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Fact sheet: PVC and phthalates

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PVC stands for polyvinyl chloride and contains approximately 57% chlorine. PVC is a type of plastic that is completely hard unless a plasticiser is added. Phthalates are often used to plasticise PVC.

In order to stabilise the hard PVC, heavy metals, particularly lead and cadmium, were used in the past. These heavy metals can still be found in older PVC construction materials. Lead and cadmium are toxic and accumulate in humans, animals and nature.

PVC waste must be returned to a recycling centre, as it represents a problem both for the environment and for incineration plants if PVC waste is incinerated at such a plant together with household waste.

Risk assessment

Phthalates were initially considered to be harmless, because they do not have an acutely toxic effect. However, risk assessments within the EU have shown that some phthalates must be classified as toxic to reproduction. Of the most frequently used phthalates, the four phthalates DEHP, DBP, DIBP and BBP are classified within the EU as toxic to reproduction. Consumption of these phthalates has fallen since they were classified, but DEHP in particular is still widespread in many products.

You can find the EU's risk assessments by searching on the [European Chemicals Agency's website](#)

Ban on phthalates in toys and childcare articles

The use of all phthalates in toys and childcare articles for children aged under 3 years is currently regulated in a special Danish Statutory Order. In addition, the use of six specific phthalates in all toys and childcare articles for children aged up to 14 years is regulated throughout the EU.

You can read more in the fact sheet, which describes the regulations:

[Fact Sheet: Phthalates in toys and childcare articles \(in Danish\)](#)

Danish proposal for a ban on four phthalates in the EU and Denmark

In April 2011, Denmark submitted a proposal (followed by a revised proposal in August 2011) for the EU regulation of four phthalates (DEHP, DBP, BBP and DIBP). These substances are used as plasticisers in PVC.

The proposal is the first of its kind in the world to be based on the combined effects of four different substances (phthalates), all of which have the same mechanism of action (the four phthalates are all toxic to reproduction). The proposal looks at all exposures from all sources of the four phthalates, regardless of whether they originate from floors, fitness balls, shoes, food products, etc. All these exposures are added together and then assessed to determine whether the total exposure constitutes a risk. And it does. The proposed ban is therefore also extensive, so as to eliminate this risk.

The proposal is expected to be assessed by the Risk Assessment Committee and the Socio-Economic Analysis Committee of the European Chemicals Agency (ECHA, <http://echa.europa.eu>) with a final opinion during fall 2012.

A virtually identical ban has also been proposed in Denmark. This ban is expected to be notified to the EU during the autumn of 2011, and depending on whether there are any comments from the EU and other Member States, it may take up to 18 months before a ban can enter into force in Denmark.

PVC and phthalates – are there any alternatives?

Alternatives to phthalates are already available. These have been used in toys and childcare articles, where alternatives to phthalates and other completely different types of plastic have been used where it is not necessary to add a plasticiser. The Danish Environmental Protection Agency has assessed many of the most frequently used alternatives to phthalates.

The results were presented in a report on the Environmental Protection Agency's website:
<http://www2.mst.dk/udgiv/publications/2010/978-87-92708-00-7/pdf/978-87-92708-01-4.pdf>

It is not always possible to see whether a product is made from PVC. Plastics are sometimes marked with the plastic arrow – a symbol with the arrows in a triangle with a number inside, which indicates the type of plastic used. If the number is a three, this means that the material is made from PVC.

The Danish Environmental Protection Agency's tips give you some advice and guidance on products that contain PVC and phthalates. This covers products such as garden hoses, rubber boots, office articles, furniture and DIY products.

Action plans and strategies

A status of the use of phthalates in all products has been produced. This was produced in 2003.
[Status of phthalates \(2003\)](#) (in Danish)

In 1999, the Danish Environmental Protection Agency and the industry established a PVC strategy, which contains a number of initiatives such as a tax on PVC products, a ban on the use of problematic stabilisers and an action plan for the use of phthalates.

[Action plan to reduce and eliminate the use of phthalates in soft plastics](#) (Word version) (in Danish)

[Strategy for the PVC area, 1999](#) (Word version) (in Danish)

[Read more about PVC waste](#) (in Danish)

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