

## Introduction

### What is the problem?

Declining sperm quality, infertility in women, higher rates of diabetes, cancer risks and adipositas are only some of the negative health effects associated with endocrine disruptive chemicals (EDCs). EDCs are substances that interfere with the hormone system by acting as endogenous hormones. In other words, the EDCs for instance block the receptors for these hormones, which ultimately alters physical development. The effects of EDCs are highly dependent on the time of absorption, particularly during critical phases of pregnancy (fetal development), infancy, early childhood and adolescence. During these critical phases, humans should have special protection against EDCs, since even small doses of these chemicals can be detrimental to development.

Currently, more than 200 substances with endocrine disrupting effects are known, such as Bisphenol A, parabens and phthalates. They are found in many everyday products, allowing them access into our bodies when we use these products. Many EDCs are very persistent and can even have an effect at low concentrations. In our opinion, there is no safe dose. Although numerous studies demonstrate the negative impacts that certain EDCs have on groups of animals, the environment and humans, there are hardly any legal measures that limit their use. As a result of these legal deficits, EDCs are still used in many everyday products or as contaminants in food. Careful purchase decisions can reduce problems caused by EDCs. With this guide, WECF shows consumers some product categories that contain EDCs, and how you can avoid potential problems that they cause.

## General Tips

- **Less is more!**  
Think carefully about what you need.
- **Always choose products very carefully.**  
Pay attention to organic seals or labeling when purchasing products. Such seals are: ÖkoTex, the “Blue Angel”, the Euroflower, organic food labels or by terms such as PVC-free or BPA-free.
- **Avoid products with PVC** (PVC abbreviations and code 3). Generally speaking, food packaging made of glass, stainless steel and porcelain are better than plastics.
- **At home: air out regularly.**  
Pollutants can accumulate in indoor air.
- **Consult the WECF guide booklets.**  
They are available on topics such as cleaners, childcare, toys, personal care, home improvement and renovation; available at [www.wecf.eu](http://www.wecf.eu) (publications) or [www.nestbau.info](http://www.nestbau.info).



### EDCs How to identify them

EDCs	How to identify them	Children products	Toys	Body & Baby care products	Food	Packaging	Textiles, Clothes Footwear
<b>BPA</b>	BPA, also labeled as PC or PC abbreviation and code 7	Yes (a)	Yes (b)	No	No	Yes (a)	No
<b>Phthalates</b>	not directly labeled; avoid PVC-products: labeled as PVC or as code 3	Yes (b)	Yes (b)	Yes (b)	No	Yes (b)	Yes (b)
<b>UV-Filters</b>	labeled as: benzophenone-3, 3-benzylidene camphor, 4-methyl-benzylidene-camphor, 4,4-Dihydroxy-benzophenone, benzophenone, ethylhexyl methoxycinnamate – parabens in cosmetics: butylparaben, propylparaben, in Foods: E214, E215, E218, E219	No	No	Yes (a)	No	No	No
<b>Parabens</b>	in cosmetics: butylparaben, propylparaben, in food: E214, E215, E218, E219	No	No	Yes (a)	Yes (a)	Yes (b)	No
<b>Tributyltin</b>	consult the manufacturer	Yes (b)	Yes (b)	No	No	No	Yes (b)
<b>Alkylphenols</b>	consult the manufacturer	Yes (b)	Yes (b)	No	No	Yes (b)	Yes (b)
<b>Flame retardants</b>	consult the manufacturer	Yes (b)	Yes (b)	No	No	No	Yes (b)

a: Labeled on the product, pay attention to the list of ingredients or the instructions on the product  
b: EDCs are not directly labeled, please check with the manufacturer to know if the product is free of the endocrine disrupters

## Glossary of some EDCs

**Bisphenol A (BPA)** a main component in the manufacture of polycarbonate plastics, epoxies, and epoxy resins. Occurrence: plastics, baby bottles and pacifiers, food packaging, such as internal coating of food cans, microwave dishes made of polycarbonate, plastic utensils, PVC saran wrap, computers, CDs, thermal paper (receipts), recycled paper towels and toilet paper, medical devices, dental composite fillings, adhesives, varnishes, nail polishes.

**Phthalates** are used as softeners for plastics. Occurrence: PVC flooring, plastic tiles, carpeting with plastic lining, vinyl wallpaper, shower curtains, leather furniture and bags, PVC food packaging, electrical cables, adhesives, paints, (printing) paints, detergents, coated fabrics, medical products (such as gloves and hoses), cosmetics, textiles (water resistant clothing, mud pants, plastic clogs), toys (like plastic dolls, water toys, kiddie pools, water wings, inflatable mattresses). In the EU, the following phthalates are banned in toys: DEHP, DBP, and BBP. For children under three years old, DINP, DIDP and DNOP are also prohibited.

**Organotin compounds** (also environmentally dangerous, carcinogenic, and (immuno-) toxic) are used as preservatives, stabilizers, and biocides. Occurrence: in PVC products (gloves, sandals, packaging), in PVC printing on textiles, as paint for ships, as disinfectants and preservatives, tributyltin hydride (TBT): for coating of textiles. In PVC flooring and floor coatings, and coatings for baking trays and baking paper.

**Nonylphenols** (also toxic, corrosive and environmentally dangerous) are prohibited in the EU in concentrations above 0.1%. Occurrence: household cleaners, cosmetics, as pollutants in textiles and clothing, food packaging, toys or flooring, disinfectants, PVC film transparencies, as an emulsifier in pesticides, and wall paint.

**Octylphenol** (4-tert-octylphenol) was added to the list of substances of very high concern in 2011 (disclosure obligation on behalf of the manufacturer!) Application: in the manufacture of paints, adhesives and tires.

**Parabens** are preservatives and protect against infestation of mold and bacteria. Butyl- and propyl parabens show higher estrogenic potency (feminisation of the body) and can also trigger contact allergies. Occurrence: in many personal care products, pharmaceuticals, food, tobacco and shoe polishes. Parabens in cosmetic products are called butylparaben, propylparaben, in food and tobacco products they are methyl, ethyl paraben and its salts are allowed, seen in the list of ingredients as: E214, E215, E216, E217, E218, E219. **Chemical UV-filters** such as benzophenone-3 (oxybenzone), 3-benzylidene camphor, 4-methylbenzylidene-camphor, 4,4-Dihydroxybenzophenone, benzophenone, ethylhexylmethoxycinnamate exhibit hormone altering effects.

## Protect health – avoid toxic chemicals



Endocrine disruptive chemicals (EDCs) in everyday products

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## Food and food packaging



Harmful substances in foods are generally pesticide residues from fruit and vegetables, such as dithiocarbamates and vinclozolin, but also from Bisphenol A (BPA) that can migrate from plastic packaging into food. Although there are significant concerns, BPA is still used in many plastic products (see glossary). To protect babies, baby bottles that contain polycarbonate (an ingredient used to create BPA) are prohibited from the European market. Other EDCs that can be found in food are the preservatives propylparaben (E216) and butylated hydroxyanisole (BHA, E320), in addition to antioxidants and plastic softeners (phthalates) from plastic packaging.

### ■ Tips

- Avoid products made of polycarbonate, recognizable by the PC label or recycling code 07. Use products made of glass, porcelain or polyethylene PE.
- Do not use food from cans. Especially fatty products, which allow BPA to detach from the coating easier.
- Fresh, and if possible, unpackaged and regional foods are the best for consumption.
- Organic foods are free of pesticide residues.
- Use acceptable alternatives for storing or packaging your food, such as glass, ceramic or stainless steel.
- Do not heat food in plastic containers, especially not in the microwave.

## Textiles, clothing and footwear

Many imported textiles are contaminated with nonylphenoethoxylates (NPEs). This substance is forbidden in Europe and is used for cleaning textiles in Asian manufacturing countries. They can be washed out of the clothes, but can then threaten the environment via sewage. PVC coatings and phthalates (plastic softeners) printed as pictures and logos on textiles are also problematic. Garments with antimicrobial properties, such as sportswear, underwear and socks, can contain tributyltin (TBT). One of TBT's uses is as an ingredient in ship hull paint, to kill algae and mussels. Phthalates and TBT are also found frequently in rubber boots, plastic clogs, rain pants and other water resistant clothing. Also, beware of imported leather shoes. They may be preserved with PCP (pentachlorophenol) or contain Chromate, a common allergen.



### ■ Tips

- New clothes should be washed before wear.
- Do not buy children's clothing that contains PVC particles or PVC coating, such as ethylene vinyl acetate. Rubber boots, plastic clogs or flip-flops are items that have PVC-free alternatives. Just ask!
- Good clothing alternatives contain fabrics from organic cotton and natural fibres. Also pay attention to the Oeko-Tex Standard 100 label.
- Do not use products such as socks with antibacterial properties.

## Body and baby care products

Some ingredients of cosmetic products show negative hormonal effects. These include: UV-filters in sunscreen products and day creams, and preservatives, usually manifested as parabens in shower gels, shampoos, creams, lotions and baby care products. In 2011, Denmark banned the preservatives propylparaben and butylparaben in skin care products for babies and young children (less than three years old). In Germany, these parabens are permitted in concentrations up to 0.4%.



### ■ Tips

- Pay attention to the ingredient information on cosmetic products. Leave (baby) care products that are conserved with propylparaben, butylparaben or BPA on the shelf.
- Avoid sun care products and skin care products with hormone altering UV-filters. 3-benzylidene camphor, 4-methyl-benzylidene camphor, 4,4-dihydroxybenzophenone, benzophenone, ethylhexyl methoxycinnamate. Sun protection products with mineral UV-filters are better.
- Less is more. Use baby care products only if really necessary.

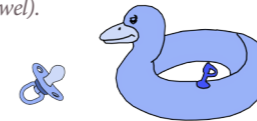


## Children products

Babies and toddlers explore their environment through all senses. Contaminants may enter babies' bodies via the mouth and their very permeable skin. Therefore, you should purchase baby products that are PVC- and BPA-free. Bisphenol A and some plastic softeners are banned in products for children less than 3 years of age. Products suitable for children over 3 years, however, may contain some of these phthalates. Be mindful that young children not only chew teething rings or teddy bears, but also things that are not intended for children.

### ■ Tips

- Consider pacifiers, baby bottles, dishes and other products that are BPA-free. Consult the manufacturer for more information!
- Place a washable fabric on top of the plastic baby changing pad (e.g. towel).



## Toys

Children's toys still contain many contaminants. Plastic dolls and soft plastic toys can contain hormone damaging plastic softeners (phthalates); and cuddly toys made of plush or stuffing can contain harmful brominated flame retardants. Unfortunately, there are no labeling requirements for the materials of children's toys.



### ■ Tips

- Buy cloth dolls and stuffed animals from natural fibres and pay attention to the Oeko-Tex 100 label.
- Wash all cuddly things.
- Do not give your baby any soft plastic toys, which are not permitted for children under the age of 3.
- Smell the toys before purchase! Do not buy toys with an unpleasant odor, leave them on the shelf.

## Are there laws that protect us?

All cosmetic products are regulated by the European Cosmetics Directive. Accordingly, all cosmetic ingredients must be clearly identified on the product (INCI Declaration). Toys are regulated by the European Toy Safety Directive, food packaging by the European Directive on Labeling, Presentation, and Advertising of Foodstuffs, and insecticides and pesticides are regulated by biocide and pesticide Regulations. Unfortunately, there is often no obligation to declare the chemical ingredients. Also, EDCs are not even included in these policies and regulations, including the European chemicals regulation REACH. Thus, urgent political action is needed in regards to EDCs.

### Would you like to know more?

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## Get active – just ask!

Please ask your retailer and / or manufacturer whether the ingredients in paints, toys, packaging and personal care products are tested for their endocrine disrupting effects. The retailer or manufacturer must inform you within 45 days if a product contains certain chemicals. Unfortunately, this obligation to disclose information applies only to some substances. But the more critical the customer demand is, the faster producers will change their product policies. With this action, you can influence the manufacturer! WECF is committed to toxic-free products - in politics and among manufacturers. Help us with this commitment!

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