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**SUSAN DERAGON** DEFINES THE NEWEST SAFETY UPDATES:

# CHANGING THE STANDARDS FOR ASTM F963

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Children's toys are one of the most heavily regulated consumer products in the world. In the U.S., ASTM F963 provides comprehensive safety requirements that incorporate federal requirements, as well as additional safety requirements for various types of toys. Compliance to ASTM F963 is mandatory in order to distribute toys in the U.S.

On October 20, 2016, an update to the standard ASTM F963-16 was published. This version incorporates significant changes which include new requirements for certain type of toys, modifications to other requirements, and clarifications to help companies properly interpret requirements. In making these changes, the ASTM F15.22 Subcommittee on Toy Safety considered emerging safety issues and new product features as well as international toy safety standards. UL is an active participant on the ASTM F15.22 Subcommittee.



Following is a summary of some of the more significant changes included in ASTM F963-16, the Standard Consumer Safety Specification for Toy Safety.

There are significant changes for **BATTERY-OPERATED TOYS**, particularly for those using lithium batteries, button or coin cell batteries, and rechargeable batteries. Lithium and rechargeable batteries are being used more frequently in toys, as well as in other consumer products, and there have been numerous incidents of these batteries overheating and causing fire. Button or coin cell batteries have been involved in an increasing number of choking and/or chemical burn incidents. The additional requirements include new tests to address overcharging, overheating, and short circuit protection for the lithium and rechargeable batteries, and accessibility and new warning label requirements for button/coin cell batteries. In addition, design guidelines are provided for battery operated toys.

There is an exemption for the waist restraints used in Ride-On Toys with regards to length and loop restrictions for **CORDS, STRAPS, AND ELASTICS**.

There is a new requirement for **EXPANDING MATERIALS**. The definition of an expanding material is any material used in a toy which expands to greater than 50% in any dimension from its original state after specified submersion and measurement intervals. An expanding material must pass through a specified gauge. While the European (EN71) and International (ISO) toy safety standards include requirements for expanding materials, it is important to note that the ASTM requirements differ and are based on incidents and medical data.



There are clarifications for **HEAVY ELEMENTS**, including component testing, total lead requirements, exemptions to substrate testing, and details on testing for stickers and printed textiles.

The **MAGNETS** section includes clarification on the need to perform mechanical testing on magnets used in toys over 8 years of age (as well as below). A new soaking test, as well as drop and compression tests, have been added to the sequential testing requirements to assess accessibility of hazardous magnets. The ASTM requirement is more stringent than EN71 and ISO standards.

The sections related to **MICROBIOLOGICAL SAFETY** have been significantly modified. These requirements apply to cosmetics, liquids, pastes, putties, gels, powders – and now Avian feathers. Test requirements (including pass/fail criteria) have been specified, and alternate test methods are included. The scope of products requiring preservative effectiveness testing has expanded; however, there is an initial evaluation of the formulations to determine if they present a risk factor for microbial growth prior to performing testing.

The requirements for **PROJECTILES** have undergone a major re-write, bringing the ASTM requirements into better alignment with EN71 and ISO standards. It is important to note, however, that they are not identical and that compliance with one does not mean compliance with another. There are requirements for leading edges including a new tip assessment gauge to help reduce risk of injury, particularly to the eye area. Requirements for arrows have been added, as well as for mouth-actuated

projectile toys and rotors on projectiles. New test methods include kinetic energy determination, tension test for suction cups, and impact test for projectiles. In addition, improvised projectiles have been defined which will help drive consistency in testing when evaluating the discharge mechanism for the ability to launch potentially hazardous improvised projectiles.

Clarifications and new test methods have been added for **RIDE-ON TOYS**, including the overload test and tests for toys with multiple wheels which aligns with an exemption in EN71.





## CHANGING THE STANDARDS FOR ASTM F963



There are numerous changes made to the **SOUND-PRODUCING TOYS** section. ASTM F963 no longer differentiates between continuous and impulsive noise, and cycles used in testing have been defined and clarified. The measurement distance and microphone height were modified to align with EN71.

Clarification on the **SQUEEZE TOYS** dimensional requirement has been added, and **STUFFING MATERIALS** cleanliness can now be performed via a visual inspection using a stereo widefield microscope. Stuffed toys sold in the U.S. must still comply with certain U.S. state requirements and registration but reference to these requirements have been deleted from the ASTM standard.

Lastly, **TOY CHESTS** have been added back in to the ASTM F963 standard, along with one additional lid support test method.

To summarize, there are significant changes in ASTM F963-16, all of which are intended to minimize hazards associated with the normal, intended use and reasonably foreseeable abuse of toys. With over 30 years of experience in the toy industry and global accredited laboratory locations, UL can provide support on specific toys with regards to ASTM F963-16 compliance, as well as to international toy safety standards.

To learn more, please visit [www.ul.com/crs](http://www.ul.com/crs)

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