American Burn Association

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PREVENTING SERIOUS BURN INJURIES

SUPPORT THE PORTABLE FUEL CONTAINER SAFETY ACT OF 1917

Support H.R. 919: The American Burn Association ("ABA") strongly urges the Congress to enact H.R. xxxx, the Portable Fuel Container Safety Act of 2017, introduced by Congressman Mike Thompson (D-CA). This legislation would direct the Consumer Product Safety Commission ("CPSC") to promulgate a final rule relating to flame arrestors[1] in portable fuel containers.

Portable Fuel Containers without Flame Arrestors Pose a Serious Risk of Burn Injuries: In 2007, under the aegis of the CPSC, an American Society for Testing and Materials ("ASTM") subcommittee was formed to address the issue of burn injuries resulting from the use of portable fuel containers.[2] In 2011, the CPSC initiated a voluntary product recall for portable fuel containers not having a flame arrestor. This recall was not successful and consequently almost a decade has passed without meaningful action since the CPSC began deliberations on the establishment of voluntary standards regarding the installation of flame mitigation devices or flame arrestors in portable fuel containers.

While these deliberations have been taking place, millions of portable fuel containers without flame arrestors have been sold to unsuspecting consumers and thousands of individuals have suffered burn injuries that could have been prevented by the installation of a simple flame arrester costing between $0.02 - $0.05 per fuel container. Of the thousands of burn injuries that have occurred over this time period, we are aware of no documented case involving a portable fuel container with a functioning arrestor!

Flame Arrestors Are Already Required for Fuel Containers Used in the Workplace: According to engineering experts, a portable fuel container without a flame arrestor is inherently defective and dangerous. At least two manufacturers now include flame arrestors on their portable fuel containers but there are many manufacturers who need to follow this example. Standards for flame arrestors are already well developed, particularly under OSHA, which for decades has required flame arrestors for fuel containers used in the workplace.[3] If one brought a standard 5-gallon portable fuel container to the workplace without a flame arrestor, it would be illegal. All this legislation does is extend the same workplace protections that have been in place for years to consumers having these fuel containers in their homes.

The Cause and Extent of Burn Injuries Resulting from Portable Fuel Containers: The type of explosion occurring within these gas cans is known as a "flashback explosion." These explosions occur under specific chemical conditions. During a flashback explosion, gas vapor escapes a container containing a small amount of gasoline. If this escaped gas comes in contact with a spark or flame, it can ignite. After the initial ignition, the gas can "flash back" into the container. If the gas inside the container is composed of a certain concentration, it can ignite as well. This can lead to a flame explosion with potentially catastrophic results.

According to the National Electronic Injury Surveillance System ("NEISS") Database, in 2015 there were 12,684 gasoline-related, 3,918 storage tanks and 2,141 gas canister burn injuries. Many of these burn injuries could have been prevented by the installation of a simple flame arrestor. Similarly, the Consumer Product Safety Commission has identified at least 11 deaths and 1,200 emergency room injuries caused by gas can explosions since 1998. Not only are there thousands of such

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[1] A flame arrestor is a small piece of mesh or perforated disk designed to disrupt flame. Flame arrestors are currently included in products such as metal "safety" gas cans and fuel tanks. Fuel arrestors are also featured in other flammable liquid storage containers, including rum and charcoal lighter fluid.

[2] *See* ASTM 15.10 task group on flame arresters for gasoline containers.

[3] *See, e.g.,* OSHA Standard 29 CFR 1926.152(a)(1) which states that "Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids. Approved safety cans . . . shall be used for the handling and use of flammable liquids in quantities of 5 gallons or less. *See also* 29 CFR 1926.155(I) - *Safety can* means an approved closed container, of not more than 5 gallons' capacity, having a flash-arresting screen, spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure.

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injuries, but these burn injuries tend to be very serious in nature, involving the face, neck and hands and requiring several surgeries lasting over a period of several years.

Despite the explosion and burn injury risk associated with plastic gas cans, roughly 100 million are in circulation around the United States. Consequently, over the past two decades, more than 80 lawsuits were filed against gas can manufacturers in the United States. These product liability lawsuits allege that the gas cans are defective in design due to the lack of a flame arrestor. With very few exceptions, when these fuel container explosion cases have been filed, the manufacturer or its insurer have promptly settled the case before trial rather than risk defending the inherent safety of a fuel container not equipped with a flame arrestor. A CPSC rule directing the installation of flame arrestors can not only save lives but eliminate the underlying cause for much of this litigation.

Regulators, Fire Protection Organizations and Independent Testing Laboratories Agree that Flame Arrestors Can Dramatically Reduce the Risk of Burn Injuries from Portable Fuel Containers: In December 2013, the CPSC issued the following statement:

> Flame arrestors are intended to keep flames that are external to the gasoline container from passing into the container. CPSC is calling on the industry to regain the momentum that was lost in years past by designing their products to include this safety technology. In addition, CPSC is asking voluntary standards organizations to incorporate a flame arrestor system into applicable safety standards for gas cans.

In addition to the CPSC, numerous other organizations have been supportive of requiring the installation of flame arrestors or other flame mitigation devices in portable fuel containers. As the National Bureau of Standards (NBS) has noted, gasoline can explosions can occur and the use of flame arrestors in the spout can prevent such explosions.[4]

While some members of industry have questioned the effectiveness of flame arrestors, this is not uniformly the case. For example, all gasoline containers currently manufactured by the Protectoseal Safety Container Division have perforated metal flash arrestors at each container opening. The CPSC also encountered similar skepticism when it sought to incorporate flame arrestor technology in residential gas water heaters. Today all residential gas water heaters sold have built-in flame arrestors that prevent flashback fires. There is no reason why Congress should not direct the CPSC to issue similar requirements for portable fuel containers.[5]

The CPSC Should Require Flame Arrestors on Portable Fuel Containers Now: H.R.919 recognizes that for several years an ASTM subcommittee has been attempting to develop a voluntary standard relating to flame mitigation devices in portable fuel containers. But, as discussed above, this process has gone on for far too long. It is time to end these interminable delays in implementing common sense safety measures.

H.R. 919 adopts a balanced approach and gives ASTM up to 18 months to adopt a voluntary standard, which would then be adopted by the CPSC for purposes of enforcement. If ASTM does not issue voluntary standards within 18 months of the bill's enactment, the CPSC must issue a final rule regarding the installation of flame arrestors in portable fuel containers not later than 30 months from the date of enactment. The legislation also directs the CPSC to undertake an education campaign to inform consumers about the dangers associated with using or storing portable fuel containers for flammable liquids near an open flame or other source of ignition.

Please cosponsor H.R. 919, the Portable Fuel Container Act of 2017.

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[4] *See* Tyrell, E., 1975, "*Gasoline and Gasoline Container Fire Incidents*," NBS Technical Note 850 and Jones, C.E., 1977, "*Standards for Gasoline and Kerosene Cans*," NBSIR 78-1414.

[5] Independent researchers have concluded that installation of an inexpensive screen flame arrestor can prevent flashback fires from occurring in portable fuel containers. *See* Stevick, Rondinone, Sagle and Zicherman, *Portable Plastic Gasoline Container Explosions and Their Prevention*, http://www.forensic-society.org/whitepapers/GasCanPaperSFES.pdf