

What's that smell?



TEGEN
GIF

Forbrugerrådet
Tænk
Kemi

Kom op
tegen Kanker

COLOPHON

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Introduction

PROBLEMATIC CHEMICALS IN PERFUME

Many women regularly use fragranced consumer products, such as perfume. However, very little is known about the ingredients actually used to give each perfume its unique fragrance.

Perfumes can contain up to 300 different chemicals.^{1,2} More than 2,500 different fragrance ingredients are used in perfumes and perfumed consumer goods. Yet many fragrance ingredients cannot be found on the ingredient list on the exterior packaging as they are protected as a trade secret. Under the EU regulation on cosmetic products, it is mandatory for cosmetics in Europe to be labelled with their ingredients. Fragrances have been exempted from this requirement. Only a few fragrance ingredients have to be mentioned on the label. As a result consumers can't make informed decisions to avoid chemicals that could negatively affect their health and the environment.

With this report, we aim to provide more insight into which ingredients are labelled and used in perfumes and why some of them are of concern. Studies^{3,4} indicate that women may use 12 to 16 personal care products in a single day, including perfume or fragranced personal care products. This exposes them to a cocktail of different chemicals daily.

Scientists are increasingly concerned about these chemical mixtures because people are exposed to thousands of chemicals at the same time, often in low doses, but in some cases they can interact and potentiate each other's effects. Increased consumer awareness may help in reducing daily exposure. This is particularly relevant for vulnerable groups, such as pregnant and breastfeeding women, and women with serious health conditions, such as breast cancer.

For this study, we have collected information on the ingredients in 20 perfumes in Belgium, Denmark and the Netherlands. They were selected based on popularity among consumers in these countries. The ingredient lists were then analysed for problematic chemicals. In the following report, you will find the outcomes of our analysis and we will elaborate on specific health concerns related to exposure to substances used in perfume.



RESULTS

**PROBLEMATIC CHEMICAL INGREDIENTS
FOUND IN 20 PERFUMES**

We compared the ingredients contained in the 20 perfumes collected in Belgium, Denmark and the Netherlands with substances of concern listed by several authoritative bodies.¹ This resulted in 26 problematic substances in 20 perfumes. The problematic substances can be categorised in four different groups: Suspected endocrine disrupting chemicals (EDCs), reprotoxic substances, allergens and substances that are harmful to the environment.



Endocrine disrupting chemicals (EDCs)

EDCs are chemicals that can interfere with the body's sensitive hormone system. Hormones regulate bodily functions, such as metabolism, growth and reproductive development.

The most minuscule levels of hormones can have an effect on these functions. Exposure to very low levels of EDCs can therefore have an impact on these important systems.

EDCs and suspected EDCs are found in food, toys, cosmetics and other consumer products, as well as in medicines and plastic products. Scientific evidence has shown that exposure to EDCs has contributed to increases in the incidence of neurodevelopmental, reproductive and metabolic disorders, as well as some cancers.⁵



Reprotoxic substances

Reprotoxic substances can have a negative effect on sexual function and fertility in both men and women. Examples of these negative effects are low sperm counts in men and miscarriages in women. These substances may also cause developmental toxicity in children. An increasing number of studies indicate that fertility problems are on the rise in both men and women in the Western world.⁶

¹⁻²⁶ More information on the lists used can be found in the annex on page 48.



Allergenic substances

Fragrance ingredients can cause allergies. Allergies are lifelong, irreversible conditions with potentially disabling effects. Skin sensitisation is a severe consumer health concern, which results in significant impairment of quality of life and adverse consequences for fitness for work. The annual cost to society and the economy is projected to be as high as EUR 240bn in the EU.⁷ A European population survey revealed that at least 4.1% of all adults have a perfume allergy.⁸



Substances that harm the environment

UV filters added to cosmetics to protect the skin or prolong the shelf life of the product can have a negative impact on marine life. The UV filter ethylhexyl methoxycinnamate, which we found in several perfumes, has been detected in almost all water sources around the world.⁹ Limonene, one of the most common ingredients in fragrances, is classified in the EU as being very toxic to aquatic life.

Substances of concern found in 20 perfumes

SUBSTANCE	PROBLEM	FUNCTIONS
Alpha-isomethyl ionone	⚠	fragrance
Amyl Cinnamal	⚠	fragrance
Benzyl alcohol	⚠	fragrance, solvent
Benzyl benzoate	⚠ 🌿	fragrance, solvent
Benzyl cinnamate	⚠	fragrance
Benzyl salicylate	⚠ 🧪	fragrance
BHT	🧪	antioxidant
Butylphenyl methylpropional	⚠ 🧪 🌿	fragrance
Cinnamyl alcohol	⚠	fragrance
Citral	⚠	fragrance
Citronellol	⚠	fragrance
Citrus aurantium amara flower water	⚠	fragrance, skin conditioning
Coumarin	⚠	fragrance
Disodium EDTA	🌿	stabilising
Ethylhexyl methoxycinnamate	🌿 🧪	UV absorber, stabiliser
Ethylhexyl salicylate	🧪	UV absorber, stabiliser
Eugenol	⚠	fragrance
Farnesol	⚠	fragrance
Geraniol	⚠	fragrance
Hexyl cinnamal	⚠	fragrance
Hydroxycitronellal	⚠	fragrance
Isoeugenol	⚠	fragrance
Limonene	⚠ 🌿	fragrance
Linalool	⚠	fragrance
Parfum	⚠	fragrance
Octocrylene	🧪	UV absorber, stabiliser

 SUSPECTED EDC

 ALLERGENIC

 PROBLEMATIC IN THE ENVIRONMENT

 REPROTOXIC

My way

eau de parfum

GIORGIO ARMANI



Pink molécule 090.09

eau de parfum

ZARKOPERFUME



PURCHASED IN BELGIUM

Ingredients: Parfum 🚫 Linalool 🚫 Benzyl salicylate 🚫👉 Benzyl alcohol 🚫
Hydroxycitronellal 🚫 Limonene 🚫👉 Ethylhexyl salicylate 👉 Hexyl cinnamal 🚫
Geraniol 🚫 Citronellol 🚫 Eugenol 🚫 Citral 🚫 Alpha-isomethyl ionone 🚫
Isoeugenol 🚫 Cinnamal 🚫 Benzyl benzoate 🚫👉

PURCHASED IN DENMARK

Ingredients: Parfum 🚫

Lady million

eau de parfum

PACO RABANNE



PURCHASED IN THE NETHERLANDS

Ingredients: Parfum 🚫 Limonene 🚫🌿 Benzyl salicylate 🚫🔪
Alpha-isomethyl ionone 🚫 Hydroxycitronellal 🚫 Ethylhexyl salicylate 🚫🔪
Hexyl cinnamal 🚫 Linalool 🚫 Coumarin 🚫 Citronellol 🚫 Geraniol 🚫 Citral 🚫
Benzyl alcohol 🚫 Isoeugenol 🚫

No 5

eau de parfum

CHANEL



PURCHASED IN THE NETHERLANDS

Ingredients: Parfum 🚫 Benzyl alcohol 🚫 Benzyl benzoate 🚫🌿 Benzyl cinnamate 🚫
Benzyl salicylate 🚫🔪 Cinnamyl alcohol 🚫 Citral 🚫 Citronellol 🚫 Coumarin 🚫
Eugenol 🚫 Farnesol 🚫 Geraniol 🚫 Hydroxycitronellal 🚫 Isoeugenol 🚫
Limonene 🚫🌿 Linalool 🚫 Alpha-isomethyl ionone 🚫

Good girl

eau de parfum

CAROLINA HERRERA



Alien

eau de parfum

THIERRY MUGLER



PURCHASED IN THE NETHERLANDS

Ingredients: Parfum 🚫 Linalool 🚫 Hydroxycitronellal 🚫 Benzyl salicylate 🚫🚫
Coumarin 🚫 Ethylhexyl methoxycinnamate 🚫🚫 Benzyl benzoate 🚫🚫
Ethylhexyl salicylate 🚫 Limonene 🚫🚫 Geraniol 🚫 Citronellol 🚫 Isoeugenol 🚫
Hexyl cinnamal 🚫 Benzyl alcohol 🚫 Citral 🚫

PURCHASED IN THE NETHERLANDS

Ingredients: Parfum 🚫 Benzyl salicylate 🚫🚫 Benzyl alcohol 🚫
Ethylhexyl methoxycinnamate 🚫🚫 Coumarin 🚫 Limonene 🚫 Geraniol 🚫
Ethylhexyl salicylate 🚫 Alpha-isomethyl ionone 🚫 Citronellol 🚫 Linalool 🚫
Citral 🚫 Benzyl benzoate 🚫🚫 BHT 🚫🚫

Perfect

eau de parfum

MARC JACOBS



PURCHASED IN DENMARK

Ingredients: Parfum 🚫 Ethylhexyl methoxycinnamate 🌿🍷 Linalool 🚫
Octocrylene 🍷 Alpha-isomethyl ionone 🚫 Hydroxycitronellal 🚫 Citronellol 🚫
Limonene 🚫🌿 Hexyl cinnamal 🚫 Coumarin 🚫 Benzyl benzoate 🚫🌿
Benzyl alcohol 🚫 BHT 🍷

The scent

eau de parfum

HUGO BOSS



PURCHASED IN DENMARK

Ingredients: Parfum 🚫 Benzyl salicylate 🚫🍷 Ethylhexyl methoxycinnamate 🌿🍷
BHT 🍷 Limonene 🚫🌿 Citronellol 🚫 Linalool 🚫 Coumarin 🚫
Benzyl benzoate 🚫🌿 Hexyl cinnamal 🚫 Hydroxycitronellal 🚫 Citral 🚫
Geraniol 🚫

Flower by Kenzo

eau de parfum

KENZO



PURCHASED IN BELGIUM

Ingredients: Parfum 🚫 Geraniol 🚫 Citronellol 🚫 Hydroxycitronellal 🚫
Linalool 🚫 Alpha-isomethyl ionone 🚫 Limonene 🚫👉 Farnesol 🚫
Isoeugenol 🚫 BHT 🚫 Citral 🚫 Benzyl alcohol 🚫 Benzyl benzoate 🚫👉
Coumarin 🚫 Benzyl salicylate 🚫👉

Romance

eau de parfum

RALPH LAUREN



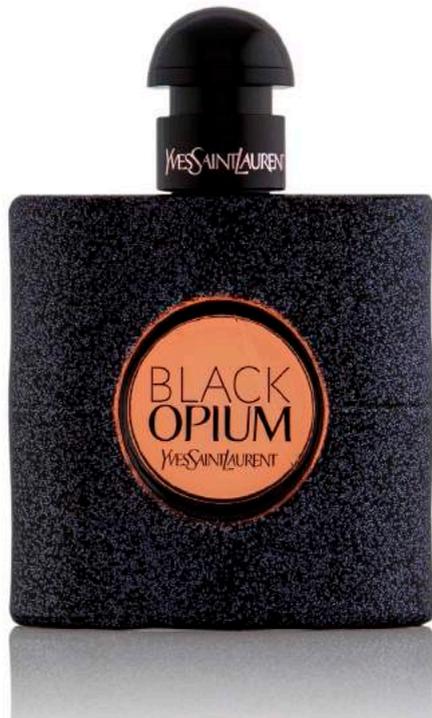
PURCHASED IN BELGIUM

Ingredients: Parfum 🚫 Hydroxycitronellal 🚫 Citronellol 🚫 Geraniol 🚫
Benzyl alcohol 🚫 Linalool 🚫 Alpha-isomethyl ionone 🚫 Limonene 🚫👉
Hexyl cinnamal 🚫 Coumarin 🚫 Cinnamyl alcohol 🚫 Citral 🚫
Benzyl benzoate 🚫👉 Eugenol 🚫 Farnesol 🚫

Black opium

eau de parfum

YVES SAINT LAURENT



This is her!

eau de parfum

ZADIG & VOLTAIRE



PURCHASED IN DENMARK

Ingredients: Parfum 🚫 Benzyl salicylate 🚫👉 Benzyl alcohol 🚫
Hydroxycitronellal 🚫 Hexyl cinnamal 🚫 Limonene 🚫👉 Linalool 🚫 Geraniol 🚫
Citronellol 🚫 Cinnamyl alcohol 🚫 Amyl cinnamal 🚫 Citral 🚫 Coumarin 🚫
Benzyl benzoate 🚫👉

PURCHASED IN BELGIUM

Ingredients: Parfum 🚫 Ethylhexyl methoxycinnamate 🚫👉 Coumarin 🚫
Limonene 🚫👉 Benzyl benzoate 🚫👉 Cinnamyl alcohol 🚫 Isoeugenol 🚫
Linalool 🚫 Benzyl alcohol 🚫 BHT 🚫👉

J'adore

eau de parfum

DIOR



PURCHASED IN DENMARK

Ingredients: Parfum 🚫 Hexyl cinnamal 🚫 Benzyl salicylate 🚫👉 Citronellol 🚫 Hydroxycitronellal 🚫 Alpha-isomethyl ionone 🚫 Citrus aurantium amara flower water 🚫 Benzyl benzoate 🚫👉 Limonene 🚫👉 Linalool 🚫 Geraniol 🚫 Citral 🚫 Benzyl alcohol 🚫 Benzyl cinnamate 🚫 Cinnamyl alcohol 🚫 Farnesol 🚫

Si

eau de parfum

GIORGIO ARMANI



PURCHASED IN DENMARK

Ingredients: Parfum 🚫 Benzyl salicylate 🚫👉 Benzyl alcohol 🚫 Ethylhexyl methoxycinnamate 👉👉 Linalool 🚫 Limonene 🚫👉 Ethylhexyl salicylate 👉 Hydroxycitronellal 🚫 Hexyl cinnamal 🚫 Geraniol 🚫 Cinnamyl alcohol 🚫 BHT 👉👉 Alpha-isomethyl ionone 🚫 Citronellol 🚫 Eugenol 🚫 Citral 🚫 Benzyl benzoate 🚫👉 Farnesol 🚫 Coumarin 🚫

Scandal

eau de parfum

JEAN PAUL GAULTIER



PURCHASED IN BELGIUM

Ingredients: Parfum 🚫 Benzyl salicylate 🚫🚫 Limonene 🚫🚫
Ethylhexyl methoxycinnamate 🚫🚫 Linalool 🚫 Coumarin 🚫
Ethylhexyl salicylate 🚫 Alpha-isomethyl ionone 🚫 Citral 🚫 Geraniol 🚫
Benzyl alcohol 🚫 Benzyl benzoate 🚫🚫

La vie est belle

eau de parfum

LANCÔME



PURCHASED IN DENMARK

Ingredients: Parfum 🚫 Linalool 🚫 Benzyl salicylate 🚫🚫 Limonene 🚫🚫
Ethylhexyl methoxycinnamate 🚫🚫 BHT 🚫 Geraniol 🚫 Alpha-isomethyl ionone 🚫
Coumarin 🚫 Farnesol 🚫 Citral 🚫 Citronellol 🚫 Benzyl alcohol 🚫
Benzyl benzoate 🚫🚫

Twilly d'Hermès

eau poivrée eau de parfum

HERMÈS



Flowerbomb nectar

eau de parfum

VIKTOR&ROLF



PURCHASED IN THE NETHERLANDS

Ingredients: Parfum 🚫 Limonene 🚫🌿 Ethylhexyl methoxycinnamate 🌿🚫
 Alpha-isomethyl ionone 🚫 Benzyl salicylate 🚫🚫 BHT 🚫 Ethylhexyl salicylate 🚫
 Hydroxycitronellal 🚫 Butylphenyl methylpropional 🚫🚫 Coumarin 🚫
 Citronellol 🚫 Linalool 🚫 Geraniol 🚫 Eugenol 🚫 Benzyl alcohol 🚫 Farnesol 🚫
 Citral 🚫 Benzyl benzoate 🚫🌿 Disodium EDTA 🌿

PURCHASED IN THE NETHERLANDS

Ingredients: Parfum 🚫 Benzyl salicylate 🚫🚫 Linalool 🚫 Benzyl alcohol 🚫
 Ethylhexyl salicylate 🚫 Hydroxycitronellal 🚫 Limonene 🚫🌿 Coumarin 🚫
 Geraniol 🚫 Benzyl benzoate 🚫🌿 Citral 🚫 Citronellol 🚫

Signature

eau de parfum

CHLOÉ



PURCHASED IN THE NETHERLANDS

Ingredients: Parfum 🚫 Ethylhexyl methoxycinnamate 🌿 🍷
Hydroxycitronellal 🚫 Octocrylene 🍷 BHT 🍷 Limonene 🚫 🌿 Hexyl cinnamal 🚫
Benzyl salicylate 🚫 🍷 Citronellol 🚫 Linalool 🚫 Geraniol 🚫
Alpha-isomethyl ionone 🚫

L'Interdit

eau de parfum

GIVENCHY



PURCHASED IN BELGIUM

Ingredients: Parfum 🚫 Ethylhexyl methoxycinnamate 🌿 🍷 Linalool 🚫
Limonene 🚫 🌿 Citronellol 🚫 Geraniol 🚫 BHT 🍷 Benzyl salicylate 🚫 🌿
Eugenol 🚫 Alpha-isomethyl ionone 🚫 Citral 🚫 Coumarin 🚫 Benzyl alcohol 🚫

SPOTLIGHT ON ENDOCRINE DISRUPTING CHEMICALS

The use of EDCs is on the rise

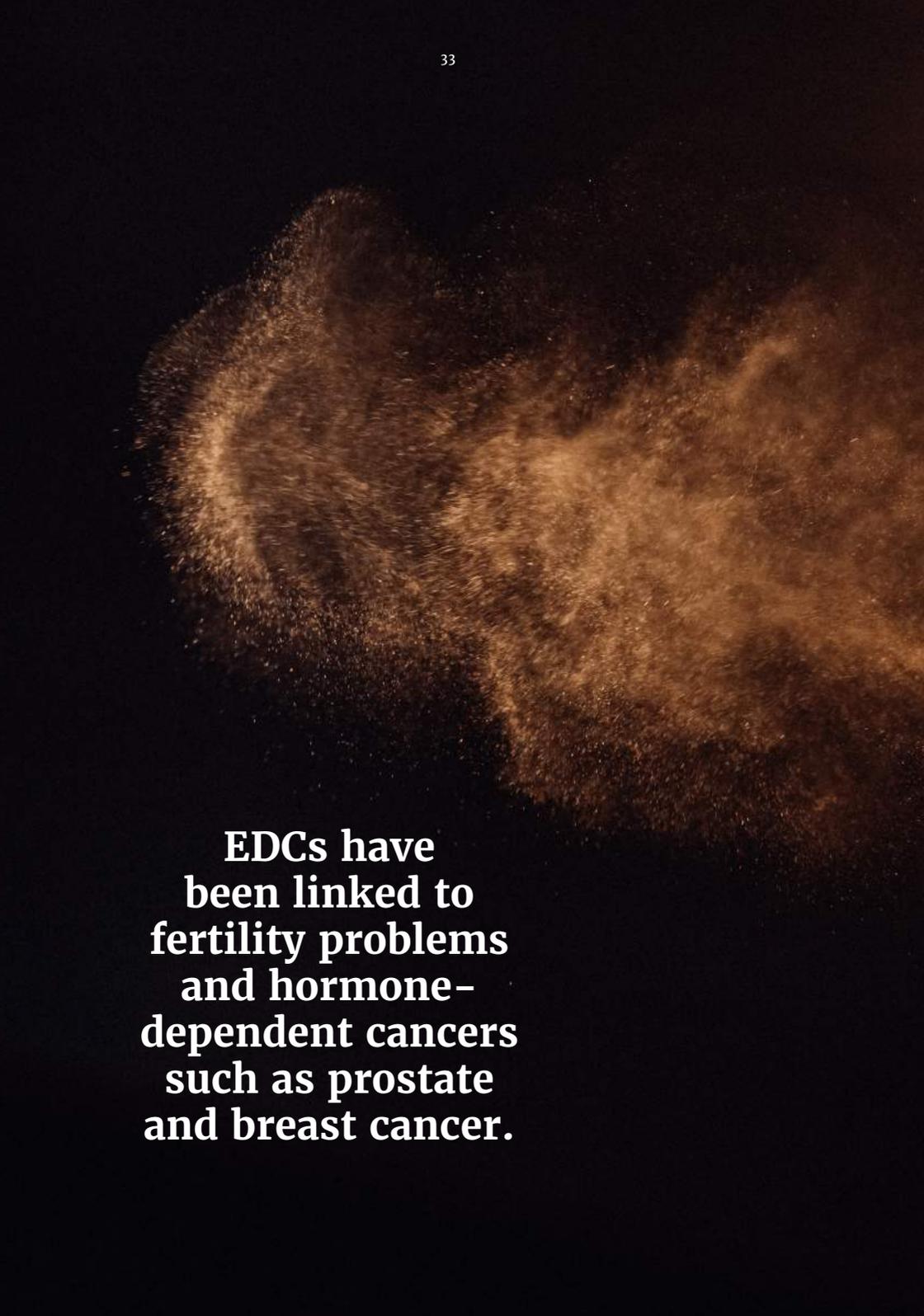
Human biomonitoring studies have found EDCs in Europeans' urine¹⁰ and blood¹¹. EDCs have also been detected in amniotic fluid¹² and breast milk, indicating that children are exposed before and shortly after birth.

As early as 2012, the World Health Organization (WHO)¹³ warned that endocrine disrupting chemicals pose a global threat. Eight years later, the European Commission emphasised that the use of EDCs is on the rise, which poses serious risks to human health and creates an economic cost to society.¹⁴ EDC exposure during foetal development may result in negative effects on brain development and growth.¹⁵ Furthermore, EDCs have been linked to reproductive¹⁶ and fertility problems, such as

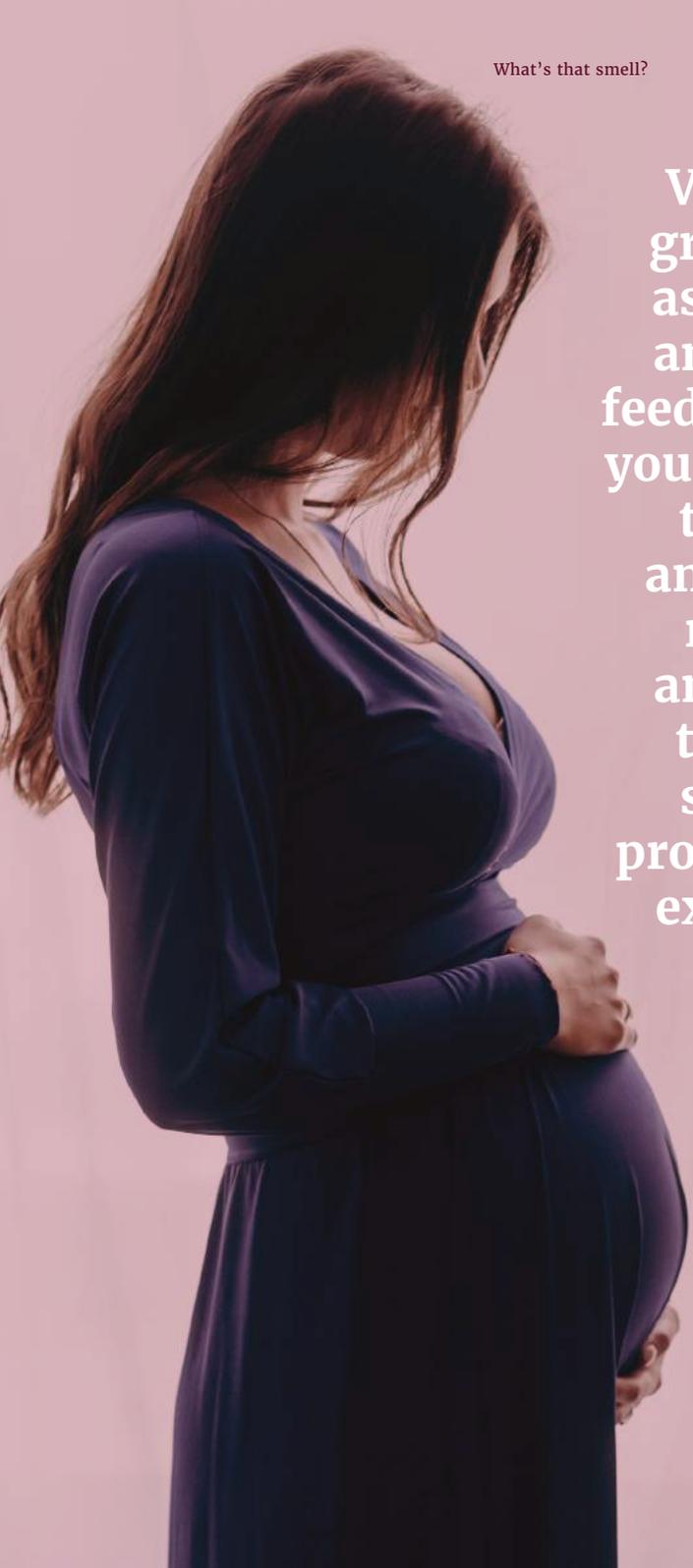
drastically falling sperm counts, as well as hormone-dependent cancers, such as prostate and breast cancer.

Breast cancer and EDCs

In 2020, female breast cancer was the most commonly diagnosed cancer with 2.3 million new cases worldwide and the highest incidence in developed countries.¹⁷ Around 80% of breast cancers are oestrogen-dependent. A known risk of prolonged exposure to oestrogens is the development of breast cancer. Most EDCs have oestrogenic or antiandrogenic properties and can stimulate cell proliferation and migration, enhancing cancer development and progression as well as reducing the effectiveness of chemotherapy.^{18,19} Three substances detected in perfume –



**EDCs have
been linked to
fertility problems
and hormone-
dependent cancers
such as prostate
and breast cancer.**



Vulnerable groups such as pregnant and breast-feeding women, young children, teenagers and patients receiving anti-cancer treatment should be protected from exposure to EDCs.

benzyl salicylate, BHT and butylphenyl methylpropional – have been shown to interfere with oestrogenic pathways and may therefore increase the risk of breast cancer.^{20,21}

The pervasive presence of EDCs results in lifelong exposure. EDCs can be transferred from the mother to the foetus via the placenta and to the newborn through breast milk. Vulnerable groups, such as pregnant and breastfeeding women, young children, teenagers and patients receiving anti-cancer treatment, should therefore be protected from continuous exposure to EDCs.

Over a thousand chemicals are suspected to have endocrine disrupting properties.²² At

present, only a handful of these substances have been regulated in the European Union. In the Chemicals Strategy for Sustainability, the European Commission acknowledges that the current regulatory framework is unfit to identify and regulate endocrine disruptors. As a result of the absence of a firm regulatory framework on EDCs in the EU, several countries, including Denmark and France, have put in place a national action plan to protect their citizens from EDCs. Moreover, national authorities in Belgium, Sweden, Denmark, France, Spain and the Netherlands have set up a website called Endocrine Disruptor Lists ([EDlists.org](https://edlists.org)) to help improve transparency and the identification of endocrine disrupting chemicals.²³

INTERVIEW WITH ANNA-MARIA ANDERSSON

WHY DENMARK TAKES EDCS SERIOUSLY



*Anna-Maria Andersson
is head of the Danish Centre
on Endocrine Disruptors (CeHoS)*

In the early nineties, a shockwave went through Denmark. No fewer than 30 per cent of Danish men were experiencing fertility problems and the incidence of testicular cancer was increasing at an unprecedented rate.²⁴ Danish academia and medical groups sounded the alarm bell, indicating that industrial chemicals and endocrine disrupting chemicals in particular were to blame for the sharp increase in these conditions. The Danish government responded with a national strategy intended to reverse the trend. Pillars of the strategy were research, raising awareness and policy measures, such as national bans on certain hazardous chemicals, green public procurement and tax measures, to discourage the use of endocrine disrupting chemicals.

Could you elaborate on the work of the Centre on Endocrine Disruptors?

The centre is an interdisciplinary scientific network without walls, consisting of three research groups.

1. A research group at the Rigshospitalet, which studies endocrine diseases and reproduction. Furthermore, this group is involved in population studies and human biomonitoring.
2. A research group at the University of Southern Denmark, which, among other things, studies the effects of endocrine disruptors on fish and the aquatic environment. Furthermore, this group develops new test methods for EDCs.
3. A research group at the Danish Technical University, which specialises in reproductive toxicology.

The main purpose of the CeHoS is to build and gather

new knowledge on endocrine disrupting chemicals (EDCs) with the focus on providing information requested in connection with the preventive work of the regulatory authorities.

Denmark is seen by many as a frontrunner in research, raising public awareness and government measures to protect citizens against exposure to EDCs. Why are EDCs such a priority issue in Denmark (whereas other EU countries do not see EDCs as a problem)?

In the 1990s, Denmark regrettably held the world record for incidences of testicular cancer. We were also seeing many young men with suboptimal semen quality. That did not necessarily mean they could not father a child, but they would probably need help. Today, 10% of parents in Denmark receive some sort

of reproductive assistance to get pregnant. It is often said that the reason for this is that women today tend to have children when they are older than in previous decades. That is not entirely fair. There is sufficient evidence that male subfertility plays an important role.

Scientists and the medical profession in Denmark, and Dr Niels Skakkebaek in particular, raised the alarm regarding an increase in reproductive health-related problems in Denmark, to which the government responded with a national approach to deal with this challenge.

Why should we be concerned about EDCs?

Because hormones have a very important signalling function that regulates functions in the body. EDCs can interrupt that signalling function. This may

lead to very obvious effects, such as malformations in the male reproductive organs, but more subtle changes may also occur and only manifest later in life. For example, exposure to EDCs may lead to a small change in the functioning of the pancreas, which may contribute to the development of obesity or diabetes later in life.

Our tests showed that several suspected EDCs were present. Should we be concerned about suspected EDCs?

Many chemicals on the market today were introduced before EDCs became an issue. Thousands of these chemicals were never properly tested for endocrine disrupting properties, which means that we have a data gap and are therefore engaged in a huge human experiment. Since there are so many suspected

EDCs, it is important that we do not evaluate them one by one. This takes too much time. Group evaluation for similar EDCs could help to speed up the process. An important impediment is that the level of evidence needed to prove that a substance is an endocrine disruptor is very high and very complex, which also slows down the process of identification. I also think that producers should be required to prove that a substance they wish to place on the market is not an EDC. In the meantime, the work of consumer organisations is important and helps to inform consumers about how they can reduce their exposure to EDCs.

Are there any hopeful/positive developments in the area of EDCs?

Yes, both the EU Green Deal and the EU Chemicals strategy for sustainability are important

signals that the EU is taking this issue seriously. I see this as a leap forward.

What would be your best advice to consumers to avoid EDCs?

I would go for less chemicals. This is not always possible, but choosing products with ecolabels is a good start and a step that does not require expertise in reading and understanding content lists. If a certain non-ecolabel product is very important to you because it smells very nice or works very well, keep it, but try to go for a fragrance-free option or a product with an ecolabel for your other personal care or cleaning products. This is especially important for pregnant women or women considering becoming pregnant.

HOW PERFUMES ARE LABELLED IN THE EU

According to the European regulation on cosmetic products²⁵, the list of ingredients should appear in descending order of weight. Ingredients in concentrations lower than 1% may be listed in any order after those in concentrations higher than 1%. However, perfume aromatic compositions and their raw materials need only be referred to as 'parfum' or 'aroma'. This means that ingredients that together comprise the perfume or aroma are not specified on the ingredient list. The reason for this is that perfume composition is protected as a trade secret. The current system of fragrance safety is based on self regulation. It is managed by the International Fragrance Association (IFRA) and its research branch, the Research Institute for Fragrance Materials (RIFM). It is unclear to what extent the responsible authorities in the EU member states monitor the compliance of fragrance ingredients with the cosmetics regulation.

The EU has seen positive developments in terms of transparency. Currently, 26 fragrance allergens should be listed on the packaging. The European Commission is expected to expand the current list of allergens with another 62 allergens that are common in fragrance.²⁶

Take home messages

In the 20 popular perfumes that were purchased in Belgium, Denmark and the Netherlands, suspected endocrine disruptors, allergens, a reprotoxic substance and chemicals that are problematic for the environment were found.

Only two perfumes contained no suspected endocrine disrupting chemicals. The rest all contained one or more suspected EDCs.

Although steps have been taken at EU level to improve transparency regarding fragrance ingredients, producers are still not obliged

to provide full transparency. Consumers have the right to know which chemicals are used in their perfume, so they can make an informed decision.

In the absence of a firm regulatory framework in the EU, vulnerable groups are at risk, including pregnant and breast-feeding women, children and people with a serious health condition, such as cancer.

They should receive support to reduce their exposure to EDCs. Information campaigns targeting vulnerable groups and health professionals could help them make decisions to reduce their exposure.



Tips for consumers

FRAGRANCE

REDUCE YOUR DAILY FRAGRANCE EXPOSURE

In addition to your favourite perfume, many of your personal care and cleaning products contain fragrances. When you add up all the chemicals from these products, you may be exposed to a cocktail of problematic chemicals. It therefore makes sense to try to minimise your exposure to fragrances. For some of you, it may be very difficult to part with your favourite perfume. In that case, you could consider using it for special occasions only or spraying the perfume on your clothes instead of your skin (but beware of stains on your clothes). You might also consider choosing fragrance-free options in other



There are trusted labels out there to help you find fragrance-free options, such as the blue label certified by *Asthma Allergy Denmark* and *Allergy Certified*. Products with these labels are widely available throughout Europe.

personal care products you use, to reduce your total exposure. You should also be aware that body lotion and deodorants are among the biggest contributors to perfume allergy.

ALWAYS GO FOR A FRAGRANCE-FREE OPTION FOR CHILDREN

When children are exposed to fragrance, they risk developing lifelong allergies. Still, fragrance is used in personal care products for children and even newborns. And it can also be found in less obvious products, like toys. If you want to be sure, check the packaging as fragrance allergens in toys must be mentioned on the label.

REDUCE YOUR EXPOSURE TO ENDOCRINE DISRUPTING CHEMICALS

In this study, we found the following suspected EDCs:

- Benzyl salicylate
- BHT
- Butylphenyl methylpropional
- Ethylhexyl methylcinnamate
- Ethylhexyl salicylate
- Octocrylene

Several other suspected EDCs are used in cosmetics, such as benzophenones, parabens, cyclopentasiloxane, cyclomethicone, ethyl salicylate, homosalate, resorcinol and salicylic acid. Forbrugerrådet Tænk has found 29 different suspected EDCs in cosmetics.

Looking for these suspected EDCs on the label is one way of avoiding the substances, but it is not an easy task. The good news is that there are digital tools available to help you avoid them. Several apps are available to help you identify suspected endocrine disrupting chemicals or other substances of concern.



If you don't feel like using an app, a very good alternative to reduce your exposure to EDCs is to look out for products that have a trusted ecolabel, such as the Nordic Swan and the EU Ecolabel.



KEMILUPPEN

An app developed by Forbrugerrådet Tænk for Danish consumers, Kemiluppen rates cosmetic products A, B or C based on the content. By scanning the barcode of a product, consumers can identify substances of concern, such as suspected endocrine disrupting chemicals and allergens. The app is available in Danish.



TOX FOX

Tox Fox is an app developed by German organisation BUND. By scanning a barcode, consumers can identify suspected endocrine disrupting chemicals and nanoparticles in consumer items such as cosmetics. The app is available in German.



YUKA APP

The Yuka app was developed by an independent French organisation. By scanning the barcodes of food and personal care products, the platform rates the item and offers detailed information. Since January 2018, about 2 million products have been registered (including 70% of food products and 30% of cosmetic products). The app is available in five languages (French, English, Spanish, Italian and German) and is available in France, Belgium, Switzerland, Luxembourg, Spain, United Kingdom, Ireland, Canada, United States, Australia and Italy.

Lists we have consulted to identify suspected endocrine disrupting chemicals, allergens, reprotoxic substances and substances that are of environmental concern.

- Endocrine disruptors lists (2020) - Denmark, Sweden, Belgium, the Netherlands and France
- The EU Commission priority list of potential endocrine disruptors in cosmetics (2019)
- Endocrine Disrupter priority list (EU 2007)
- SIN ('Substitute It Now!') List (CHEMSEC)
- Substances mentioned by the National Allergy Research Centre (Denmark)
- List of undesirable substances LOUS list (Danish EPA)
- List of harmonised classifications (EU)
- Candidate List of Substances of Very High Concern for Authorisation (EU)
- SCCS opinion on fragrance allergens in cosmetic products and other opinions by the EU scientific committees
See 'Opinions open for comments'
- List of 26 fragrance allergens subject to individual labelling
- Listing of POPS in the Stockholm convention
- The Priority List of the Norwegian Environment Agency
- Perfluorinated substances - The Helsingør statement and The Madrid Statement

Literature references

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THIS PROJECT IS A JOINT COLLABORATION BETWEEN THE FOLLOWING ORGANISATIONS



Claus Jørgensen, head of project Forbrugerrådet Tænk

Forbrugerrådet Tænk is an independent Danish consumer organisation, founded in 1947, which works on the promotion of sustainable and socially responsible consumption. Forbrugerrådet Tænk is the oldest consumer organisation in Europe. It defends consumer rights and makes consumers a force in the market. Through chemical testing and communication to consumers, the Danish Consumer Council's Think Chemicals initiative specifically helps consumers to avoid problematic chemicals when shopping. <https://kemi.taenk.dk/>



Ann Gils, director of prevention and early detection Kom op tegen Kanker

Kom op tegen Kanker (Stand up to Cancer) is a leading non-governmental organisation in the fight against cancer in the Flemish region of Belgium. Stand up to Cancer's mission is to reduce the prevalence of cancer in the Flemish community and improve the quality of life for people living with cancer.

<https://www.komoptegenkanker.be>



Annelies den Boer, chairperson Tegengif

Tegengif - Erase all Toxins (the Netherlands) is a not-for-profit organisation based in Amsterdam. Our goal is a non-toxic living environment. We raise public awareness of consumers' daily exposure to toxic chemicals by producing appealing research, campaigning and influencing policy. We believe that increased awareness will both stimulate demand for toxin-free products and increase public support for regulations leading to a toxin-free world. www.tegengif.nl

**Consumers
have the
right to
know which
chemicals are
used in their
perfume, so
they can make
an informed
decision.**