



ISO/TC 181

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FOR INFORMATION

Convenor report of ISO/TC 181 AG1 Interpretations for 2025 TC181 meeting in Shenzhen, China

Background

Two requests for interpretation for different chemical toys outside of the current scope of ISO 8124 standards were presented to TC 181 at the meeting in Sao Paulo Brazil in 2024. The Convenor of WG 9 was asked to investigate whether these types of toys would fit into ISO 8124-11. Subsequently, the Convenor of AG1 was asked to draft recommendations for interpretation.

The two interpretation requests were for a) two types of chemical toys, one of which is a “bag bomb” that explodes, and another one in which a ball or other shape is placed in water to dissolve and reveal a toy inside; and b) wax seal toys, with requests for interpretation designated 021-24 and 022-25, respectively.

After some research and communication with the WG9 Convenor, it was determined that the bag bomb toys were inherently dangerous and had been involved in several injury incidents, thus the decision was made to not circulate the interpretation request and not add a clause to ISO 8124-11 to cover this toy category, but to consider adding the dissolving balls.

The wax seal toy request (022-25) was circulated, with the majority of responses favoring adding a clause to ISO 8124-11 to cover this category, a decision with which the Convenors of WG9 and AG1 concur.

The two interpretation requests are provided also.

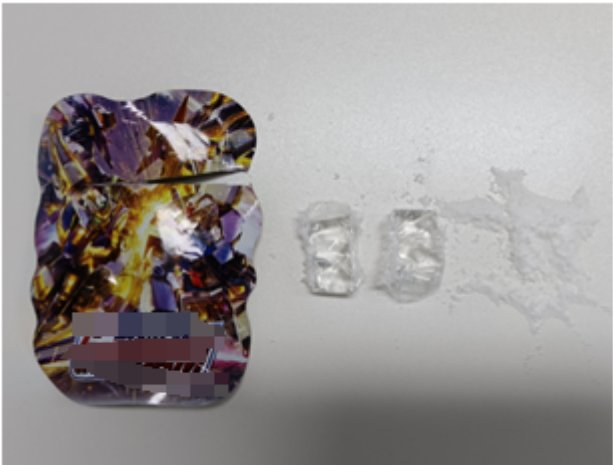
ISO	REQUEST FOR INTERPRETATION	REQ 021-24
Standard: ISO 8124-10 Edition: 2023	Clause(s): 1 scope	Date of request: May 23, 2024 Source: China
Keyword(s): Chemical toys		
QUESTION: The following products contain some chemicals, e.g. carbonates and citric acid, but it seems they are not intended to be used for experimental purpose. Should these products fall into the scope of ISO 8124-10:2023? If no, how to evaluate the chemical risk which might be exposed from the chemicals in these toys? Case 1: There are some powders (e.g. carbonates) and two little bags of liquid (e.g. acids) in the plastic bags. Press/step the bag, then the bag will explode within about 10[^] 100 seconds.  Figure 1: The packaging of explosive toys  Figure 2: The contents of in the packaging Case 2: The ball is made of mixtures of carbonate and citric acid, encloses a surprise toy. Put the ball into the water, the ball will dissolve and produce bubbles in the water, and the surprise toy will appear. See figure 3 and figure 4.  Figure 3: Ball made of chemicals  Figure 4: The surprise toy in the ball Case 3: This is a magic toy set, add some water into the bottle and then put the white or yellow powders (mixtures of carbonate and citric acid) into the bottle, it will generate bubbles (carbon dioxide) at the same time. Repeat the same step several times, a toy will come out from the bottom of the bottle. See Figure 5.		



Figure5 A magic toys with chemicals

Convenor: Alan Kaufman, USA

PROPOSED TRACK: Interpretation X Proposal for amendment X No action ☐

Comments/proposal for an answer:

Interpretation: The items do not fall within the scope of ISO 8124-10, as they are clearly not experimental sets. They may more properly be considered as similar to the types of products falling within the scope of ISO 8124-11, as they employ chemicals for their primary functionality; however, this type of product is not one of those listed as within the scope of ISO 8124-11, thus it does not currently apply either.

Proposal for Revision: The WG for ISO 8124-11 should consider whether this type of toy should be included in the list of products to which ISO 8124-11 applies.

TG members

Comments:

ISO	REQUEST FOR INTERPRETATION	REQ 022-25
Standard: ISO 8124-11 Edition: 2019	Clause(s): 1 scope	Date of request: September 15, 2024
		Source: China
Keyword(s): ISO 8124-11; Wax Seal Toys		
Convenor: Alan Kaufman, USA Background: As early as the 16th century, wax seal stamps were the traditional way to achieve letter confidentiality. Recently, the wax sealing stamp has been reengineered as wax seal toy, becoming very popular among children and handicraft enthusiasts in China. The sealing wax stamp toy sets nowadays generally consists of the following components: colorful sealing wax blocks, stamp with various patterns, candles and candles burner for heating, scoops with heat insulated handles for holding wax liquid and other small tools such as tweezers. See figure 1.		



Figure 1: An example for sealing wax toys

The play mode of the sealing wax stamp toys contains the following steps:

- use a candle flame to melt the wax particles in a spoon and pour the liquid onto a pad or other paper;
- stamp on the molten wax, to make wax stamps with various colors, shape and/or patterns.



Figure 2: Sealing wax with various designs (Image source from network)

2. Risk presentation in sealing wax toys

Sealing wax toys allow children to get joy, exercise their hands-on abilities, and cultivate aesthetic taste. However, sealing wax toys may contain certain safety hazards and risks.

Firstly, there is the risk of exposure to open flames. The candles included in the set can generate open flames, but some product structures may not have barriers that can prevent children contacting flames, or the candle holder may not effectively protect children's hands from open flames, which may pose the risk of burns.

Secondly, the handle of the metal spoon and the metal sheet of the candle holder may cause high temperature rise, which may scald user's fingers.

Thirdly, hot wax may contact skin and stick to it, causing thermal burns

Fourth, some products contain heating appliances such as electric melting furnaces. There is a risk of burn caused by high temperature rise in the heating area of heat source, household appliances to be used together with toys should not be restricted.



Figure 3 Electric furnace for heating

Additionally, there is fire risk when using open flames. When children use candles that can generate open flames, especially without adult supervision, if there are dry and flammable materials around the flames, it can easily pose a risk of fire and endanger the safety of people and property.

3. Standards related to sealing waxes toys in the series of ISO 8124

The sealing waxes toys may be covered by the series of ISO 8124 and the mainly relevant requirements can be found in the Clause 4.24 of ISO 8124-1:2022, "Toys containing a heating source."

According to the requirements of clause 4.24 in ISO 8124-1:2022 toys with heating source the temperature rise of accessible components in normal use can't exceed 45K for other accessible parts made of metal or 55K made of other materials. Most of sealing waxes toys on the

market can't comply with the requirements of clause 4.24 in ISO 8124-1 because of the temperature rise of scoop and flame of candles will over 45K or 55K. It would block this kind of toy placed on the market.

4. Suggestion to modify the standards

Clause 4.24 in ISO 8124-1 declares that the requirements do not cover the burners in chemistry sets or related experiment kits, or light bulbs and similar items. It seems that the sealing waxes toys are very similar to the chemical toys covered by ISO 8124-11:2019 for chemical toys (sets) other than experimental sets. However, the sealing waxes toys are not included in the range of ISO 8124-11. We would like to suggest including the sealing waxes toys in the scope of ISO 8124-11 and provide special requirements on this toy, for example: the age range for children to play with the toy, the necessary warnings and cautions during the playing etc., to address and reduce the risk of the sealing waxes toys.

QUESTIONS:

- 1) Are these items toys as that term is meant in the ISO 8124 series of standards?
- 2) If the response to Question 1 is affirmative, do these items properly belong in ISO 8124-11, *Chemical Toys (sets) other than Experimental Sets*?
- 3) Should a revision of ISO 8124-11 be proposed to the responsible WG?

PROPOSED TRACK: Interpretation ☒ Proposal for amendment ☒ No action ☐

Comments/proposal for an answer:

Interpretation: The items are toys as that term applies in the ISO 8124 series of standards. These toys do not appear to be within the scope of ISO 8124-10, as they are clearly not experimental sets, but do appear to be similar to items within the scope of ISO 8124-11, as they employ chemicals for their primary functionality; however, this type of product is not one of those listed as within the scope of ISO 8124-11, thus it does not currently apply either.

Proposal for Revision: The WG for ISO 8124-11 should consider whether this type of toy should be included in the list of products to which ISO 8124-11 applies.

TG members:

Comments:

