Information on
Emergency Fuel Storage
For Residential Occupancies

This form is designed to answer most questions regarding the storage of flammable or combustible fuels for emergency purposes in a residential setting.

There are five main fuels that are most popular for emergency storage for heating, generating electricity, and cooking. They are gasoline, diesel, kerosene, propane and natural gas. They can all be stored relatively safely in a residential setting using the proper storage and handling guidelines from the Fire and Building Codes.

**General Information on Gasoline:**

Gasoline is a flammable liquid with vapors that are heavier than air. If a container is left open, vapors will spill out over the side of the container. If the contents are spilled, the vapors will travel to the lowest point in the area. The vapors can ignite and flash back to the container by a pilot light, spark, etc. Gasoline should never be stored inside a building, home or habitable structure. It should be stored only outside the home in detached garages or in sheds in approved containers designed for that use.

**Gasoline Approved Storage Containers:**

1) Metal safety cans with self-closing lids.
2) Metal cans with tight fitting lids, labeled gasoline.
3) Red plastic cans that are made and designed for the storage of gasoline.
4) **NEVER** store gasoline in a glass container.

**Gasoline Storage Amounts:**

Gasoline is normally stored in $\frac{1}{2}$, 1, 1 $\frac{1}{2}$, 2 $\frac{1}{2}$ and 5 gallon containers up to a maximum combined amount of 10 gallons in approved containers. 60 gallons can be stored if stored in approved containers inside of a flammable liquid storage cabinet approved for that use. Quantities in residential settings shall not exceed amounts necessary for maintenance purposes and operation of equipment.
If storage of larger amounts is required, an approved portable tank is required. The Fire Prevention Bureau would need to permit this use and a plan review would need to be done by the Bureau prior to installation.

**Gasoline Uses:**

In the residential setting, gasoline is most commonly used as a fuel for small engines. *It should NEVER be used to start fires or as a cleaning solution, etc.* NEVER store flammable liquids inside the home or in the basement of buildings.

**General Information of Diesel Fuel and Kerosene:**

Diesel fuel and kerosene are combustible liquids with vapors that are heavier than air. If a container spills the contents, it can be ignited by flame or heat. Diesel fuel and kerosene should never be stored inside a building, home or habitable structure. It should be stored only outside or in sheds in approved containers for that use.

**Diesel Fuel and Kerosene Approved Containers:**

1) Metal safety can with self-closing lids.
2) Metal cans with tight closing lids.
3) Red plastic cans that are made and designed for the storage of diesel fuel and kerosene.
4) NEVER store diesel fuel or kerosene in glass containers.

**Diesel Fuel and Kerosene Storage Amounts:**

Diesel fuel and kerosene are normally stored in $\frac{1}{2}$, 1, 1 ½, 2 ½ and 5 gallon containers up to a maximum combined amount of 10 gallons in approved containers. 330 gallons can be stored if it is inside of a flammable liquid storage cabinet in approved containers. Quantities in residential settings shall not exceed amounts necessary for maintenance purposes and operation of equipment.

*If storage of larger amounts is necessary, an approved portable tank is required. The Fire Prevention Bureau would need to permit this use and a plan review would need to be done by the Bureau prior to installation.*
Diesel Fuel and Kerosene Uses:

In a residential setting, diesel fuel would most commonly be used as a fuel for diesel engines. *It should NEVER be used to start fires.* NEVER store combustible liquids inside a home or in the basement of a building.

Kerosene is most commonly used as a fuel for room heaters. *Unvented gas-fire room heaters shall be listed and labeled for their use. If used, they should be used in accordance with manufacturer's recommendations and always have adequate ventilation to avoid asphyxiation. There may be other restrictions in the Building Code. Check with the Building Official for more information. Any space heater needs space (3 feet) to avoid the overheating of surrounding combustibles that may cause a fire.*

General Information of LP-Gas or Propane:

The potential fire hazard of LP-Gas vapors is comparable to that of natural or manufactured gas, except that LP-Gas vapors are heavier than air. LP-Gas, by nature, can be easily liquefied at moderate pressure for ease in storage and transportation. *For instance, 1 cubic foot of LP-Gas will expand to 270 cubic feet of vapor at atmospheric pressure.* LP-Gas vapors, if released from the container, will flow to the lowest point in the area. Vapors can be ignited by spark, flame or heat and will flash back to the container and remain burning until extinguished. LP-Gas can be an explosion hazard if released in the home. **LP-Gas should never be stored inside a building, home or habitable structure.** It should be stored outside or in a shed in approved containers designed for that use. *If LP-Gas is used for heating a home, the furnace MUST be modified from that of a natural gas furnace to operate properly. All modifications should be done by a qualified servicing company using listed and labeled parts. Proper installation and maintenance will eliminate a possibility of an LP-Gas explosion and/or asphyxiation.**

LP-Gas Approved Storage Containers:

1) LP-Gas containers approved for use are those that are listed and/or labeled for the use of storing LP-Gas.
**LP-Gas Storage Amounts:**

LP-Gas is normally stored in 2 1/2 gallon, 5 gallon, 7 gallon, and 10 gallon pressurized bottles in residential settings.

**LP-Gas Permit Required for Storage:**

Any LP-Gas tank installation of 125 gallons or more requires a permit by the Fire Prevention Bureau and an inspection of the installation is required after installation for that permit.

**LP-Gas Required Inspection of Any New Installation:**

Any new installation of LP-Gas tanks, aboveground or below ground, shall be inspected by the Fire Prevention Bureau prior to filling the tank with LP-Gas for use.

**General Information on Natural Gas:**

Natural gas is nontoxic, but is an asphyxiant. Natural gas has no odor of its own and is generally odorized as it is distributed. Unlike propane, natural gas is lighter than air and will rise if released into the atmosphere. Natural gas accounts for one third of the total fuel energy of the United States for domestic, commercial, and industrial heating and power. It is also being used as a motor vehicle fuel known as "compressed natural gas, (CNG)".

**Natural Gas Approved Storage Containers:**

1) Underground piping systems.
2) Vehicle storage cylinders shall be approved and listed for the use of CNG.

**Natural Gas Uses:**

In the residential setting, natural gas is most commonly used for home heating, cooking, BBQ cooking and as a motor vehicle fuel.
Additional Information on Natural Gas:

Contact the local Questar Gas Company at: 1-800-323-5517

To report gas line breaks-leaks-odors 24 hours, call 1-800-797-1689.

Fire Protection Equipment:

It is recommended that all residences have some form of fire extinguisher available for use in a fire emergency. The Fire Code suggests that a minimum size fire extinguisher would be a 2A 10BC in size. There are smaller sizes, but they provide limited extinguishing capabilities. Remember to get a multi-rated extinguisher (ABC type).

Information sources for this form:

- International Fire Code
- Liquefied Petroleum Gases Handbook
- Fire Protection Guide on Hazardous Materials
- Fire Protection Handbook

We hope this information is helpful to you in making decisions about emergency fuel storage and its safety in the residential setting.

For Orem and Lindon residents with additional questions not answered by this form, contact the Fire Prevention Bureau at 229-7327.
OREM
City of Orem
Development Services Building Safety Division Fire Department
56 North State 801-229-7060 801-229-7327
Orem, Utah 84057 Fax: 801-229-7191 Fax: 801-229-7307

FIRE DEPARTMENT - OVER-THE-COUNTER PERMIT

PERMIT #: ______________________

Name: _______________________________

Telephone #: __________________________________________________________

Mailing Address: ________________________________________________________

Contractor: __________________________ License #: _________________________

Mailing Address: _________________________________ Phone: ___________________

Property Address: _________________________________________________________

Construction Type: RESIDENTIAL ( ) COMMERCIAL ( )

PERMIT TYPE:

Above Ground Storage Tank
Capacity in Gallons ______

FEE: Under 500 Gallons $150.00
Over 501 Gallons $250.00

$ ______________________

LPG Tank Installation
FEE: Per Tank $110.00

$ ______________________

Underground Storage Tank Installation
FEE: Per Tank $350.00

Underground Storage Tank Removal
FEE: Per Tank $350.00

$ ______________________

Fireworks Shows (Inside and/or Outside)
FEE: Per Show $250.00

$ ______________________

Other Fire Permits

$ ______________________

TOTAL FEES:

$ ______________________

Permit Issued by: __________________________________________ Date: __________

INSPECTED AND APPROVED BY: __________________________ DATE: __________