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## **POSITION PAPER**

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**Phthalates in playground equipment – with special regard to the revision of EN 1176-10:2008 "Playground equipment and surfacing - Part 10: Additional specific safety requirements and test methods for fully enclosed play equipment"**

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## Summary

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This position paper discusses the current regulatory situation regarding phthalates in Europe including envisaged future developments. It also identifies relevant reference documents concerning phthalates and other problematic substances which may be useful in establishing normative requirements for chemicals in playground equipment in general and, in particular, in fully enclosed play equipment.

The paper arrives at the conclusion that a more comprehensive approach is needed to address chemicals in playground equipment rather than focusing on just one group of substances (phthalates) in one particular group of playground equipment.

The following points should be discussed:

- CEN TC 136 SC 1 "Playground equipment for children" needs a general strategy for addressing chemicals in the standards series EN 1176.
- This approach should be based on the CEN Guide 16 "Guide for addressing chemicals in standards for consumer-relevant products" and the relevant sources mentioned therein.
- The most problematic chemicals including Substances of Very High Concern (SVHCs) or substances classified as carcinogenic, mutagenic or toxic to reproduction (CMRs) should be excluded in a general fashion complemented by more specific rules for relevant other substances.
- An envisaged future REACH restriction addressing phthalates - covering DEHP, DBP, BBP, DIBP - will apply among other to playground equipment but will cover just a few of the phthalates which are potentially relevant. A more comprehensive list of phthalates could be subject of a normative exclusion following the example of the Oeko-Tex® Standards.

## 1. Current REACH restrictions in Annex XVII on phthalates

Toys and childcare articles containing the following phthalates (entry 51) in a concentration greater than 0,1 % by weight of the plasticised material shall not be placed on the market:

- Bis (2-ethylhexyl) phthalate, DEHP (CAS No 117-81-7);
- Dibutyl phthalate, DBP (CAS No 84-74-2);
- Benzyl butyl phthalate, BBP (CAS No 85-68-7).

Toys and childcare articles which can be placed in the mouth by children containing the following phthalates (entry 52) in a concentration greater than 0,1 % by weight of the plasticised material shall not be placed on the market:

- Di-“isononyl” phthalate, DINP (CAS No 28553-12-0 and 68515-48-0);
- Di-“isodecyl” phthalate, DIDP (CAS No 26761-40-0 and 68515-49-1);
- Di-n-octyl phthalate, DNOP (CAS No 117-84-0).

A “Guideline on the interpretation of the concept “which can be placed in the mouth” as laid down in the entry 52 of Annex XVII to REACH Regulation 1907/2006” is available.

From the above follows that the provisions do not apply to playground equipment (but may be nevertheless relevant for this product group).

## 2. REACH restrictions on phthalates in preparation

In 2016 Denmark and ECHA have submitted a joint proposal for a restriction covering the first three phthalates listed above – DEHP, DBP and BBP – as well as:

- Diisobutyl phthalate, DIBP (CAS number: 84-69-5)

The restriction covers a broad range of articles for indoor use and outdoor use (in case of the latter if in prolonged contact with human skin or mucous membranes).

The Committee for Risk Assessment (RAC) and Committee for Socio-economic Analysis (SEAC) adopted their opinions in March and June 2017 saying essentially that the four phthalates should be restricted (at 0,1%) *“in any articles whose phthalate containing material may be mouthed or is in prolonged contact with human skin or any contact with human mucous membranes” or “any phthalate containing articles that are used (including stored) in an interior space where people are present under normal and reasonably foreseeable conditions and exposed via inhalation”.*

*“Prolonged contact with human skin” means “a daily overall contact with skin of more than 10 minutes continuously or 30 minutes discontinuously”.*

Some derogations apply which are not relevant in the present context. It can be anticipated that the finally adopted restrictions in Annex XVII of REACH will be close to the opinions presented above. Therefore, the future restrictions will be relevant for playground equipment where prolonged contact with skin can be expected. In addition to skin contact exposure via inhalation can be assumed for playground

equipment used indoors. The latter holds true in particular for fully enclosed playground equipment.

### 3. REACH authorization list (Annex XIV)

In addition to the 4 phthalates mentioned in the section before (DEHP, DBP, BBP, DIBP) the following substances are included in the authorisation list at present:

- Dipentyl phthalate, DPP (CAS No 131-18-0)
- Diisopentyl phthalate, DIPP (CAS No 605-50-5)
- N-pentyl-isopentylphthalate (CAS No 776297-69-9)
- Bis(2-methoxyethyl) phthalate (CAS No 117-82-8)
- 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (CAS No 71888-89-6)
- 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (CAS No 68515-42-4)
- 1,2-Benzenedicarboxylic acid, dipentyl ester, branched and linear (CAS No 84777-06-0)

These substances are not allowed to be used in Europe after the sunset date given in Annex XIV unless an authorisation is granted to a manufacturer for a particular use. The sunset date for DEHP, DBP, BBP, DIBP was February 2015 (some authorisations have been granted for the use of DEHP in recycled soft PVC), for the 7 listed phthalates it is July 2020.

NOTE Substances included in Annex XIV of REACH (for which no authorisation is granted) may still be found in imported articles.

### 4. REACH candidate list

The candidate list of Substances of Very High Concern (SVHC) for authorisation includes at present the following phthalates:

- 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters (CAS No 68648-93-1)
- 1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters (CAS No 68515-51-5)
- 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (CAS No 68515-50-4)
- Dihexyl phthalate, DHP (CAS No 84-75-3)

These substances may be included in Annex XIV at a later stage.

### 5. Oeko-Tex® Standards

The Oeko-Tex® Standard 100 and the Leather Standard by Oeko-Tex® comprise an extensive list of phthalates including a limit for the sum of the indicated substances for coated articles, plastisol prints, flexible foams, and accessories made from plastics of 0,1 % for all product classes. However, for decoration materials the sum does not include Di-iso-nonylphthalate (DINP). The list covers all substances mentioned above and the following:

- Di-ethylphthalate, DEP (CAS No 84-66-2)
- Di-cyclohexylphthalate, DCHP (CAS No 84-61-7)
- Di-n-propylphthalate, DPrP (CAS No 131-16-8)
- Di-iso-octylphthalate, DIOP (27554-26-3)
- Di-n-nonylphthalate, DNP (CAS No 84-76-4)

The Oeko-Tex® Standards provide the most comprehensive phthalate restriction which is currently available. It may be seen as a reference specification which may also be useful for playground equipment.

## **6. CEN Guide 16 "Guide for addressing chemicals in standards for consumer-relevant products"**

This document and the related background information were published in July 2017 and can be downloaded here:

<https://www.cen.eu/work/areas/env/pages/guidechemicalsproducts.aspx>

It aims to provide "*guidance on addressing chemicals in the development of standards for consumer-relevant articles. The aim is to minimize the impacts of chemicals of concern on human health and the environment by complying with, complementing or going beyond legal obligations for these chemicals*". A "consumer-relevant article" is defined as "*an article which is intended for consumer use, is likely, under reasonably foreseeable conditions, to be used by consumers even if not intended for them or to which consumers may be exposed (e.g. in the context of a service)*". From this follows that playground equipment is covered by the Guide.

Guide 16 includes many recommendations which are useful in addressing chemicals in playground equipment standards. Of particular importance regarding phthalates in the given context are 3 sections: section 5.2 "Substances of Very High Concern (SVHC) included in Annex XIV of REACH", section 5.3 "Carcinogenic, mutagenic and toxic to reproduction (CMR) substances – generic provisions" and 5.12 "Plasticizers".

### **6.1 SVHCs**

CEN Guide 16 recommends that substances included in Annex XIV of REACH generally should not exceed 0,1 % in the article in question or its components by the sunset date given for that substance (with a possible exception for the holder of an authorization to use the substance). The recommendation is intended to address a regulatory loophole (imported articles).

Many of the phthalates listed above are classified according to the CLP Regulation as SVHCs (Repr. 1B). Hence, a generic exclusion of SVHCs as recommended would disallow some of the most relevant phthalates. Such requirement would, of course, also address many other problematic chemicals.

### **6.2 CMRs**

CEN Guide 16 recommends that substances which are classified as carcinogenic, mutagenic or toxic for reproduction (CMR) of category 1A, 1B or 2 under the CLP Regulation are not used in any part of consumer-relevant articles which, due to their

accessibility, function, volume or mass, can reasonably lead to an exposure due to sucking, licking, swallowing, prolonged contact with skin or inhalation exceeding the following limits: for carcinogenic and mutagenic substances 0,1 % (cat. 1A), 0,1 % (cat. 1B) and 1 % (cat. 2); for substances toxic to reproduction 0,3 % (cat. 1A), 0,3 % (cat. 1B) and 3 % (cat. 2).

It is further recommended that these generic concentration limits are superseded by the specific limits included in Annex VI, Table 3.1 of Part 3 of the CLP Regulation, where such limits are available.

These provisions follow the CMR requirements contained in the Toys Safety Directive (TSD) and have a broader scope than the SVHC provisions recommended above. A generic exclusion of CMRs would also address phthalates not yet included in Annex XIV of REACH (e.g. those that are on the Candidate list) and would cover many other problematic substances.

### **6.3 Plasticizers**

In this section CEN Guide 16 refers to its recommendation on SVHCs mentioned above and suggests identifying plasticizers not covered by this recommendation from other sources such as Oeko-Tex® Standards or EN 71-9 (which includes limits for Triphenyl phosphate and Tri-cresyl phosphates).

## **7. ANEC recommendations**

ANEC considers that CEN/TC 136/SC 1 "Playground equipment for children" needs a general strategy for addressing chemicals in the standards series EN 1176. This is not an issue which is limited to phthalates or to EN 1176-10 (though the latter standard may be of particular relevance due to the product group covered).

ANEC considers that an approach to address chemicals in standards for playground equipment should be based on the CEN Guide 16 and the relevant sources mentioned therein.

The most problematic chemicals including SVHCs or CMRs should be excluded in a general fashion as outlined above complemented by more specific rules for relevant identified other substances.

Current regulatory phthalate restrictions (entry 51 of Annex XVII) do not apply to playground equipment. An envisaged future REACH restriction - covering DEHP, DBP, BBP, DIBP - will apply among other to playground equipment but will cover just a few of the phthalates which are potentially relevant. A more comprehensive list of phthalates could be subject of a normative exclusion following the example of the Oeko-Tex® Standards.

NOTE If the more general SVHC and CMR exclusions are introduced most phthalates would be covered by these requirements and would not have to specifically excluded. Phthalates covered by the envisaged future REACH restriction do not need to be addressed.

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## About ANEC

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ANEC is the European consumer voice in standardisation, defending consumer interests in the processes of technical standardisation and conformity assessment, as well as related legislation and public policies.

ANEC was established in 1995 as an international non-profit association under Belgian law and is open to the representation of national consumer organisations in 33 countries.

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