

## **Women and their Toxic World**

Published by:  
Women in Europe for a Common Future  
©2006, WECF

PO Box 13047  
3507 LA Utrecht  
The Netherlands  
[www.wecf.org](http://www.wecf.org)

Date: September 2006

Author: Daniela Rosche  
Layout and photography: Véronique Grassinger  
Print: Knecht-Druck, Munich

Acknowledgement:  
The author would like to thank Liz Sutton and Helen Lynn from the UK's Women's Environmental Network (WEN), Sonja Haider and especially Martijn Meeter for text review and comments.

Thanks for WEN also for permission to reproduce the 'Toxic Tour of your Bathroom Cabinet' on pp 60-61

## **WECF**

### **Moving people for a world in balance**

WECF is a network of citizen's organizations and experts In 30 countries. WECF works for a sustainable future for our Children. We use women's and men's potential in balancing Environment, health and economy. WECF implements Solutions and asks politicians to take action.

# Women and their **Toxic** World



## Chapter 1

### **12 Man-made chemicals and the tip of the iceberg**

- 12 What is the problem?
- 13 Synthetic chemicals – mankind’s success or an increasing menace?
- 15 Data and legislation
- 15 What makes man-made chemicals hazardous?
- 16 PBT and vPvB chemicals
  - 16 Persistent chemicals
  - 16 Bio-accumulative chemicals
  - 17 Toxic chemicals
- 17 CMR chemicals
- 17 Hormone disrupting chemicals
- 17 Homemade global contamination
- 19 A world-wide experiment

## Chapter 2

### **22 Human Health – sick of man-made chemicals?**

- 22 Women are different
- 24 Hazardous chemicals and human reproductive health
- 25 Hazardous chemicals and cancer
- 27 Negative health effects on the immune system
  - 27 Allergies and asthma
  - 27 Multiple chemical sensitivity (MCS)
- 29 The most vulnerable: the effects of hazardous chemicals on children
- 30 When in doubt, play safe or how much scientific certainty do we really need?
- 31 When in doubt play safe: the precautionary principle
- 34 Four known hazardous chemicals in every day consumer products and their associated health effects

## Chapter 3

### **38 How are chemicals regulated?**

- 38 European chemicals – so far, so good?
- 39 REACH: the reform of European chemicals policy
  
- 40 What difference could REACH make?
- 41 The international dimension: the 2020 goal
- 41 The Stockholm Convention
- 42 Managing chemicals globally: SAICM
- 43 The WECF vision: safe chemicals for a toxic-free future

## Chapter 4

### **46 Safe chemicals – safe products**

- 47 Substitution is the solution
- 47 Shopping safely
- 48 Cosmetics and beauty products
- 48 *What you can do*
- 48 Children's toys
- 50 *What you can do*
- 50 Cleaning agents
- 50 *What you can do*
- 51 Hazardous chemicals inside the house
- 51 *What you can do*
- 52 Product labels
- 52 European Eco-label
- 53 What are you waiting for? Get involved!
- 55 Model letter to companies

## Chapter 5

### **58 Outlook**

- 60 Toxic Tour of Your Bathroom Cabinet
- 62 Endnotes

## For a toxic-free world

I am a politician, a consumer, a woman and a mother of two kids. From each point of view I fully welcome the information for women on chemicals in every day life presented in this brochure.

Hazardous chemicals are part of our daily life. Even when we try to live consciously and avoid them, we are daily exposed to them. Most of these substances can be found in everyday products, such as toys, cosmetics, PCs, clothes or furniture. These products are 'terra incognita': of the 100,000 chemicals known in Europe, 97% have not undergone any risk assessment. The current approach to chemicals use is a huge experiment with humans, animals and the environment. Women and children are especially at risk, because of their different and often more vulnerable biological system. Blood tests by the WWF revealed the dangerous exposure to chemicals. I was very shocked about my own test result: residues of 37 out of 101 tested chemicals were found. We run the risk of becoming a hazardous waste depository!

For far too long adequate protection from dangerous chemicals for humans and the environment has been put off. We no longer want to be guinea pigs for the industry. Substances that are hazardous to humans, animals and the environment should not be allowed on the market. A new chemicals policy is therefore urgently needed.

The European Union's REACH proposal presents a unique opportunity to provide a high level of protection for Europe's women, their families and the environment. This system of registration, evaluation and authorisation of chemicals is the great chance to protect humans and the environment against slow and silent poisoning.

As a rapporteur for the European Parliament's Women's Committee, I highlighted the special vulnerability of women and their families to the long-term health effects of hazardous chemicals. A special concern of mine was to strengthen the power of women as consumers by labelling products analogous to food stuff in order to reinforce the right to know, to ensure the freedom of choice and to create incentives for industry to substitute safer chemicals for risky ones. Unfortunately, this important point did not receive the necessary majority in plenary. However, it should be our long term goal for the future.

The upcoming second reading vote on REACH will be an important litmus test: how seriously are consumer, environmental and animal protection – as well as the precautionary principle – taken in the European Union? I hope that the EU takes its chance and demonstrates leadership globally – so that we can send also a signal to the world that safe chemicals and a toxic free world are possible.

**Hiltrud Breyer**

Member of the European Parliament

## **1 | Man-made Chemicals and the Tip of the Iceberg**

### **What is the problem?**

Imagine that suddenly you cannot drink the tap water, eat trout from the river or corn from the fields, pasture may be contaminated and pregnant women and families need to stand in line for free bottled water deliveries. This is the reality that shocked a small region in western Germany in June 2006, when high levels of the chemical perfluorooctane acid (PFOA) were detected in the rivers Ruhr and Möhne<sup>1</sup>. PFOA is a substance that does not break down in the environment, accumulates in humans and wildlife, interferes with the human hormone cycle and can cause different kinds of cancer. The source of the contamination has not been confirmed, and it may never be found. You may wonder, however, how a cancer-causing chemical gets close enough to us to end up in our tap water. In fact, it is used in all kinds of consumer products, from Teflon frying pans and food wrapping to impregnated outdoor gear.

Women and their families are exposed to man-made chemicals – also referred to as ‘synthetic chemicals’ - everywhere and on a daily basis. These chemicals can be found in everyday consumer goods such as cleaning products, clothing, cosmetics, furniture and toys. They are added to products for technological reasons: to prevent computers from catching fire, make nail polish dry faster or stop paint from dripping. BUT they pervade our lives, and even our bodies – and many of them threaten our health, that of future generations and the environment. More than three hundred fifty synthetic chemicals have been detected in the human body<sup>2</sup>. More and more scientific evidence links a variety of these substances to diseases such as allergies, asthma, reproductive disorders and cancer, especially affecting women and children. Yet, the contamination of humans with such chemicals is only the tip of the iceberg. Before they enter the human body, they have been present in the environment for a long time already where they accumulate in animals and via the food chain.



This brochure highlights the problems associated with man-made chemicals. It discusses how the problems came about, how women's health and that of future generations is affected and what needs to happen in the future to make chemicals safe.

### **Synthetic chemicals - mankind's success or an increasing menace?**

Tens of thousands of chemical compounds which do not occur naturally are today produced industrially. They are also known as synthetic chemicals and mostly end up in everyday consumer products ranging from household appliances, cars, personal care products, cleaning products, clothing and textiles, construction materials, furniture, carpets, consumer electronics and many, many more. Some chemicals produced industrially do occur naturally, but this does not always mean that they may not cause negative effects on human health. The chemical industry is one of the biggest industries in the world.

*Fig 1: Bio-accumulation of PCBs in fresh water and the food chain (adapted from Colbom, Theo, et al., Our stolen future, 1996)*

Below are some facts:

- Global production of chemicals rose from a million tons in 1930 to over 400 million tons in the year 2000.<sup>3</sup>
- World sales are now estimated at 1.7 trillion EUR.<sup>4</sup>
- Europe produces 38% of the world's synthetic chemicals accounting for 656 billion EUR in chemical sales (about 2% of GDP).<sup>5</sup>
- The EU and the wider European region together account for The biggest chemical producers in the EU are Germany, France, Italy and the UK.<sup>6</sup>
- The new EU member states account for about 12% of the total EU chemicals production.<sup>7</sup>
- More than 100,000 different synthetic chemicals are marketed in the EU alone.<sup>8</sup>

### **Data and legislation**

In Europe, new substances have only been subject to systematic testing since 1981. Before then limited legislation existed to ensure that synthetic chemicals were screened for their health and environment effects. At the moment, the majority of substances being produced are so-called "old substances", first manufactured before 1981. In fact, a document from the European Commission from 2001

states that about 86% of substances on the market in the EU have never been tested for their health and environment effects. Many of them have never been tested to establish their safety. A new vacuum cleaner is today subjected to more thorough official testing than chemicals that find their way into our environment by the ton!<sup>9</sup>

### **What makes man- made chemicals hazardous?**

Chemicals that pose problems for human health and the environment are referred to as hazardous chemicals. The dictionary definition of a hazard is a risk or peril. In environmental health terms a hazard is a factor or exposure that can have a negative effect on human health. In the case of chemicals it means that the chemical poses a threat to human health and the environment due to its intrinsic properties. Increasingly, the properties listed below are considered to be the source of high concern when it comes to examining the hazards of chemicals

### **Fig.2: What do we know about chemicals on the EU market?**

*64% of chemicals on EU market without minimum data set, 21% of chemicals on EU market with no data at all, and 14% of chemicals on EU market with a minimum data set which allows authorities to make an informed judgement concerning the dangers associated with the substance*

*Source: European Chemicals Bureau (ECB)<sup>10</sup>*

**PBTs and vPvBs:** Some synthetic chemicals are known as 'persistent, bio-accumulative and toxic' (PBTs). Of them, some go by the acronym vPvB, meaning their chemical properties make them 'very persistent and very bio-accumulative'.

**Persistent chemicals:** Certain chemicals only break down chemically or biologically very slowly in the environment. In other words, they persist in the environment. Over time, their concentration in the environment increases.

**Bio-accumulative chemicals:** A substance is bio-accumulative if it is stored in the body, often in fatty tissue. Even low concentrations in the environment can lead to high concentrations in the body as the

amount stored in the body builds up over time. These substances accumulate further as they move up the food chain, which means that if plants show even low levels of harmful substances, higher concentrations are already detectable in herbivores, such as cows, increasing further in carnivores through to humans, who are the top of the food chain (see picture 1). A toxin that has been transported along the food chain through different stages will have a very high accumulation factor.

**Toxic chemicals:** A substance is seen as toxic if it represents a threat to health. While some toxic substances can be quickly broken down again in the environment or in the body, those that are toxic, persistent and bioaccumulative, are of very high concern.

**CMR chemicals:** Hazardous chemicals also encompass those that are carcinogenic - those that cause cancer, mutagenic- those that change DNA, and reprotoxic, meaning they are harmful to human reproduction and can cause miscarriages and birth defects. This group in short is referred to as CMRs.

**Hormone disrupting chemicals:** Finally, fairly recently we have started to know more about a new group of chemicals, those which interfere with the human hormone cycle and have the ability to act like human hormones. They are referred to as endocrine disrupting chemicals or EDCs; the endocrine system is the glands such as the pituitary and the thyroid that make hormones. These chemicals are known in lay terms as hormone disruptors.

### **Homemade global contamination**

Persistent toxic chemicals can travel very long distances via air, rivers, oceans and migrating wildlife. Also, most persistent chemicals travel from warmer regions like Europe or North America to colder regions like Antarctica, Siberia or regions near the Barents Sea. Surprisingly, build-up levels of such chemicals in wildlife and indigenous populations are now higher in these regions than in temperate zones. According to the environmental organisation WWF, polar bears, beluga whales and seals are among the most contaminated species on earth.<sup>11</sup> Like women, they possess more fatty tissue in order to cope with, in their case, the harsh climate. Research has shown that a higher level of fatty tissue increases the body burden of hazardous chemicals which interfere with the species' hormone and immune systems.

Chemical contamination is a global problem because substances which are produced in industrialised regions such as Europe end up in the Arctic and other far away regions in the world. In fact, the Arctic is also called the world's toxic sink.<sup>12</sup>

### **A world - wide experiment**

The negative effects of chemicals are primarily only investigated after chemical catastrophes, high incidence of disease or very strong evidence of a direct and immediate link. Certain health impacts, however, emerge only after decades or even a generation or two later. By then it is often no longer possible to prove the connection between the illness and a particular substance as we will outline in the chapter two.

Up until now, industry has not been legally obliged to prove that the chemicals it produces, and the consumer articles they end up in, are in fact safe. Currently, consumers or the authorities must prove that a substance is detrimental to human health and the environment before any action is taken. Even when evidence is available that a chemical is hazardous it takes decades before the substance in question disappears from the market. We are thus all part of a world-wide experiment. If enough of us fall ill while in contact with a certain chemical, the experiment has shown that the chemical is dangerous.

## **2 | Human Health-sick of man-made chemicals?**

As discussed in chapter one, we are all continually exposed to hazardous chemicals in our everyday lives. Once they have made their way into the air we breathe, the water we drink, and the food we eat, it is only a matter of time before they also end up in the human body. That harmful chemicals make their way into the human body has been proven through bio-monitoring: measuring toxic substances in the body. Many toxins can be identified in samples of blood, the umbilical cord, the placenta, breast milk, urine and fatty tissue.<sup>13</sup> Three hundred and fifty pollutants have been shown to have made their way into the human body<sup>14</sup>. Even more alarming is that the human body burden of chemicals is passed on from one generation to the next, with levels of certain hazardous chemicals increasing from mother to child.<sup>15</sup>

### **Women are different**

Women, men and children are all susceptible and exposed to chemicals in different ways. In the case of women, biological factors such as the difference in physical make-up are one reason for the different susceptibility to synthetic chemicals. For example, women have more fatty tissue than men and undergo so-called 'windows of susceptibility' such as pregnancy and menopause. These are periods when the female body changes and becomes more vulnerable to influences from the environment. When it comes to differences in exposure to chemicals and pollutants, social factors are important. For example, there is a direct link between traditional gender roles and exposure to chemicals in household and cleaning products, cosmetics and personal care products.

In this chapter we briefly introduce a number of diseases and health effects that have been linked to hazardous man-made chemicals. It is important to remember that the chemicals discussed here are comparatively well researched. As indicated in chapter one, the

majority of chemicals used in the world remain a black box - no one has studied what they do to human health.

### **Hazardous chemicals and human reproductive health**

Man-made chemicals can damage a woman's reproductive health. Scientific evidence from laboratory studies suggests chemicals interfering with the human hormone system, called endocrine disruptors, are the main culprits. Some of the 85,000 chemicals found in everyday products have displayed hormone-like activity in laboratory tests.<sup>16</sup> They can mimic, block or interfere with the breakdown and transport of the natural oestrogen in our bodies. In other words, these chemicals that act like a human hormone can regulate bodily functions and growth like the hormone does- but not necessarily with the same result.

One consequence of the spread of these chemicals may be that girls enter puberty at a much earlier age than in previous times. Today, puberty in girls begins on average at eleven, much earlier than in the past. When similar data were first gathered one hundred and twenty years ago, girls were nearly 17 years old at the time of their first menstruation. And the start of puberty is advancing further: scientists at Landau have calculated that by 2010 the onset of puberty will come at the tender age of ten. Although endocrine disruptors are under obvious suspicion, it is not yet entirely clear whether they are the only cause of this general trend. It is also not sure yet whether it is a cause for concern, but puberty is one of these special windows of susceptibility in which the body changes rapidly, making girls much more vulnerable to external factors such as hazardous chemicals.

Another and very clear cause for concern is that about 14 million women in the EU suffer from a "modern" fertility disorder, endometriosis.<sup>17</sup> In endometriosis, the endometrium (the tissue that lines the inside of the uterus) grows outside the uterus and onto other organs in the pelvic cavity, for example on the ovaries. Although very little is still known about the disease, it is one of the most common afflictions of the womb. Endometriosis can be very painful, and women who have it may become unable to conceive. Endocrine disruptors such as the notorious DDT and PCBs, but also phthalates, have been linked to the disorder.

Men's fertility is also affected by hazardous chemicals. During the last decades, sperm counts have decreased by up to 50% in men in Europe, the US and Australia. Endocrine-disrupting chemicals<sup>18</sup> are a suspected cause. These problems contribute to an increase in infertility, now affecting 15% of all European couples. This can have disastrous

consequences for a region that now and in the future will have to cope with a declining population.

Lastly, it should be mentioned that many chemicals, such as Bisphenol A, which occurs in a variety of consumer products including baby bottles, nail polish, flooring, the lining of tin cans, plastic food containers and electronic appliances; (see table on pages 34 and 35) are also intrinsically toxic to reproduction. They can cause miscarriages, and can harm the development of the foetus in the womb.

### **Hazardous chemicals and cancer**

Many hazardous chemicals such as formaldehyde or benzene are carcinogens. Carcinogens can cause a variety of cancers such as lung, breast and testicular cancer. A variety of other cancers has been linked to exposure to endocrine disruptors. This ought to set alarm bells ringing, since the breast cancer risk in a woman increases with her lifetime exposure to estrogen. Breast cancer starts when, through a set of mutations, a normal cell becomes a tumour cell, usually in the milk-ducts, which are little tubes that transport milk to the nipple, or in the lobules, the place where milk is made. Tumour cells can then grow into malignant clusters, i.e. breast cancer. One in seven women in Europe is affected by this disease during her lifetime. A woman is diagnosed with breast cancer every two and a half minutes in the EU.<sup>19</sup> The UK Working Group on the Primary Prevention of Breast Cancer has argued that breast cancer is an environmental disease, linked next to other causal factors to toxic chemicals.<sup>20</sup> For a number of years in its annual reports, the US Breast Cancer Fund has stated evidence of links between hazardous man-made chemicals and the disease.<sup>21</sup> In addition, breast cancer, which occurs increasingly in younger women, poses a threat to women's reproductive health because it can throw women into early menopause as a result of the treatment.

Incidence of cancer in children is thought to be rising by about one percent a year<sup>22</sup>. As Catherine Dorey writes in her 2003 report documenting the contamination of the child, brain cancers, cancers of the nervous system and leukaemia in particular have been rising in children; for example the rate of childhood leukaemia rose by 50% in the US between 1975 and 1999<sup>23</sup>. According to Dr. Dorey childhood cancers differ from adult cancers. Just about 5-10% of childhood cancers can be linked to inherited genetic changes. Instead, many seem linked to chromosome changes that occur around conception; these changes may often be caused by hazardous man-made chemicals.

Some cancers that surface in adulthood may also be caused by contamination in childhood: many cancers have a very long latency, the period in between the start of the disease and when it is serious enough to be noticed. This means that some cancers caused by hazardous chemical pollution of a child appear only later in life, when the child is an adult.

## **Negative health effects on the immune system**

### **Allergies and asthma**

The number of people with allergies is on the rise. Allergies are an auto-immune disease where the body mobilises against substances that are foreign to the body but are in fact harmless. For example, pollen poses no danger to the body, but the immune reaction that it causes in people with hay fever is far from innocent.

Currently, about 80 million Europeans suffer from some form of allergy, or about one in six. Among the youngest the number is even higher: one in four children under the age of 10 has an allergy.<sup>24</sup> Allergies already rank among the most common chronic illnesses among children. Research has shown that some hazardous chemicals are responsible for changes in the body which in turn weaken its ability to cope with autoimmune diseases. Exposure to dangerous chemicals in the womb seems to determine a person's life-long capacity to deal with such diseases.

At a congress of the European Respiratory Society in 2005, scientists who monitored the use of household cleaning sprays for a number of years reported that incidents of asthma grew the more frequently those chemicals were applied in the house. While not all cases of asthma seem to be connected to allergies, researchers do suspect that they are a decisive factor. Likewise, some home improvement activities seem to be a cause of asthma. Floor levelling compounds, in particular, seem to increase the chances of developing asthma by 26%<sup>25</sup>.

### **Multiple Chemical Sensitivity (MCS)**

Multiple Chemical Sensitivity (MCS) is a growing public health problem that now concerns about 14 million people in the EU. MCS is an environmental disease. Individuals suffering from MCS react in an oversensitive manner to chemical substances, even if they are exposed to them only in low concentrations. A complex number of symptoms include fatigue, eye problems, ear, nose and throat-related complaints, nausea or various digestive problems, headaches and migraines. A



whole chain of irritations of the body's own defences causes enzymes, actually responsible for the excretion of toxins, to no longer function properly. If the body's defences are weakened in this way, toxins have considerably freer play within the body than in healthy individuals.

### **The most vulnerable: the effects of hazardous chemicals on children**

Chemicals stored in the female body are passed on to the foetus via the placenta or after birth through breast milk. Thus, contamination of the child with hazardous chemicals already happens in the womb. While the placenta does an excellent job of protecting the foetus from other health factors like harmful bacteria, it is no barrier to many toxic chemicals. Small, neutrally charged molecules which easily dissolve in fat simply pass through. Hazardous chemicals can attach themselves to such molecules and so pass through the placenta without any obstruction. The chemicals a child receives from its mother are in turn stored in the child's body, where they disturb the child's development. Associated health effects are learning disabilities, attention deficits, allergies, asthma and even childhood cancer as highlighted above. However, many health effects linked to early contamination may only become visible once the child has reached puberty or adulthood.

After the child is born, it is exposed to hazardous chemicals through breast milk. Like blood and fatty tissues, breast milk contains hazardous chemicals that have accumulated in the mother's body over the course of her life. Studies documenting the concentrations of toxins in breast milk and the change in concentrations over the years have been available for some years now. As a recent report from Friends of the Earth indicates, while the prevalence of older chemicals such as PCBs and DDT in breast milk is decreasing since they were banned in the 1970s, levels of "new" chemicals are rising. For example, more and more ingredients of cosmetics are detected in breast milk. Flame-retardants used in computers, electronics and textiles have now also been found in breast milk. Since the mid-eighties, the concentration of these chemicals in breast milk has been rising fast. While it is tragic that breast milk is spoiled in such a way, one thing remains largely uncontested: breast milk is still the best food for babies.

Therefore, we all need to do our best to ensure contamination of breast milk is reduced as a matter of urgency! Otherwise breast milk may not be best for babies in a few years from now. The vulnerability of children continues throughout their development because, compared to adults,

they eat, drink and breathe more in relation to their body weight. This means that their relative intake of dangerous chemicals from air and food is higher. The examples discussed indicate that exposure of the child from the earliest stages in the womb is significant compared to that of adults. Our mothers and grandparents were not as exposed to man-made hazardous chemicals as children are today from the earliest stages of their development on.

### **When in doubt, play safe or: how much scientific certainty do we really need?**

Research linking hazardous man-made chemicals to various diseases, only shows the tip of the iceberg. In fact, the majority of chemicals used in every day consumer products have never been investigated for their health and environment effects. As can be seen from the contents listed on any shower gel, we are typically exposed to a mixture. This is crucial when we consider that the adverse health effects of a substance may only become evident through the eventual illness of unsuspecting users. It is often very difficult to link a particular exposure to a particular chemical at a given moment in a person's life, and prove a direct correlation to the disease that they are suffering.

An additional problem is that science usually investigates only single substances and not the effects of multiple chemicals from numerous sources at the same time.

In 2003, a report from the UK's Royal Commission on Environmental Pollution made headlines in Europe.<sup>26</sup> At the report's release, the chair of the Commission, Sir Tom Blundell, argued that we were all part of a "gigantic experiment with humans and all other living things as the subject". What many activists concerned with environmental and health pollution had feared and warned against for a number of years, was finally backed up by prominent scientists.

Since problems associated with hazardous man-made chemicals surfaced, industry and public institutions have been advocating the use of "maximum values": if the concentration in an individual product or at each exposure does not exceed some specified "safe" level, exposure to chemicals should not be seen as a problem. Although theoretically appealing, a variety of factors make maximum values inadequate protection against harmful chemicals. Specific properties of chemicals, timing, duration and route of exposure are factors that come into play when it comes to assessing risks.

- Most of the time maximum values are set only on the basis of dose-effect tests in animals. The results of animal studies are then applied to humans, after adding on a "safety margin" of between 1:10 and 1:1,000.
- Risk assessments usually apply only to single toxins and leave out combined effects of exposure to a cocktail of toxins, which is much closer to women's "exposure reality"
- Given the lack of information on chemicals used and marketed in the EU, too little information on exposure pathways is available
- Maximum values are not set purely on the basis of scientific studies but instead are often compromises reached by the scientific commissions in question
- Maximum workplace concentrations (so-called MAC values) are often used as the starting point for setting other maximum values. Exposure depends on factors such as length, frequency, duration and particular sensibilities of the exposed person, that are all ignored by this approach. Children at home, for example, may be exposed to a toxin for much longer than employees in the workplace.
- Safe levels are calculated based on the expected effect on adult men, which ignores special susceptibilities of women due to their physical make-up. Children, given their body weight, metabolism, absorption patterns and other factors are always more vulnerable to the effects of hazardous chemicals than adults.
- To conclude: Risk assessments cannot be considered an objective scientific process

### **When in doubt-play safe: the precautionary principle**

Since the effects of synthetic chemicals are at present insufficiently understood, we should take any indication of a threat to human health and environment seriously. At the Rio Earth Summit in 1992, world governments agree that the best way to protect the environment and humans from pollution is to act in a preventive measure by applying the precautionary principle. Principle 15 of the Rio Declaration<sup>27</sup> states that when there is a threat of serious and irreversible damage, accompanied by a lack of full scientific certainty, measures to prevent environmental damage should not be postponed. The principle is applied to both health and environmental spheres. In the EU, countries have agreed to take

precautionary action to the next level and prevent environmental damage at source and ensure that the polluters pay.

We believe the precautionary principle offers a unique basis for action on hazardous chemicals: we do not need to wait to obtain bullet proof evidence of their capacity to cause detrimental and, as research shows, irreversible damage to women's health and that of future generations. Waiting is unlikely to lead to evidence to the contrary. Chemicals that cause cancer, make couples infertile, harm the child in the womb should not be contained in consumer goods in the first place! Ultimately, the best protection is to phase such chemicals out of use.

A group of well-known scientists under the lead of French cancer specialist Prof. Dominique Belpomme

Found the situation so alarming that they organised the *Paris Appeal on diseases due to chemical pollution* in the French capital in May 2004. Arguing that the human race is in danger from chemicals, the group urged lawmakers to take the problem of chemicals

seriously and engage in preventive action, such as enacting legislation that will close the current information gap on chemical substances. Moreover, this panel recommends the phasing out of chemicals which cause cancer, accumulate in human tissue and cannot naturally break down, inhibit the development of the child, or can change human DNA. The next chapter discusses whether such appeals and the evidence discussed have led to action by policy makers.

***When in doubt, play safe –  
The precautionary  
Principle must be applied  
To chemicals management***

**Four known hazardous chemicals in every day consumer products and their associated health effects**

<b>Substance</b>	<b>Technological function</b>
<b>Bisphenol A</b>	building block of polycarbonate plastics
<b>Phthalates</b>	softening of PVC plastics and used as additives in a number of products
<p><b>Perfluorinated Organic Surfactants</b></p> <p>i.e.  <b>PFOA</b>, (Perflourooctane Acid),  <b>PFOS</b> (Perfluorinated Sulfonate)</p>	Fire resistance, oil, stain, grease, and water repellency
<p><b>Brominated flame retardants</b></p> <p>i.e.  <b>PCBs</b> (Polychlorinated Biphenyls)  <b>PBDEs</b> (Polybrominated Diphenyl Ethers)</p>	prevents objects from catching fire

<b>Consumer application</b>	<b>Properties&amp; associated health effects</b>
<ul style="list-style-type: none"> <li>• baby feeding bottles</li> <li>• lining of tin cans, milk cans, food wrapping,</li> <li>• electrical and electronic goods, i.e. CDs</li> <li>• nail polish</li> <li>• water bottles</li> </ul>	<ul style="list-style-type: none"> <li>• persistent, bioaccumulative</li> <li>• endocrine disruptor</li> <li>• toxic to reproduction</li> </ul> <p>Associated health effects:</p> <ul style="list-style-type: none"> <li>• breast cancer, diabetes</li> <li>• impairs brain development</li> <li>• health effects have shown at doses 2,500 times lower than US EPA’s “lowest observed dose effect”</li> </ul>
<ul style="list-style-type: none"> <li>• children's toys</li> <li>• cosmetics &amp; perfumes</li> <li>• personal care products</li> <li>• flooring, carpets, furniture</li> <li>• textiles, footwear</li> <li>• DIY and electronic goods</li> <li>• lubricants</li> <li>• wood finishing</li> <li>• cars, buggies</li> <li>• medical equipment</li> </ul> <p>other products made of soft plastics</p>	<ul style="list-style-type: none"> <li>• persistent, bio-accumulative</li> <li>• reproductive toxin</li> <li>• carcinogen</li> <li>• changes DNA</li> <li>• endocrine disruptor</li> </ul> <p>Associated health effects:</p> <ul style="list-style-type: none"> <li>• damage to reproductive organs in both women and men</li> <li>• low-sperm counts</li> <li>• endometriosis</li> <li>• liver&amp; kidney damage</li> </ul>
<ul style="list-style-type: none"> <li>• stain-resistant, water repellent clothing, i.e. outdoor wear</li> <li>• Teflon frying pans and other non-stick cookware</li> <li>• coated food containers and papers for fast food and pizza</li> <li>• carpets and furniture</li> <li>• buggies</li> </ul>	<ul style="list-style-type: none"> <li>• persistent</li> <li>• bio-accumulative</li> <li>• toxic</li> <li>• carcinogen</li> </ul> <p>Associated health effects:</p> <ul style="list-style-type: none"> <li>• bladder cancer prostate cancer</li> <li>• changes in liver and cholesterol levels</li> </ul>
<ul style="list-style-type: none"> <li>• electronic and electrical appliances (PC’s, irons, TV’s and many more)</li> <li>• cars</li> <li>• furnishings (sofas, carpets)</li> <li>• wires</li> <li>• textiles</li> <li>• lighting</li> </ul>	<ul style="list-style-type: none"> <li>• persistent</li> <li>• bio-accumulative</li> <li>• endocrine disruptors, act like estrogens (female hormone)</li> <li>• changes DNA</li> </ul> <p>Associated health effects:</p> <ul style="list-style-type: none"> <li>• impairs nervous system such as brain and behavioural development</li> <li>• damage to reproductive system, i.e. ovaries</li> </ul>

### 3 | How are chemicals regulated?

Hazardous chemicals in every day life and the environment are a problem that clearly needs to be addressed politically. Institutions like the United Nations Environment Programme (UNEP) and the European Union (EU) have recognised this need for a number of years. As is the case with many environmental, health and social issues, hard action is needed to address problems of contamination with hazardous man-made chemicals in an effective manner. We simply owe it to ourselves and future generations.

#### **European chemicals legislation - so far, so good?**

European chemicals legislation has been sketchy and incoherent so far. There is no general legislative act covering all of the more than 100,000 chemicals marketed in the EU. The first EU legislation was adopted in the late 1960s and deals with the classification, packaging and labelling of dangerous substances. Since then, several other acts have been passed, all of them covering specific groups of chemicals, such as for example dangerous substances, phthalates, industry emissions, pesticides, biocides, cosmetics and lately also on PFOAs.

As an example, cosmetics ranging from facial cream to perfume are covered under extensive but ineffective legislation, the so-called Cosmetics directive. This directive<sup>28</sup>, which has been amended 7 times since its adoption in 1976, sets various rules such as the obligation to list ingredients and shelf life on the product, the testing of cosmetics and it also legislates which chemicals may not be contained in consumer products or not above a certain assumed safety level.

It has, however, not prevented the use of hazardous chemicals such as phthalates or synthetic musks in cosmetics products in cosmetics products.

Many of these instruments are based on the precautionary principle we discussed in chapter two. Some, such as the biocides directive, also enshrine the substitution principle. As a direct application of the precautionary principle, the substitution principle mandates the replacement of hazardous chemicals by safer alternatives, ideally non-hazardous alternatives. The substitution principle is an effective mechanism to address the problem of hazardous chemicals in consumer products and to ensure they are safe.

***Change law to protect  
human health  
and the environment***

## **REACH: the reform of European chemicals policy**

Aware of the inconsistencies and ineffectiveness of existing chemicals policy, the EU adopted new chemicals legislation, called REACH, in December 2006.

REACH stands for *Registration, Evaluation and Authorisation of Chemicals* and has entered into force in June 2007. REACH is the first attempt of the EU as the first region in the world, to regulate chemicals in a coherent manner rather than taking a "substance by substance" approach. As a direct consequence, the new chemicals policy replaces some 40 existing pieces of legislation concerning chemicals on the EU market.

One of the cornerstones of REACH is that for the first time in history, producers will be required to deliver data on the chemicals they produce and what impacts they can have on human health and the environment. In fact, under REACH, companies will have to prove their chemical products are actually safe. In doing so, REACH reverses the "burden of proof" away from authorities and back to industry.

### *Registration*

Under REACH some 30,000 of the 100.000 chemicals on the EU market will be screened for their environmental and health risks. Many of them have been on the EU market for more than 60 years and have never been subject to approval by any authority. The chemicals REACH is concerned with are substances that are manufactured in the EU or imported into the Union, chemicals that are marketed on their own or in preparations and consumer articles, as well as those used as intermediates.

REACH does not cover low-volume production substances as registration needs to occur for substances starting with an annual production volume of 1t. The entire registration process is tiered according to the annual production volume and mandates that the highest production volumes are registered first. This aspect of the registration procedure takes into account that production volume of a chemical is an indicator of the likelihood of environmental and human exposure to this chemical

Hazardous substances such as pesticides, biocides and chemicals used in cosmetics, food and medicines are excluded from REACH as they are covered by different and specific legislation in the EU.



### *Evaluation*

Once a registration dossier has been compiled, the evaluation phase sets in. Evaluation has two primary aims: 1) checking the registration dossier for completeness (*dossier evaluation*) and 2) scrutinizing the content information submitted with the registration (*substance evaluation*). Both tasks will be performed by the European Chemicals Agency (ECHA). This institution will be set up for overseeing the administration and implementation of REACH. ECHA is based in Helsinki, Finland.

### *Authorisation*

An authorisation, a permit, will be required for a company that wants to continue producing or using chemicals defined in REACH as *substances of very high concern*. This applies to hazardous chemicals such as CMRs, PBTs, vPvBs and to substances causing "probable serious effects" such as the endocrine disruptors introduced in chapter one.<sup>29</sup>

PBT, vPvB, CMRs (for which no threshold can be established) and other substances with "probable serious effects" need to be substituted if a safer alternative is available. In such cases the applicant for an authorisation needs to submit a plan which outlines how and by when he intends to replace the particular chemical with a safer alternative.

### *Consumer's Rights*

REACH also strengthens consumer's rights to toxic-free products. Firstly, the legislation ensures that companies, upon request, pass on information to consumers about high concern chemicals in everyday consumer products. Secondly, information about the health and safety of chemicals registered under the REACH regime will be made available to the public on the website of the new Chemicals Agency.

REACH certainly is an important step towards a toxic-free future. In fact, it is the most advanced chemicals policy scheme in the world and will contribute to better protection of women and future generations from hazardous chemicals. But REACH also contains many serious loopholes and legal uncertainties which make it less effective and less efficient than it needs to be. Therefore, the implementation and further development of REACH needs to be carefully monitored in order to prevent any further weakening of the legislation.

### **The international dimension: The 2020 goal**

Hazardous chemicals are not only a problem in the EU. In fact they pose a global problem which needs a global solution. Therefore, at the 2002 World Summit for Sustainable Development in Johannesburg, South Africa, world governments agreed:

*'...to achieve by 2020 that chemicals are used and produced in ways that lead to the minimisation of significant adverse effects on human health and the environment.'*<sup>30</sup>

The good news is that this is a legally binding target and governments are obliged to act on it. The bad news is that it seems to be more and more difficult for governments to act on this promise rather than drafting weak provisions at the national level.

A few good examples for chemicals legislation at the international level do exist already. For example, the Rotterdam Convention regulates trade in certain hazardous chemicals, and the Basel Convention forbids the dumping of hazardous waste in developing countries. Three more instruments deserve a special discussion because they may ensure the world community actually achieves the 2020 goal: the Stockholm Convention on Persistent Organic Pollutants, the Strategic Approach to International Chemicals Management, SAICM, and GHS system which will be discussed below.

### **The Stockholm Convention**

The Stockholm Convention on Persistent Organic Pollution (POPs) is one of the strongest proofs that it is possible to agree an international framework. POPs, such as dioxins, posed the biggest threat to human health and the environment many years ago and their consequences for human health and the environment are still being felt today.

However, based on the precautionary principle and the substitution principles, this treaty makes sure the 12 POPs<sup>31</sup> it covers - also called the "dirty dozen" - will be phased out once and for all. The Stockholm Convention became legally binding in 2004. To this date it has been ratified by 125 countries in the world.<sup>32</sup> The treaty allows new POPs to be added to the existing list of 12 as soon as governments agree to do so. It also addresses the global problem of POPs stockpiles, mainly pesticide dumps, and forces governments to make sure they are cleaned up.

### **Managing chemicals globally: SAICM**

Four years after the Johannesburg Summit and after tough negotiations, governments agreed in Dubai in February 2006 on a global plan to manage chemicals, called SAICM. SAICM addresses the safe production, use, transport, storage and disposal of chemicals worldwide. SAICM is based on the precautionary principle with the aim of preventing pollution and encourages the substitution of hazardous chemicals. While governments have no doubt worked hard to get the agreement together, it falls short of its promises, especially because it is not legally binding. This means that governments are not obliged to put the arrangements of SAICM into practice.

Clearly, some action to ensure threats from hazardous chemicals in people's every day life is underway. This is important because policy can set the framework in which companies can act. The challenge for governments lies in setting the right frameworks, i.e. frameworks that are based on the precautionary principle and enshrine the substitution principle but also, in making such agreements legally binding in order for national governments to actually implement them.

Women have a special role in this regard and need to be actively involved in such processes.

Given our specific susceptibility to the negative effects of hazardous chemicals and as mothers our responsibility for the health and well-being of future generations, we need to make our voices heard to ensure existing frameworks for chemicals management are in fact implemented and legally binding ones enacted in the future.

**The WECF vision: safe chemicals for a toxic-free future**

WECF has been working towards a toxic-free future internationally, regionally and locally for a number of years. Chemicals on the market anywhere need to be safe, meaning they are not hazardous to human health and the environment. In other words, PBT chemicals (persistent, bio-accumulative, toxic chemicals), endocrine disruptors, CMR chemicals (causing cancer, miscarriages and birth defects, or changing DNA), and any other substance of equivalent concern should not be allowed on the market. In order to make chemicals safe, the precautionary principle needs to be stringently applied in European and international chemicals legislation as well as corporate practices. As a direct application of the precautionary principle, chemicals of very high concern need to be substituted by safer alternatives as soon as those are available. Any effective chemicals policy needs to incorporate a system that generates the kind of toxicological and eco-toxicological data needed to identify dangerous substances as early as possible. Responsibility for generating such information cannot only lie with the legislator but has to be taken up by the producers of chemicals. Urgent action needs to be undertaken to effectively address to the mounting threat of endocrine disrupting chemicals to human health, particularly to women. Join us for better chemicals legislation!

## **4 | Safe chemicals - safe products**

Chemicals on the market anywhere need to be safe. While this seems common sense, chemicals, unlike consumer products such as cars or dairy products, are not scrutinised before they end up on the market and in consumer products. Making chemicals safe is clearly the responsibility of companies. Policy can set solid frameworks, requiring companies to substitute hazardous chemicals or generate information about the chemicals they manufacture and use. Yet ultimately, industry needs to act. Fortunately, there are many very positive examples already available<sup>33</sup> of companies taking leadership and making sure their products are safe. At the end of the day, innovation such as replacing hazardous chemicals by safe, non-hazardous alternatives is likely to increase market share because people generally prefer to buy “safety” rather than risk.

In modern societies, often the most effective statement can be made in the supermarket, because purchasing decisions can – cumulatively – punish or reward producers. Women have a special role in this context. In their function as “chief purchasing officer” in most families, women have a special interest in safe products and thus considerable market power.

However, choosing the right product is not easy. Given the widespread application of hazardous chemicals in every day consumer products and the lack of knowledge on many, many more chemicals out there, there is no easy recipe for shopping safely. Food and cosmetics manufacturers are obliged to list the contents of their products, but when, for example, you buy a table, it is very difficult to get comprehensive information about the materials and the composition of coatings used in making it. We hope the information in this chapter offers some help to guide you through the products jungle.

### **Substitution is the solution**

We are convinced that it is possible to make consumer products safe in that they do not contain hazardous man-made chemicals such as phthalates, bisphenol A, PFOA, synthetic musks, organotins and many other hazardous chemicals. In the long-term such chemicals need to be substituted by safer alternatives in order to protect women and future generations. As outlined in chapter three, the substitution has been enshrined in international and EU legislation for a number of years. Clearly, substitution requires investment in research and a commitment from companies. Some companies already implement substitution in

their production chain, and in doing so make their products more sustainable. Environmental organisation Greenpeace has been working for a number of years with companies such as Sony, Samsung, Nike and many more to commit them to phasing out hazardous chemicals from computers, mobile phones and trainers. Retailers Ikea and H&M have signed on to phase out hazardous chemicals. A products database organised in different product categories gives probably the best information currently available on big brands and whether their products are safe: <http://www.greenpeace.org.uk/Products/Toxics/chemicalhouse.cfm>

### **Shopping safely**

Generally speaking it is difficult to obtain information and guidance on products in Europe. In some European countries you will find institutions that test products for their quality as well as their safety in terms of hazardous chemicals, such as "Ökotest" in Germany. In other countries it is harder to find such information. One way to find out is to contact your national consumer's organisation, and ask if they or some other organisation are concerned with hazardous chemicals in products. Addresses are available from the websites of Consumers International<sup>34</sup> and the European Consumer's organisation, BEUC.<sup>35</sup>

### **Cosmetics and beauty products**

Our bathrooms contain numerous products from eye make-up, creams and shower gels to baby powder and toothpaste. Hazardous chemicals have been found consistently in beauty and personal care products. Due to loopholes in the cosmetics directive substances like phthalates or synthetic musks do not have to be listed on the packaging or the product container (see cosmetics directive as described in chapter three). Don't we have a right to healthy products, particularly those we put onto our skin?

### **What you can do:**

- Find out which chemicals your products contain by using the *Toxic Tour of Your Bathroom Cabinet* fact sheet designed by the UK's Women's Environmental Network, (WEN) available in the back of the brochure
- Buy from companies that do not use hazardous chemicals such as Weleda or Dr. Hauschka which are organic. See WEN's list of cosmetics companies at <http://www.wen.org.uk/cosmetics/companies.htm><sup>36</sup>

- Write to manufactures and ask them to substitute hazardous chemicals (*see model letter on p. 55*)

### **Children's toys**

In 2004 *Scoubidous*, long coloured strands of plastic from which children can make their own bracelets, figures and key chains, made a big impact in Europe. These toys consist of 35 percent phthalates, which have shown to cause damage to the liver, kidneys and reproductive organs. In the EU, some phthalates are banned in toys for children up to age three, but not in toys for older children. Rubber and textile dolls have also frequently tested positive for hazardous chemicals such as the endocrine disruptor nonylphenol, phthalates and organotins. None of these substances belong in children's toys. Wooden toys can contain toxins too, in the finish or the glue used during manufacturing. Unvarnished wooden toys are free from these toxins. In the first instance, toys are tested by the manufacturers themselves. They certify that their products meet the requirements of the European Safety of Toys Directive. Once certified, toys are allowed to bear the Communauté-Européenne CE mark. Unfortunately, the test criteria fall short with respect to hazardous chemicals such as and phthalates are not covered by the testing requirements of this certification.

### **What you can do:**

- Avoid PVC toys- look for look for a number 3 in a triangle printed on the product label which shows if the product is made of PVC
- Ask the manufacturer for a list of contents in toys and for details of the phase out policies they apply in making their products.

### **Cleaning agents**

In a private household, avoid using phosphates, chlorine bleach and disinfectants which can be found in conventional cleaning products. They can lead to a variety of health effects such as allergies and respiratory problems like asthma. An astoundingly small number of cleaning agents will normally suffice to get the home shiny and spotless.

### **What you can do:**

- Windows become immaculately clean with 2-3 tablespoons white-vinegar in warm water and newspapers used for polishing
- The vinegar-warm water combination with a bit of olive oil is perfect for mopping floors, especially wooden floors

- Conventional baking soda removes stains and dissolves grease and dirt, for example in the bathroom and on furniture
- For a homely scent use dried lavender placed in a nice bowl or in little bags, best home-made to avoid synthetic musks and other hazardous chemicals.

### **Hazardous chemicals inside the house**

Indoor air pollution is a side-effect of the problems with hazardous man-made chemicals in every day consumer products. We spend 80 to 90 percent of our day in enclosed spaces, and the air quality in some homes is poorer than on a busy street. Hazardous chemicals released from consumer products like mattresses, sofas, carpets, PVC (vinyl) flooring and some building materials pollute our homes and we inhale these chemicals when we breathe. At the end of 2002, Greenpeace studied house dust in several European countries. The results were alarming. Among other substances, the group detected phthalates and brominated flame retardants which had been released from plastic objects, textiles and electronic appliances into the house dust.

### **What you can do:**

- Air properly, leaving windows wide open. This is especially crucial after re-decorating the home or buying new furniture and electrical appliances as the new products or finishes can emit fumes containing hazardous chemicals when new
- Do not buy furniture and flooring made out of plastics and PVC - instead choose natural materials such as wood, cork and steel. Look for wood products that have not been chemically treated or have been treated, sealed or laminated with chemicals referred to as volatile organic compounds or VOCs
- Ask manufacturers for furniture and electronics without brominated flame retardants
- Look out for labels which certify that your product is eco friendly and does not contain any dangerous substances.

### **Product labels**

Labelling is another instrument that can help guide consumers through the products jungle. While it is at least a step forward in ensuring consumers rights to safe products which do not harm them, labelling cannot replace action which is needed to put an end to contamination with hazardous chemicals in Europe. Also labelling criteria need to be



rigorously set and enforced to prevent them from being used indiscriminately, which would render their actual purpose redundant. These are some labels that can be found on all kind of products throughout Europe:

### **European Eco-label:**

The European eco-label<sup>37</sup> certifies the environmental sustainability of non-food products and services (not including food, drink, pharmaceuticals and medical devices). Independent bodies scrutinise different product groups and award the label only to those products with the lowest environmental impact within their product group. Product groups range from tourist accommodation service, home appliances, cleaning materials, and mattresses to office supplies, gardening and Do It Yourself products. The eco-label criteria are different for each product group, but they are the same in all member states of the European Union. Consumers can recognise the eco-label by the flower. Environmental groups have warned about the limitations of this label: although the label shows which products are *safest within their category*, it does not show that products are actually *safe*. Several EU countries have their own separate eco-label, with, in some instances, stricter criteria:

- Nordic Eco-label: [www.svanen.nu](http://www.svanen.nu)
- Milieukeurmerk: [www.milieukeur.nl](http://www.milieukeur.nl)
- Der Blaue Engel: [www.blauer-engel.de](http://www.blauer-engel.de)
- Umweltzeichen: [www.umweltzeichen.at/](http://www.umweltzeichen.at/)
- Environnement: [www.ademe.fr/entreprises/Management-env/approche-produit/Promotion/NF-Environnement.htm](http://www.ademe.fr/entreprises/Management-env/approche-produit/Promotion/NF-Environnement.htm)

### **What are you waiting for? Get involved!**

Although there are many business initiatives that show industry is catching up on this issue, there are still too many products on the market which contains chemicals about which little is known or which contain hazardous chemicals. It is the responsibility of companies to demonstrate to the public that their products are safe.

Some business leaders misunderstand when we ask them to substitute hazardous chemicals, assuming we want this to happen overnight. Admittedly, it would be great if tomorrow we could buy cosmetics without reproductive toxins such as phthalates, computers without

brominated flame retardants and baby bottles without Bisphenol A leaking out of them. But we understand it will take some time and adjustment for safer alternatives to be found for all these chemicals, in all their uses. This does not mean that the process of switching to safer alternatives should not start today!

Companies want to hear from their customers directly. We need to encourage and persuade those that have not yet understood the urgency to address contamination from chemicals in consumer products. Please use and adapt this model letter to ask companies to make information about hazardous chemicals in their product available and to substitute hazardous chemicals

### **Model letter to companies**

---

Dear Madam/ Sir

I have heard about hazardous chemicals in consumer products which can damage human health from environmental/women's organizations like [enter name]. Moreover, I have come to understand that as a woman I am especially at risk. I do not want to be exposed to hazardous chemicals, which accumulate in my body and harm my reproductive health. I have been using your product [*enter product name*] and would like to know if [*enter product name*] contains hazardous chemicals?.

If so, what is your company doing to make sure I am/ my family and I are no longer exposed to the hazardous chemicals in your product?

Hazardous chemicals do not belong in consumer products. I call on you to substitute them as soon as possible with safer alternatives. In the meantime, I will buy safe products – for the sake of my health and the environment.

Yours sincerely,

---

## **5 | Safe chemicals for a toxic-free future – an outlook**

In this brochure you have read about man-made chemicals, about the negative health effects of some of these, and about how chemicals are regulated. We have also given you tips to protect yourself and your family from hazardous chemicals.

In effect, however, it is not up to us to find ways to protect yourself, the onus is on industry to develop safe products, and on politicians to induce them to do so. Strong, legally binding chemicals policy at EU and international level is needed to ensure change – changing the status quo of how chemicals are produced and marketed all over the world.

This brochure was much inspired by the developments surrounding the draft EU chemicals policy review REACH. Since 2003, WECF has been working for a strong new EU chemicals law. The pressure REACH has come under, mainly from the European chemicals industry, has severely weakened the draft proposals. Many women are deeply disappointed about this development.

Politicians need to refocus on the benefits of strong chemicals legislation, such as healthy women, healthy families, a healthy environment, safe products, increasing industry sales and saving money for the costly clean up of hazardous consumer waste, instead of continuously looking at the costs. The costs for implementing a strong chemicals policy are carried by a comparatively small group, the chemicals industry, whereas the costs for treating illnesses, dealing with risks, managing and cleaning up hazardous consumer waste are carried by all of us on this planet. Enacting better legislation such as a strong REACH in the EU and implementing existing international agreements is a win-win situation for everyone on the planet

WECF has been working for strong protection of women and future generations from hazardous chemicals. We hope you will join us in our struggle. We are here if you need us!

## Toxic Tour of Your Bathroom Cabinet

*Reproduced with kind permission by WEN, Women's Environmental Network, in the UK*

Names to watch out for	Effects	Enter name & brand of product in the box below (e.g. Intensive Hand & Body Lotion, Boots)
<p><b>AHAs – Alpha-hydroxy acids</b> (or 'fruit acids'; incl. Glycolic acid and lactic acid)</p>	<ul style="list-style-type: none"> <li>• Can penetrate the skin</li> <li>• Many reported adverse skin reactions in the US</li> <li>• May increase sensitivity to sunlight therefore increase photo-aging and risk of sun-related skin cancers</li> </ul>	<p>----- ----- ----- -----</p>
<p><b>BHT</b> butylated hydroxytoluene</p>	<ul style="list-style-type: none"> <li>• Preservative antioxidants</li> <li>• Possible allergen</li> <li>• Has been linked to possible behavioural effects, reproductive failures, not allowed in baby food</li> </ul>	<p>----- ----- ----- -----</p>
<p><b>Fragrance</b> (Parfum, or Aroma.)</p>	<ul style="list-style-type: none"> <li>• Can exacerbate asthmatic symptoms.</li> <li>• May contain chemicals linked to cancer, damaging to the liver and kidneys and toxic to the nervous system.</li> </ul>	<p>----- ----- ----- -----</p>
<p><b>Parabens</b> (Alkyl parahydroxy benzoates, or butyl/methyl/ethyl/propyl/isobutyl paraben)</p>	<ul style="list-style-type: none"> <li>• Oestrogen mimics</li> <li>• Can penetrate the skin</li> </ul>	<p>----- ----- -----</p>

<p><b>Phthalates</b> (Dibutyl (DBP), di(2-ethylhexyl) (DEHP), diethyl phthalate (DEP), butyl benzyl phthalate (BBP))</p>	<ul style="list-style-type: none"> <li>• Risk to pregnant women and unborn children;</li> <li>• DBP and DEHP on EU list of banned substances to be phased out by early 2005</li> <li>• May disrupt hormones and cause birth defects</li> <li>• Linked to asthma and allergic disease</li> </ul>	<p>----- ----- ----- -----</p>
<p><b>P-Phenylenediamine</b> (PPD, or Para-phenylene-diamine)</p>	<ul style="list-style-type: none"> <li>• Linked to cancer in workers</li> <li>• Linked to asthma and allergic disease.</li> <li>• Can penetrate skin.</li> <li>• Skin irritant</li> </ul>	<p>----- ----- -----</p>
<p><b>Triclosan</b> (5-chloro-2 (2,4-dichlorophenoxy)-phenol) or Trade name - Microban</p>	<ul style="list-style-type: none"> <li>• Bioaccumulative - builds up in fatty tissue and can't be broken down properly.</li> <li>• has been found in human breast milk and fish</li> <li>• Dioxins (linked to cancer) are formed when it is manufactured, incinerated or exposed to sunlight.</li> </ul>	<p>----- ----- ----- -----</p>
<p><b>Sodium Lauryl Sulphate</b> (Sodium Lauryl Sulfate)</p>	<ul style="list-style-type: none"> <li>• Skin, eye and respiratory tract irritant.</li> <li>• May damage liver, lungs and immune system.</li> <li>• Some evidence to suggest reproductive effects.</li> </ul>	<p>----- ----- -----</p>
<p><b>Toluene</b> (Toloul, methylbenzene)</p>	<ul style="list-style-type: none"> <li>• Risk to women workers of spontaneous abortions</li> <li>• Skin irritant</li> <li>• Toxic to central nervous system, eyes, blood, liver, kidneys and skin.</li> </ul>	<p>----- ----- -----</p>
<p><b>Propylene glycol</b> (propan-1,2-diol)</p>	<ul style="list-style-type: none"> <li>• Humectant - used to maintain moisture.</li> <li>• Can cause contact dermatitis</li> <li>• Linked to depression of the CNS (Central Nervous System)</li> </ul>	<p>----- ----- -----</p>

## Endnotes

---

<sup>1</sup> Sauerland Themen. 2006. All articles covering Gift in Ruhr und Möhne. June 2006. [On-line] available at:  
<http://www.sauerlandthemen.de/index.php/2006/06/>

<sup>2</sup> Cameron, P. & Smolka, S. 2005. *Toxic Inheritance*. Friends of the Earth Europe/BUND, December 2005, p. 8. [On-line] available at:  
[www.foeeurope.org/publications/2006/toxic\\_inheritance.pdf](http://www.foeeurope.org/publications/2006/toxic_inheritance.pdf)

<sup>3</sup> European Commission. 2001. White Paper-Strategy for a future chemicals policy. COM (2001) 88 final

<sup>4</sup> Cefic. 2005. Profile of the chemical industry; facts and figures. July 2005. [On-line] available at:  
[http://www.cefic.org/factsandfigures/level02/profile\\_index.html](http://www.cefic.org/factsandfigures/level02/profile_index.html)

<sup>5</sup> *ibid.*

<sup>6</sup> *ibid.*

<sup>7</sup> *ibid.*

<sup>8</sup> European Commission. 2001. White Paper-Strategy for a future chemicals policy. COM (2001) 88 final

<sup>9</sup> Former German environment minister, Jürgen Trittin. July 2004. *Das Ende der schwarzen Löcher. Europa bekommt ein neues Chemikalien-Recht - Ein Paradigmenwechsel für Umwelt und Gesundheit*.  
[www.bmu.de/de/1024/js/namensbeiträge/trittin\\_040700/main.htm](http://www.bmu.de/de/1024/js/namensbeiträge/trittin_040700/main.htm)

<sup>10</sup> European Chemicals Bureau (ECB). 2006. *Existing chemicals*. [On-line] available at: <http://ecb.jrc.it/existing-chemicals/>

<sup>11</sup> Walker, B. 2006. *Killing them softly,; Health effects in arctic wildlife linked to chemical exposures*. WWF International Arctic Programme and WWF DetoX campaign. June 2006. [On-line] available at:  
[http://assets.panda.org/downloads/arctic\\_wildlife\\_health\\_effects\\_report\\_1\\_\\_\\_\\_23\\_may.pdf](http://assets.panda.org/downloads/arctic_wildlife_health_effects_report_1____23_may.pdf)

- 
- 12** WWF. 2006. The arctic – the world’s toxic sink. [On-line] available at: [http://detox.panda.org/the\\_problem/arctic.cfm](http://detox.panda.org/the_problem/arctic.cfm)
- 13** See among others: Schuiling, J. & Van der Naald, W. 2005. *A present for life: hazardous chemicals in umbilical cord blood*. Greenpeace/WWF, September 2005. [On-line] available at: [www.wwf.fi/wwf/www/uploads/pdf/umbilicalcordreport.pdf](http://www.wwf.fi/wwf/www/uploads/pdf/umbilicalcordreport.pdf)  
WWF-UK. 2003. ContamiNation: The results of WWF bio-monitoring survey. November 2003. [On-line] available at: <http://www.wwf.org.uk/filelibrary/pdf/biomonitoringresults.pdf>  
Cameron, P. & Smolka, S. 2006. *Toxic Inheritance*. Friends of the Earth Europe/BUND, June 2006. [On-line] available at: [www.foeeurope.org/publications/2006/toxic\\_inheritance.pdf](http://www.foeeurope.org/publications/2006/toxic_inheritance.pdf)
- 14** Cameron, P. & Smolka, S. 2006. *Toxic Inheritance*. Friends of the Earth Europe/BUND, June 2006, p. 14. [On-line] available at: [www.foeeurope.org/publications/2006/toxic\\_inheritance.pdf](http://www.foeeurope.org/publications/2006/toxic_inheritance.pdf)
- 15** WWF-UK 2004. ContamiNation- the next generation: Results of the family chemical contamination survey. October 2004. [On-line] available at: [http://www.wwf.org.uk/filelibrary/pdf/family\\_biomonitoring.pdf](http://www.wwf.org.uk/filelibrary/pdf/family_biomonitoring.pdf)
- 16** Evans, N. 2004. State of the Evidence: what is the connection between the environment and breast cancer?, American Breast Cancer. [On-line] available at: <http://www.breastcancerfund.org/atf/cf/{DE68F7B2-5F6A-4B57-9794-AFE5D27A3CFF}/State%20of%20the%20Evidence%202004.pdf>
- 17** European Endometriosis Alliance. 2005. National charities are stepping up endometriosis awareness campaigns to raise funds for more research. 9 March 2005 [On-line] available at: <http://endometriosis.org/press09march05.html>
- 18** Carlsen E, Giwercman A, Keiding E, Skakkebaek N.E. 1992. Evidence for decreasing quality of semen during the past 50 years. *British Medical Journal* 305, pp. 609-613
- 19** UK Working Group on the Primary Prevention of Breast Cancer. 2005. *Breast Cancer: an environmental disease, The case for primary prevention*. p.7
- 20** Ibid.
- 21** Evans, N. 2006. State of the Evidence; what is the connection between the environment and breast cancer? American Breast Cancer Fund. [On-line]

---

available at: <http://www.breastcancerfund.org/atf/cf/{DE68F7B2-5F6A-4B57-9794-AFE5D27A3CFF}/State%20of%20the%20Evidence%202006.pdf>

**22** IARC. 2004. IARC study shows increasing cancer rates in Children in Europe. IARC press release, 28 December 2004. [On-line] available at: <http://www.emaxhealth.com/50/1089.html>

**23** Dorey, Catherine N. 2003. Chemical Legacy - The Contamination of the Child. Greenpeace 2003, pp. 25-26

**24** European Federation of Allergy and Airway Diseases Patients Association (EFA) (2006) Allergy. [On-line] available at: <http://www.efanet.org/allergy/index.html>

**25** European Respiratory Society (ERS). 2005. 15th Congress, 17-21 September 2005, Press Release, [On-line] available at: [http://www.ersnet.org/ers/show/default.aspx?id\\_attach=10491](http://www.ersnet.org/ers/show/default.aspx?id_attach=10491)

**26** Royal Commission on Environmental Pollution. 2003. Chemicals in products: safeguarding the environment and human health reducing the risks from chemicals. News Release, 26 June 2003. [On-line] available at: [www.rcep.org.uk/news/03-02.htm](http://www.rcep.org.uk/news/03-02.htm)

**27** United Nations. 1992. Rio Declaration on environment and development. [On-line] available at: <http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=78&ArticleID=1163&l=en>

**28** Full document available at <http://eur-lex.europa.eu/LexUriServ/site/en/consleg/1976/L/01976L0768-20051125-en.pdf>

**29** Check out our Women for a strong REACH website for latest updates and information on how to join! [www.wecf.org/reach](http://www.wecf.org/reach)

**30** Johannesburg Plan of Action, [http://www.johannesburgsummit.org/html/documents/summit\\_docs/2309\\_pla\\_nfinal.htm](http://www.johannesburgsummit.org/html/documents/summit_docs/2309_pla_nfinal.htm)

**31** The "dirty dozen" comprises 8 organo-chlorine pesticides: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex and toxaphene; two industrial chemicals: hexachlorobenzene (HCB) and the polychlorinated biphenyl (PCB)



---

group; and two groups of unintentional byproducts in chemical production and the burning of plastics: dioxins and furans.

**32** 11 June 2006

**33** Greenpeace International. 2005. Substitute with Style; a toxic free catwalk for a sustainable lifestyle. Greenpeace toxics campaign, April 2005. [On-line] available at:  
<http://www.greenpeace.org/raw/content/international/press/reports/substitute-with-style-a-toxi.pdf>

**34** <http://www.consumersinternational.org/>

**35** <http://www.beuc.org>

**36** See also <http://www.safecosmetics.org/> and <http://www.ewg.org/reports/skindeep/>

**37** See also <http://www.safecosmetics.org/> and <http://www.ewg.org/reports>

**38** [www.europa.eu.int/eurolabel](http://www.europa.eu.int/eurolabel)