U.S. CONSUMER PRODUCT SAFETY COMMISSION
5 RESEARCH PLACE
ROCKVILLE, MD 20850

Arthur Lee
Electrical Engineer
Division of Electrical Engineering and Fire Sciences
Office of Hazard Identification and Reduction

Tel: 301-987-2008
Email: alee@cpsc.gov

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Mr. Joe Musso
Chair for STP 153
Underwriters Laboratories Inc.
333 Pfingsten Road
Northbrook, IL 60062

Dear Mr. Musso:

I am writing to submit a proposal for Portable Electric Luminaires - UL 153. U.S. Consumer Product Safety Commission (CPSC) staff conducted an analysis of salt lamps after reviewing 226 reports of incidents.[1] Staff is defining salt lamps as portable luminaires that contain salt as a component (base, decorative part, or lamp containment barrier) of the appliance. Staff believes adding specific requirements for these products to the standard could limit the potential severity of incidents.

Staff examined incident reports related to salt lamps, incident samples, and newly purchased samples. Although the samples included certified electrical component parts, none of the examined products was certified as an overall product. CPSC staff received incident reports with salt lamp products that included descriptions that the product exploded, blew up, melted, burned or discolored, caught fire or left a burn mark on table, shock, sparked, tripped receptacle or breaker, or produced smoke. The components identified in the salt lamp incidents included the power supply cord, on/off switch, dimmer switch, bulb, lampholder, wiring, circuit board, and plug.

CPSC staff recommends that salt lamps and other similar decorative luminaires meet all of the applicable requirements of UL 153. Additionally, because the salt lamps include salt, either as part of the lamp enclosure or in close proximity to the lamp, and salt is hygroscopic, staff believes that including specific requirements for these products in UL 153 to address overheating hazards related to electrical shorting may improve the safety of these products. Thus, CPSC staff recommends that a new section be added to UL 153 as follows:

[1] The views expressed in this letter are those of CPSC staff, and they have not been reviewed or approved by, and may not necessarily reflect, the views of, the Commission.

Suggested New Text and Rationale:

31A Supply Cord Overcurrent Protection

31A.1 An appliance that contains salt (including, but not limited to, sodium chloride (NaCl), potassium chloride (KCL), potassium dichromate ($K_2Cr_2O_7$), calcium chloride ($CaCl_2$), sodium bisulfate ($NaHSO_4$), and copper sulfate ($CuSO_4$)), as a component (base, decorative part, or lamp containment barrier) of the appliance shall be provided with a power supply cord with integral overcurrent protection.

Exception: A salt lamp supplied by a direct plug-in Class 2 power unit that complies with the applicable requirements in the Standard for Class 2 Power Units, UL 1310, is not required to be provided with integral overcurrent protection as part of the attachment plug or power supply cord.

31A.2 A fuse provided for overcurrent protection shall comply with the Standard for Low-Voltage Fuses – Part 1: General Requirements, UL 248-1, the Standard for Low-Voltage Fuses – Part 14: Supplemental Fuses, UL 248-14, and Section 24.

31A.3 A supplementary protector provided for overcurrent protection shall comply with the Standard for Supplementary Protectors for Use in Electrical Equipment, UL 1077. The supplementary overcurrent protection device shall comply with the Overload Test in UL 1077, tested at 1.5 or 6 times the AC full-load current rating.

31A.5 The rating of the overcurrent protection shall be a maximum of 5A.

31A.6 The overcurrent protection shall be connected to the ungrounded conductor of the power supply.

Rationale: CPSC staff reviewed 226 reports involving salt lamp incidents occurring from January 1, 2014 through March 31, 2019. The three main components that were involved in incidents were the power cord, switch/dimmer, and bulb/lampholder, which typically resulted in overheating, smoke, and/or the (bulb) lamp exploding. Adding additional construction requirements to include overcurrent protection has the potential of mitigating electrical shorting in the product's components downstream from the plug.

We appreciate the opportunity to make recommendations to UL 153. CPSC staff believes that these additional requirements will increase the safety of these types of products for consumers. We look forward to participating in further discussions about this proposal.

Sincerely,

Arthur Lee
Electrical Engineer
Division of Electrical Engineering and Fire Sciences

Cc: Julio Morales, Project Manager for UL 153; Patty Edwards, CPSC Voluntary Standards Coordinator