UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
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This document has been electronically approved and signed.

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SUBJECT: Supplemental information clarifying and summarizing Product Safety Assessments related to Petition CP 04-1/HP 04-1, Requesting Mandatory Safety Standards for Candles and Candle Accessories

Through this memorandum, U.S. Consumer Product Safety Commission (CPSC, the Commission) staff provides supplemental information summarizing and clarifying the Directorate for Engineering Sciences' Product Safety Assessments (PSAs) related to Petition CP 04-1/HP 04-1, Requesting Mandatory Safety Standards for Candles and Candle Accessories.

Staff believes that the ASTM standards on candle fire safety are effective. Staff reviewed 40 PSAs from FY 2009 through FY 2013 that were tested against the ASTM standards. Staff believes that these PSAs, summarized below, support the conclusion that the standard is adequate.

ESFS Analysis of Incident Cause	Total
1. Did not meet ASTM performance requirement These are incidents caused because the products did not meet ASTM performance requirements.	3
2. Probably paint or coating These are incidents that may not be addressed by the ASTM standards. Paint and other non-wax coatings can sometimes become wicks, causing secondary ignition; this phenomenon may not be addressed by the current standards. The ASTM standards committee is aware of this issue and has been actively developing a performance requirement.	2
3. Most likely QC/process errors These are issues where manufacturing variability may lead to specific candles failing to perform according to the standard, even when tested samples meet the standard. Ten of the 13 incidents involved candles where the consumer reported events consistent with a candle flash over. If tested candles flashed over, they would fail the ASTM performance criteria. These candles however, did not flash over during CPSC testing. One incident may have been the same flash over issues as with the other 10 incidents; staff also postulated that the candle holder, which was not collected or tested, may have been responsible for the incident (as in item 7, below). The other two incidents were reported to cause softening of the plastic container of a filled candle, where no adverse candle behavior was reported. If tested plastic candle containers crack, break, or if the candle flared up during testing, they would fail the ASTM performance criteria. These candles, however, did not exhibit those characteristics during CPSC testing.	13
4. Most likely consumer misuse These are incidents caused because consumers burned candles in a manner not advised by the instructions or ASTM label. Examples include burning a candle unattended and burning a candle too close to combustibles. Included in this category is one incident involving a fatality, where the consumer ignited her clothing and succumbed to the flames while attempting to extinguish the flames.	8
5. No incident These events did not involve actual incidents. CPSC performed testing as a precaution, and all products tested passed ASTM performance testing.	2
6. Shipping Damage These incidents involved glass candle containers that were damaged while shipping and not from use.	2
7. Most likely caused by product other than collected candle sample These are incidents that involved multiple products, such as a candle and a candle holder, where only one product was collected for testing. The collected products that were provided passed ASTM testing; staff believes that the product(s) not collected may have caused the incident.	8
8. Not enough Information to determine likely cause These are incidents where the candle product tested passed the ASTM performance tests; however, the additional information on the incident was insufficient to determine the cause.	4
Total	40

Note 1: Four incidents did not have ASTM conforming labels; however, this was not responsible for the incidents.
Note 2: A mistake was made in the BP, 82.5 percent (33 of 40) products from FY 2009 to FY 2013 did not fail ASTM requirements. BP indicated that 80 percent (32 of 40) did not fail ASTM requirements.
Note 3: One incident in FY 2009 was assigned two possible most likely causes (consumer misuse and QC/process errors).
Note 4: One incident in FY 2010 was assigned two possible most likely causes (QC/process errors and most likely product responsible not included).