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## ASSESSMENT OF THE SAFETY INDICATORS OF SOFT TOYS

## ОЦЕНКА ПОКАЗАТЕЛЕЙ БЕЗОПАСНОСТИ МЯГКОНАБИВНЫХ ИГРУШЕК

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### ABSTRACT

SOFT TOYS, MARKING, CONSUMER PROPERTIES, SAFETY

*The article presents the results of organoleptic evaluation of toys appearance and studies of safety indicators (strength of joints and formaldehyde content) of soft toys made of textiles and artificial fur with fillers made of synthetic materials produced in Russia and China. The analysis of conformity of toys production to requirements of technical regulations of the Customs Union TR CU 008/2011 is given. Toys sold in the wholesale and retail market, have violations of the requirements of TR CU 008/2011 to the content of labeling and safety indicator in terms of formaldehyde content.*

### АННОТАЦИЯ

ИГРУШКИ МЯГКОНАБИВНЫЕ, МАРКИРОВКА, ПОТРЕБИТЕЛЬСКИЕ СВОЙСТВА, БЕЗОПАСНОСТЬ

*В статье представлены результаты органолептической оценки внешнего вида игрушек и исследования показателей безопасности (прочности соединительных швов и содержания формальдегида) мягконабивных игрушек из текстиля и искусственного меха с наполнителями из синтетических материалов, произведённых в России и Китае. Проанализирована маркировка игрушек, на соответствие требованиям Технического регламента Таможенного союза ТР ТС 008/2011. У игрушек, реализуемых на оптово-розничном рынке, выявлены нарушения требований ТР ТС 008/2011 к содержанию маркировки и показателю безопасности – содержанию формальдегида.*

Toys are present in the life of a child almost from birth. They play an important role in the development of the child. Intellectual and personal development largely depends on what kind of games and toys surround the child. Toys help children learn the world around

them, teach them to purposeful, meaningful activities, develop imagination, intuition, form moral values, love to work, interest in technology, curiosity, observation, cultivate artistic taste, induce to creativity [1].

The toys sold in the consumer market have to meet certain requirements: compliance to problems of education and to children's age for which they are intended; to anthropometrical, physiological and psychophysiological features of children of certain age; non-failure operation, etc. Important consumer properties of toys are aesthetics, functionality, ergonomics: they should be beautiful, durable and safe.

Current trend is the demand for high requirements to quality and safety of toys and control of compliance of toys characteristics to children's age. The poor quality of toys in terms of hygiene (for example, a strong smell, dust content, sharp noise, vibration, etc.) can negatively affect the child's organism. A lot of things depend on materials of which toys are made and if their form and design exclude a possibility of accumulation of dirt and development of pathogenic microbes, and how easy it is to clean the toys.

As objects of a research the soft toys purchased in a specialized shop and in the wholesale and retail market were examined: heroes of animated films of the Disney company – «Tigger» from a series «Winnie-the-Pooh and his friends», Mickey Mouse. The toys purchased in a shop have certificates while those purchased at the market do not have certificates.

Each toy is marked with the label «Not for children under 3 years old» according to GOST 30782-2001 [2]. Labeling of toys sold by the specialized shop corresponds to regulatory documentation. Toys purchased at the market violated the requirements for labeling: the toy «Tigger» 2 is not labeled, the toy «Mickey Mouse» 2 is marked with the label which shows only children's age.

At organoleptic assessment of the toys purchased at the wholesale and retail market the asymmetry of pair details and existence of the free not cutoff ends of sewing threads are found. All toys do not contain solid or sharp inclusions in the filler. Small plastic parts (eyes) are firmly fixed, the paint coating of the toy «Mickey Mouse» 2 is resistant to friction.

Durability of seams of the examined soft toys conform to requirements of GOST 25779-90 for durability. The content of formaldehyde of the materials of the toys sold by the specialized shop conforms to requirements of TR TS 008/2011, the toys purchased at the wholesale and retail market demonstrate exceeding admissible level.

Thus, it is confirmed that the product (in this case, the soft toy), which is sold in specialized shops, as a rule, have certificates confirming quality compliance to requirements of standard documentation. As the results of the study show, this applies to both Russian and Chinese toys. Toys sold in the wholesale and retail market often do not meet the safety requirements and their labeling is either missing or incomplete. Hence, it is recommended to buy certified toys for children in specialized shops.

Table 1 – Results of evaluation of labeling and safety indicators of toys

Name of the indicator	The name of the toy			
	«Tigger» 1*	«Tigger» 2*	«Mickey Mouse» 1*	«Mickey Mouse» 2*
Country of manufacture	China	China	Russia	China
Material	artificial fur, synthetic filling		textile (100% polyester), synthetic filler	
Labeling compliance with requirements [2]	corresponds	not present	corresponds	not respond (incomplete)
Strength of seams, N	normative	over 70±2 [3]		
	actual	corresponds		
The content of free formaldehyde, mcg/g	normative	less 50 [4]		
	actual	24	133	40

\* Note: 1 – the toy is purchased in a specialized shop, 2 – the toy is purchased at the wholesale and retail market.

## REFERENCE

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