U.S. CONSUMER PRODUCT SAFETY COMMISSION
4330 EAST WEST HIGHWAY
BETHESDA, MD 20814

May 19, 2015

Ms. Diane Haithcock
Chair, UL Standards Technical Panel 1370
Underwriters Laboratories Inc.
P.O. Box 13995
12 Laboratory Drive
Research Triangle Park, NC 27709
Email: Diane.J.Haithcock@ul.com

RE: *CPSC Staff Request for Re-Formation of a Working Group and Staff's Recommendation for Requirements to Address Hazards Associated with Portable Liquid or Gel Fueled Fireplaces.*

Dear Ms. Haithcock:

U.S. Consumer Product Safety Commission ("CPSC" or "Commission") staff requests that Underwriters Laboratories Inc. ("UL") re-form the working group under the UL 1370, *Unvented Alcohol Fuel Burning Decorative Appliances* Standards Technical Panel ("STP"), to develop specific requirements for portable liquid or gel fueled fireplaces not currently covered by UL 1370, to reduce the risk of death and injury from consumer use of these products.[1] In September 2012, the UL 1370 STP began discussing requirements for these types of appliances. In August 2013, this work was suspended because no proposals were offered for consideration. To assist the STP in the development of specific requirements for portable liquid or gel-fueled fireplaces not currently covered by UL 1370, CPSC staff offers a framework of performance requirements for consideration.

Over the past few years, as part of an ongoing agency rulemaking project,[2] CPSC staff has worked to identify the hazards associated with firepots and to develop requirements to mitigate those hazards. CPSC staff identified four principal characteristics of the appliance that directly contributed to the known firepot hazards. Firepots:

- Sustain a flame that does not require external ventilation to remove the combustion emissions, and are therefore ventless;
- Consume fuel that is in a liquid or gel state during normal use in an open reservoir;
- Are refueled over the open reservoir, in the location directly above where the flames burn; and

[1] These views are those of CPSC staff, and have not been reviewed or approved by, and may not necessarily reflect the views of, the Commission.
[2] *Fire Pots and Gel Fuel: Advance Notice of Proposed Rulemaking; Request for Comments and Information*, 76 Federal Register 80832; December 27, 2011. CPSC staff is developing a draft notice of proposed rulemaking for Commission consideration.

- Are portable and can be easily moved from one location to another.

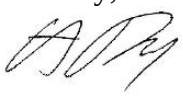
A review of the market and incident data shows that these characteristics are not exclusive to firepots. For example, many products marketed as "personal fireplaces" are portable, ventless, and burn liquid fuel over an open reservoir in which the consumer refuels the appliance. Therefore, these products marketed as "personal fireplaces" also meet the four hazard-contributing characteristics and present the same dangers as firepots. The hazards commonly associated with firepots actually apply to the entire class of appliances that can be described generically as portable liquid or gel fueled fireplaces. Requirements are needed to help ensure that consumers can enjoy these appliances without an unreasonable risk of injury or death.

As of February 27, 2014, CPSC is aware of 106 incidents with 122 injuries involving portable liquid and gel fueled fireplace appliances. Many injuries were serious; at least 61 victims of these incidents were hospitalized and there were two fatalities. Consumers used a variety of descriptions in these incidents, including "fireballs," "explosions," and "napalm," for incidents often resulting in severe burns. The most prevalent scenario with the worst injuries occurred while pouring or immediately after pouring fuel into the open reservoir.

CPSC staff, as part of the agency's ongoing rulemaking project to address these hazards, has worked to demonstrate the feasibility of reducing the "explosion" hazards, by discouraging the pouring of flammable liquid fuels into open reservoirs of such appliances. The result of this work by the CPSC provides the foundation for staff's rationale and general recommendations for the requirements offered for consideration by UL 1370 STP in developing a standard for portable liquid or gel fueled fireplaces. These recommendations include possible requirements for the scope, non-refillable fuel canisters, labeling, and stability, as well as other items.

In closing, CPSC staff requests the re-formation of a working group to develop specific proposals, beginning with staff's attached recommendations for consideration by the STP to address the serious hazard posed by portable liquid or gel fueled fireplaces. Thank you for the opportunity to work with UL and the STP on this very important consumer safety issue. If you have any questions or need additional information, please contact me at sayers@cpsc.gov or 301-987-2030.

Sincerely,



Scott Ayers, P.E.
Technical Lead, Portable Fireplaces Rulemaking

Cc: Jacqueline H. Campbell, Project Manager, Portable Fireplaces Rulemaking
Colin Church, CPSC Voluntary Standards Coordinator
Angela Heggs, CPSC Office of the Secretary, Docket Manager

CPSC Staff Recommendations to UL 1370 Standards Technical Panel for Development of a UL Standard for Portable Liquid or Gel Fueled Fireplaces.[3]

Portable liquid or gel fueled fireplaces (which would include products marketed as "firepots," "personal fireplaces," "tabletop fireplaces," among other terms) are decorative, portable devices, which, once ignited, maintain a flame over the surface of an open, fuel-filled reservoir. Although used by consumers in much the same way as candles or outdoor torches, portable liquid or gel fueled fireplaces present different and more severe hazards.

CPSC staff recommends that the UL 1370 STP develop a standard for portable liquid or gel fueled fireplace appliances. Specifically, CPSC staff offers to the UL 1370 STP the following elements for consideration for liquid and gel fueled portable appliances:

- Scope;
- Non-refillable fuel canisters;
- Labeling of the appliance and non-refillable fuel canisters;
- Stability performance test; and
- Additional possible requirements to consider.

SCOPE:

Proposal: CPSC recommends that the UL 1370 STP develop a voluntary standard for portable liquid and gel fueled fireplaces that applies to appliances that:

- Sustains a flame that does not require external ventilation to remove the combustion emissions, and are therefore ventless;
- Consume fuel that is in a liquid or gel state during normal use in an open reservoir;
- Are refueled over the open reservoir, in the location directly above where the flames burn; and
- Are portable and can be easily moved from one location to another.

Rationale: The scope of UL 1370 applies to fixed or otherwise non-portable, unvented liquid or gel alcohol-based, fuel-burning decorative appliances with a minimum weight of 100 lbs. CPSC staff's recommended scope will capture appliances not covered under UL 1370. The hazards commonly associated with appliances referred to as firepots actually apply to the entire class of portable liquid or gel fueled fireplaces. Because of the variation in product marketing, the scope is defined by the hazards these products pose. Requirements are needed to help ensure that consumers can enjoy using these appliances without an unreasonable risk of injury or death.

REQUIREMENTS FOR NON-REFILLABLE FUEL CANISTERS:

Proposal: CPSC recommends that the UL 1370 STP develop a voluntary standard for portable liquid and gel fueled fireplace appliances that will prevent the use of flammable liquid fuels[4] used in the appliance, except in appropriately labeled, non-refillable canisters.

[3] These comments are those of CPSC staff, and have not been reviewed or approved by, and may not necessarily reflect the views of, the Commission.
[4] Liquid fuels having a flash point at or below 100 F (37.8 C)

Rationale: As of February 27, 2014, CPSC is aware of 106 incidents with 122 injuries involving portable liquid and gel fueled fireplaces. Many injuries were serious; at least 61 victims of these incidents were hospitalized, and two victims died. Consumers used a variety of descriptions in the incidents, including "fireballs," "explosions," and "napalm." These incidents often resulted in severe burns to the user and bystanders. The most prevalent scenario from the 106 incidents, which included the two deaths, occurred while pouring, or immediately after pouring, fuel into the fuel reservoir. These scenarios can be mitigated by discouraging the consumer from pouring flammable liquid fuel into the appliance. The most effective way to discourage this behavior is to allow only fueling methods that exclude pouring. An effective method of encouraging this behavior is by using non-refillable canisters. For example, a manufacturer could choose a design that holds a non-refillable canister with open areas at the bottom of the holder that would prevent flammable liquid fuels from collecting.

Additionally, the STP could consider allowing the pouring of combustible liquid fuels,[5] if the portable liquid or gel fueled fireplace were labeled accordingly. However, other consequences of alternative fuels, such as carbon monoxide production, would need to be considered. Combustible liquid fuels have a low enough vapor pressure that they are not an explosion or "fireball" hazard and could be poured into the appliance safely.

REQUIREMENTS FOR LABELING:

Proposal: CPSC staff recommends that the UL 1370 STP require permanent, visible, and attention-getting warning labels on the appliance and non-refillable canisters to last the useful life of the product.

The appliance and non-refillable canister labels should include warnings about the hazard, instructions on how to avoid the hazard, and the consequences of not following the instructions.

- Hazard: FIRE and EXPLOSION hazards
- Consequence: Severe BURNS or DEATH can occur
- Instruction: NEVER add fuel to a hot appliance

Furthermore, non-refillable canister labels should also include:

- DISCARD after use.
- Keep out of reach of children.

Rationale: Discouraging the pouring of flammable liquid fuels requires appropriate labeling. Non-refillable canisters will not completely address all foreseeable refueling scenarios. Consumers could pour flammable liquid fuel into an empty canister. CPSC staff reviewed warnings and instructions that accompany various fuel canisters, including firepot gel fuels, "canned heat" fuels, and other cooking fuels. The refueling hazard was not highlighted in the canisters reviewed.

[5] Liquid fuels having a flash point above 100 F /37.8 C

The labeling of fuels for these products should comply with the Federal Hazardous Substances Act (FHSA).[6] The FHSA requires that hazardous substances bear certain cautionary statements on their labels. These statements must contain signal words, affirmative statements of the principal hazard(s) associated with a hazardous substance, the name of the hazardous substance, and the name and place of business of the manufacturer, packer, distributor, or seller. In addition, the FHSA requires that labels include statements of precautionary measures to follow, instructions for handling and storage, and the statement: "Keep out of reach of children," or its practical equivalent. When appropriate, first-aid instructions should be included. The location of such statements must be prominent and conspicuous.

CPSC staff believes that the uniqueness of this particular hazard and the related high-severity injuries warrant a separate, dedicated warning label to be permanently and conspicuously placed on both the appliance and the fuel to warn consumers of the refueling hazard.

REQUIREMENTS FOR STABILITY:

Proposal: CPSC staff recommends that the UL 1370 STP require that the portable liquid or gel fueled fireplace, with the appropriate unused non-refillable canister, not fall over when tested at a minimum of 20.0° from level.

Rationale: There are many reasons why a portable liquid or gel fueled fireplace could tip over, but an unstable and/or top-heavy appliance increases the likelihood of the tip-over leading to potential fire and burn hazards.

ADDITIONAL POSSIBLE REQUIREMENTS TO CONSIDER

***Proposal*:** CPSC staff recommends that the UL 1370 STP consider other possible requirements for portable liquid or gel fueled fireplaces including:

- Required instruction and additional warnings on the product label(s),
- Fuel properties such as viscosity,
- Appliance construction and materials used,
- Repeated normal use testing, and
- Testing resistance against weathering, corrosion, thermal cycling, and extreme temperatures.

Rationale: CPSC is aware of other stakeholders' suggested possible requirements. The suggested requirements could be applicable to all portable liquid or gel fueled fireplaces. The stakeholders included:

- The general public within the public comment period for the firepot advance notice of proposed rulemaking (ANPR)[7];

[6] 15 U.S. Code 1261(p)(1).
[7] U.S. Consumer Product Safety Commission, "Public Submissions Fire Pots and Gel Fuel; Advance Notice of Proposed Rulemaking; Requests for Comments and Information CPSC-2011-0095," February 27, 2012. http://www.cpsc.gov/en/Media/Documents/FOIA/Public-Comments/2012/Fire-Pots-and-Gel-Fuel---ANPR---CPSC-2011-0095-0965/

- Firepot manufacturers during a public meeting on firepots after publication of the firepot ANPR[8];
- The U.S. National Institute of Standards and Technology (NIST),[9] in a report sponsored by CPSC[10]; and
- Worcester Polytechnic Institute (WPI), in a student report.[11]

These recommendations, along with any other requirements that UL 1370 STP might develop, would form the basis of a voluntary standard for portable liquid or gel fueled fireplaces that would address the serious hazard posed by portable liquid or gel fueled fireplaces.

[8] U.S. Consumer Product Safety Commission Log of Meeting, "Firepot and Gel Fuel ANPR," February 21, 2012. https://www.cpsc.gov/PageFiles/79829/firepot02212012.pdf.
[9] Marsh, Nathan D., "Evaluation of Firepots and Gel Fuels," NIST Technical Note 1791, National Institute of Standards and Technology, March 2013. http://dx.doi.org/10.6028/NIST.TN.1791.
[10] NIST Agreement No. CPSC-I-12-0015, September 26, 2012.
[11] Ismirlian, Ryan, et. al., "Firepot Reliability and Engineering Design (F.R.E.D.)," Worcester Polytechnic Institute, April 25, 2013. http://www.wpi.edu/Pubs/E-project/Available/E-project-042413-144250/unrestricted/Firepot_Reliability_and_Engineering_Design.pdf.