



## NEW SPECIFICATION FOR PAH REQUIREMENTS



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PAHs in products

From 1 July 2020, new requirements for PAH (AfPS GS 2019:01 PAK) will apply, replacing the previous specification from 2014. The Product Safety Committee (AfPS) published new specifications in May 2019.

Many manufacturers throughout the EU apply extended requirements as a standard for their products.

The new specifications include, but are not limited to, some important changes and explanations:

- Reduction of PAHs from 18 to 15 compounds by removing acenaphthylene, acenaphthene and fluorene;
- Extending the scope of Category 1: “Materials to be placed in the mouth or materials in toys with intentional long-term skin contact (> 30 seconds)” by including “articles for children under three years of age;”

- Extending the scope of categories 2a and 3a from “Toys falling within the scope of Directive 2009/48/EC” to “products used by children under 14 years of age”;
- Inclusion of the sum of PAHs only for substances that have been quantitatively detected above 0.2 mg / kg.

The purpose of introducing the new guide is to update the risk associated with the danger of contact with products that may contain PAHs. It should be mentioned here, that PAHs occur not only in rubber, but also, e.g. in various types of plastics, synthetic fibers, paints and natural materials treated with naphthalene. They can be a product of thermal degradation of organic materials, a component of carbon black and petroleum products, dyes, etc.

Polycyclic aromatic hydrocarbons have strong carcinogenic and sensitizing properties.

One of the control points for products in the EU is the verification of the content of PAHs in accordance with the requirements of Regulation (EC) No. 1907/2006 (REACH). This regulation in Annex XVII sets out limits for the total content of 8 PAHs, i.e. chrysene, benzo(a)anthracene,benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(j)fluoranthene.

Very often in the RAPEX system we can find reports on products containing just such substances.

The above requirements apply to:

- Sports equipment such as bicycles, golf clubs, rackets;
- Kitchen utensils, prams, walking frames;
- Tools for home use;
- Clothing, footwear, gloves and sportswear;
- Watch straps, wristbands, masks, headbands.

The REACH regulation also covers toys, playthings and childcare articles for which the limits are more stringent at 0.5 mg / kg.

Due to the difficulty in clearly and transparently defining skin risk guidelines, or a rational approach to the definition of contact, an ECHA guide was issued 07.03.2018: Guideline on the scope of restriction entry 50 of Annex XVII to REACH: Polycyclic aromatic hydrocarbons in articles supplied to the general public.

This document aims to help producers, importers and distributors of everyday articles in the interpretation of the provisions of the law on PAHs, showing how products should be considered in terms of the above requirements.



Exemplary consideration of products in terms of PAH content and materials selected for testing in accordance with the ECHA guide of 07.03.2018:

Product	Element
Bicycles, sports scooters	Handles, seat, steering wheel
Golf clubs, tennis racquet	Handle
Boxing gloves, golf bag	External material and internal available
Mugs, kitchen equipment	Holding materials, material in contact with food
PC mouse and keyboard	All external materials
Furniture such as chairs or tables (not bookshelves)	Seats, handles, backrest, table top, legs
Tools such as hammers, screwdrivers, knives, pliers, wrenches	Handle / handle area

It is extremely important to correctly select and evaluate the materials to be assessed for PAH content. The role of the laboratory is, among other things, to identify relevant materials or product components for testing, based on knowledge and experience.

It should be remembered, that in certification processes, the content of PAHs in accordance with the guidelines of AfPS GS 2019:01 PAK is the basic criterion for the evaluation of chemical tests.

AfPS GS 2019: 01 PAK of May 15, 2019						
Lp.	Parameter	Limit [mg/kg]				
		Category 1 Materials intended to be placed in the mouth, or materials in toys (Directive 2009/48/EC) or articles for children up to 3 years of age with intended long-term skin contact (> 30 seconds)	Category 2 Materials that are not in Category 1, with intended or foreseeable long-term skin contact (> 30 seconds) or short-term repetitive contact with the skin		Category 3 Materials not covered by Category 1 or 2, with intended or foreseeable short-term skin contact (≤ 30 seconds)	
			2a Use by children under 14	2b Other consumer products	3a Use by children under 14	2a Other consumer products
1.	Naphtalene	< 1	< 2	< 2	< 10	< 10
2.	Chrysene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
3.	Benzo(a)anthracen	< 0,2	< 0,2	< 0,5	< 0,5	< 1
4.	Benzo(b)fluoranthene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
5.	Benzo(k)fluoranthene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
6.	Benzo(j)fluoranthene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
7.	Benzo(a)pyrene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
8.	Benzo(e)pyrene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
9.	Dibenzo(a,h)anthracene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
10.	Indeno(1,2,3-cd)pyrene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
11.	Benzo(g,h,i)perylene	< 0,2	< 0,2	< 0,5	< 0,5	< 1
12.	Sum: Phenanthrene, anthracene, fluoranthene, pyrene	< 1	< 5	< 10	< 20	< 50
13.	Sum 15 PAHs	< 1	< 5	< 10	< 20	< 50



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