



Naval Safety Center

LESSONS LEARNED



LL 19-25

BACKYARD FIRE MISHAPS

With fall in full swing, outdoor fires are a popular way to spend time with friends and family. While bonfires have long been an outdoor favorite, fire pits have made their way to our backyards and patios in increasing numbers. In 2018 the American Society of Landscape Architects noted fire pits as the most popular backyard design feature. Unfortunately, with increased popularity comes increased risk. The Consumer Products Safety Commission reported that in the U.S. in 2017, more than 5,000 people visited emergency rooms due to fire pit burns, nearly triple the number from 2008. — And those weren't just civilians. Our fellow Sailors and Marines have demonstrated (however unwillingly) the *pitfalls* of this hot outdoor activity. So read on, and learn vicariously through the pain of your brethren (*you don't want to learn this by experience*).

-Late one fall evening, a Sailor was attending a bonfire. During an attempt to roll a log onto the fire, someone else threw something into it. The report doesn't specify exactly what was thrown, but it combusted rather quickly and caused multiple burns to the Sailor's face and upper body. This fire log roll mishap cost the Sailor scars for life and three lost workdays. — *If the log is so big that you have to roll it there, how big is that bonfire?*



-A Sailor was the selectee (or volunteer) to start the backyard fire at his friend's house. He chose gasoline as the fire starter aid-of-choice (*the technical fire term is "accelerant"*), and he leaned in with his lighter. *In hindsight, they probably realized he wasn't the best choice for fire detail.* Unsurprisingly, he under-anticipated the concentration of fumes and, WHOOF! The outburst of flames sent him to the emergency room with burns to the face and right arm. — *We're pretty sure the seven days he spent on light duty weren't worth the pain.*

-In another gasoline-induced mishap, a Marine received multiple second and third-degree burns from an explosion caused by a can of gasoline left next to a bonfire. Three fellow Marines were at the house, but none saw the explosion. Apparently, the gasoline was used to ignite the bonfire, and they set the can next to it. — *The Marine does not recall how the gas can ignited, but his trip to the burn unit and 25 lost workdays will be an everlasting memory he'd wish to forget.*

-A Sailor was walking on the beach with friends and joined a party around a bonfire. In a remake of the "I have made fire!" scene from the film "Castaway," he attempted to drag a large piece of wood into the bonfire, but he failed his first and only take when he tripped and fell backward. His right hand and forearm landed in the bonfire, sustaining second and third-degree burns. The report says the Sailor was consuming alcohol and had an unknown blood alcohol content at the time of the incident. What we do know is, he had 19 days of lost work and seven days limited duty to ponder what happened. — *There is no way to poke fun at third-degree burns. Please learn this lesson from our Sailor. Alcohol and fire tending are a volatile combination.*

-A Marine was using gasoline as an accelerant to burn brush and tree limbs. (*Do you see the trend here?*). While attempting to light the fire with a hand-held lighter, the gasoline fumes exploded (*as gasoline fumes do*), inflicting burns to his upper torso, hands, arms, neck, and face. This Marine's poor choice of fire starter led to 28 days in a hospital burn unit. — *Please, don't use gasoline.*

BACKYARD FIRE MISHAPS

-A Sailor in Navy housing was burning yard debris in a fire pit. The fire started faster than anticipated due to, you guessed it, gasoline. There's a reason for the phrase, "pouring gasoline on the fire," because of the visual that it invokes. As with the previous gasoline users, this Sailor certainly lived that phrase which signifies making a bad situation worse, with burns to the right hand and leg, and 10 days of lost work. — *At this point, we have nothing left to add...*

-A Marine was at a private residence and was starting a fire using lighter fluid. (*Huzzah! At least he didn't use gasoline, but that's where the wise decisions ended*). Once the fire was lit, the Marine wasn't satisfied with his work and continued applying (*squirting*) the lighter fluid onto the fire, and it did its job. The fluid lit, the fire traveled upstream to the container like a scene from "Tomb Raider," and **BOOM**, the container exploded. The explosion ignited his clothes, causing burns to multiple body areas and loss of consciousness. — *In addition to his consciousness, our Marine lost 12 days of work and a significant amount of pride.*



-Sometime after 2200 at a Marine's residence, a fire was underway when their dog knocked over the fire pit. In the ensuing frenzy to contain the (now) yard fire, the Marine was exposed to the flames resulting in burns on his arms, hands, and back, which cost him six days lost work, and 16 days of light duty. — *Safety tip: Keep an eye on your pets and children when around open fires. You don't want to be the one who says, "I just turned away for a second!"*

-A Marine was running around in a backyard near a fire pit (*as one does after 2300?*). At some point during his fire dance, the Marine tripped and fell into the fire pit, causing burns to his right hand and arm. — *We'll likely never know if his performance achieved it's desired effect, but it cost him two days lost work and 10 days of light duty.*

Key Takeaways

- 1. Gasoline is for your car, not your fire pit!** Without question, this is the number one takeaway in this lesson learned. The flashpoint of gas is 45 degrees Fahrenheit (F), meaning the vapors can ignite when introduced to a flame at that temperature. While lighter fluid has a much higher flashpoint at 160 degrees F, do you want the "ode to petrol" harshing your mellow (ambiance)? Try doing it old school with tinder and kindling, which is much more adult-like and safer than the exploding gas can method (and it works; we've tried it). Consider fire starter logs if you're not the woodsman type.
- 2. Manage your backyard fire area wisely.** This one comes in as a not-too-distant second. Keeping pets and children at a safe distance, and keeping the fire in a safe area away from the house or flammable structures is a good start. Most municipalities have regulations on the size and location of outdoor fire areas. The average maximum size for fire pits is four feet wide or diameter, and the limit is similar for open outdoor fires. Even if you're not in a regulated area, consider the size of your fire and your ability to contain it. — And please, don't put any flammable liquids near the fire.
- 3. Alcohol and fire are not compatible elements.** It's a close third, but it should go without saying. We get it; having a few libations around the bonfire fire is a popular way to spend some well deserved off-duty time with family and friends. As with any night out, however, the fire tending should be left to a sober and responsible person. Open fires are no place for "hold my beer" or "help me drag this fallen redwood tree onto the fire." Drink and make fire responsibly, and look out for your shipmates and fellow Marines. One responsible person speaking up could've avoided most (if not all) of these painful mishaps.

This product is posted on the NAVSAFECEN CAC-enabled website at <https://intelshare.intelink.gov/sites/navsafe>.

And remember, "Let's be careful out there"