Title: Don’t Get Burned - Tips for Safely Handling Gasoline

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Lesson Learned Statement:

Because gasoline is such an important and common item in our daily lives, many people may have become complacent with the hazards associated with that fuel. This document presents a few reminders to help keep us safe this summer as we begin to cook outdoors, gas up our mowers and trimmers, start cleaning and painting projects, and other activities that use gasoline, paint thinners, and other flammable and combustible products.

Discussion:

One gallon of gasoline contains the same explosive force as 14 sticks of dynamite.

In 1998, there were 4,700 gasoline fires in U.S. homes, resulting in 86 deaths, 463 injuries and $92 million in direct property damage.

Gasoline vapors are heavier than air, can travel a number of feet to an ignition source, and ignite at temperatures of –45 degrees. To be safe, keep open gasoline containers well removed from all potential ignition sources.

Gasoline has a very narrow explosive range between 1.4 and 7.6 percent by volume so if it’s not confined, as in the trunk of a car, it is reasonably safe. Storage areas should be well ventilated.

Gasoline has a low electrical conductivity. As a result, a charge of static electricity builds up on gasoline as it flows through a pipe or hose. That charge can take up to several minutes to dissipate after the gasoline has reached a tank or container. If the charge discharges as a spark from a tank or container to the grounded metal nozzle of the gasoline dispenser hose, it may ignite the gasoline vapors. Ignition requires that the spark occur near the tank opening where the gasoline vapor is in the flammable range.

Getting into and out of your vehicle during refueling can build up a static charge, especially during dry weather. That charge can cause a spark that can ignite gasoline vapors if it occurs near the fuel nozzle.

Analysis:

None

Recommended Actions:
Keep gasoline out of children's sight and reach.

- Do not use or store gasoline near possible ignition sources (i.e., electrical devices, oil- or gas-fired appliances, or any other device that contains a pilot flame or a spark).
- Store gasoline outside the home (i.e., in a garage or lawn shed) in a tightly closed metal or plastic container approved by an independent testing laboratory or the local or state fire authorities. Never store gasoline in glass containers or non-reusable plastic containers (i.e., milk jugs).
- Store only enough gasoline necessary to power equipment.
- Let machinery cool before refueling it.
- Never use gasoline inside the home or as a cleaning agent.
- Clean up spills promptly and discard of clean-up materials properly.
- Do not smoke when handling gasoline.
- Never use gasoline in place of kerosene or charcoal lighter fluid.
- Use caution when fueling automobiles. Do not get in and out of the automobile when fueling. Although rare, an electrical charge on your body could spark a fire.
- Place portable gasoline containers on the ground before filling and never fill containers inside a vehicle or in the bed of a pick-up truck.
- Do not use cellular phones or other electrical devices while fueling vehicles.
- When fueling a boat, use a bonding wire between the container and the dispensing unit and make certain the bilge does not contain any gasoline vapors before starting the engine.

**Originator:**

Fluor Hanford, Inc.
Rex Jordan, Fire Marshall (509) 373-4022

**Validator:**

John Bickford

**Contact:**

Project Hanford Lessons Learned Coordinator; (509) 373-7664; FAX 372-3950

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Not required

**Name Of Reviewing Official:**

John Bickford

**Priority Descriptor:**

Blue / Information

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fire, gasoline, explosion, vapors, combustion
References:

NFPA Fact Sheets - Gasoline Safety
Chevron Product Safety Bulletin
Fire Prevention Checklist, Buffalo, NY

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DOE Function / Work Categories:

Fire Protection

ISM Category:

Analyze Hazards
Develop / Implement Controls

Hazard:

Fire / Smoke / NFPA

End of Lesson!