive out any lingering residue or vapor. Many explosions have resulted from using a torch on a tank that was thought to be empty.

Refueling

Be cautious during refueling. Fires and explosions can happen. Besides being a fire hazard, spilled fuel can cause irritation and discomfort if it contacts the skin. Breathing an excess of fuel vapor often causes dizziness and headache.



When arriving to refuel, drive up to the fuel pump or storage tank slowly. Be careful not to bump it. Turn off the engine and extinguish smoking materials. If the engine is hot, allow it to cool for a few minutes. Position yourself so you can refuel without slipping or becoming fatigued. Remove the fuel cap slowly and allow the pressure to dissipate.

Avoid over filling. Allow any spilled fuel to evaporate before starting the engine. After releasing the nozzle valve to shut off fuel flow, keep the nozzle in the filler opening a few moments to allow it to empty. Check vents to be sure they're not clogged, and replace the filler cap. Then lock up the pumps so children, or other unauthorized persons cannot pump fuel.

Refuel small equipment outside—never in an enclosed area. A funnel will make the job easier when using a safety can.

Wipe up spills and allow the excess to evaporate before starting the engine. Before resuming work, put the safety can back into safe storage.

Aboveground Tanks

An aboveground storage facility is cost effective. The tanks are movable and ground water or limited flooding has little effect on them.

Aboveground storage tanks must be sturdy and designed for fuel storage. They should be 40 feet or more from buildings. A tank too near a burning

building could explode and spread the fire. Mount a tank elevated for gravity discharge on sturdy supports placed on a firm, level surface. Keep the area clear of weeds and trash to reduce fire risk. Remind machinery operators to stay away from the support structure and to not bump it when pulling up to refuel.

Unless tanks are located in a shaded spot or have overhead canopies to shield the sun, evaporation losses can be sizable. Use a pressure-vacuum relief valve (rather than the standard vented cap).

Safety Cans

A labeled safety container is made of heavy-gauge metal and has a cap that automatically closes to prevent a spill if the can is dropped or tipped over. The squat shape makes a safety can difficult to tip. A pressure-relief valve opens when vapor pressure inside the can reaches three to five pounds per square inch. A flash-arresting screen in the filler opening and pouring spout will reduce the possibility of a spark which could cause a fire or explosion.

Label fuel containers according to their contents. Do not risk confusing diesel fuel and gasoline. Gasoline cans are red and diesel cans are green. Store cans in a cool, well-ventilated place, away from living quarters and ignition sources.

LP Gas

The fire or explosion hazard with LP gas usually involves leaks or failures in the system, improper transfer of liquid from one tank to another, or accidents where tanks or lines are ruptured. Also, an LP tank involved in a building, trash or tractor fire can greatly intensify such a fire or even explode.

Label fuel containers according to their contents.

Large LP storage tanks should be at least 50 feet from the nearest building and 20 or more feet from other aboveground fuel tanks. Provide and maintain solid foundations to support LP-gas tanks so they won't settle or tip and break or damage connections.

Equip the storage tank with a liquid-fill hose and a vapor-return hose. If the vapor escapes into the atmosphere, a fire or explosive danger is created. Therefore, when you fill a fuel tank, the vapor from the top should be fed back into the storage tank.

Be alert for leaks in the LP-gas system. Protect gauges and regulators from weather and dirt. If you smell gas, turn off valve(s) at the tank(s). Open windows and doors to ventilate the building, and don't switch on anything electrical. Get everyone out, and call a technician to find and fix the leak.

More Safety Reminders

Keep all equipment used for petroleum storage and handling in good condition. Watch for leaks, deterioration or damage. Make needed

repairs or replace faulty components immediately. Keep cap vents clean and free, and tank and safety can pressure-relief valves functional.

If fuel is spilled on your clothing, go outside, away from any ignition source, and allow the clothing to dry. If more than a little was spilled, remove the garment, and wash the fuel from your skin to avoid irritation.

When siphoning fuel, use a pump. Never use your mouth. A mouthful of gasoline or diesel fuel could be fatal, especially if it gets into your lungs. Also, avoid excessive inhalation of gasoline vapor.

Each year, children are poisoned after accidentally ingesting gasoline and other petroleum products. Protect your fuel facilities so children cannot draw out any fuel. The facility should be off limits. Warn children sternly about playing with matches in fuel areas. Keep gas cans out of their reach, and never store fuel in food or drink containers.

When servicing machinery, check the fuel system for leaks. Double check connections to be sure they are secure and leakfree after changing fuel filters or performing other work requiring disconnecting or removing a fuel line or fuel system component.

Turn off oil heaters before refueling. Make sure the filler cap is replaced and tightened. Set portable heaters away from combustibles where they cannot be tipped over.

Motor oil and grease are considerably less flammable than engine fuels, but they will burn. Keep them away from ignition sources.

Following these safety tips on the handling, use and storage of gasoline and other farm fuels will help to prevent fires and explosions.

This Maine Farm Safety fact sheet is part of an educational fact sheet series produced by University of Maine Cooperative Extension. For more information on farm safety, contact your county Extension office.

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