

A Healthy Start in Life

Chemicals in Everyday Life and Their Effect on Pregnant Women, Newborn Babies and Infants



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Table of Contents

Introduction	4
Chemicals in Everyday Life	5
Endocrine Disruptors.....	6
Chemicals during Pregnancy	7
Cosmetics and Tattoos – Less is more	8
Smoking – The fuming risk	12
Alcohol – Your baby drinks what you drink	13
Nutrition – Your baby eats what you eat	14
Medication – Ask your doctor or pharmacist first.....	21
Dental Treatments – Good planning is half the battle	22
Chemicals and Newborn Babies	23
Baby Care – Natural is better.....	23
Toys – Quality beats quantity	25
Baby Clothes – High in quality and low in harmful substances	27
Household and Cleaning – Hidden hazards.....	29
The <i>Environment-Mother-Child</i> project (Um-MuKi)	32
Links	33

Introduction

During pregnancy and breastfeeding, a healthy lifestyle is crucial for the healthy development of your baby. The child's organism is still developing and very sensitive. To ensure that both mother and child are protected, pregnant women, unborn children and infants need an environment that is as free of harmful substances as possible. The first step is to understand the potential sources of harmful substances.

Lots of consumer products contain chemicals. They can be found in detergents and body care products, food and food packaging, but also in building material and home textiles. We use many of these products without knowing that they may contain harmful substances.

A child may be exposed to some of these substances during pregnancy or breastfeeding and suffer adverse effects that impact its further development.

But what are the products containing chemicals that need to be handled with care for the sake of the unborn child, newborn and infant? What do you need to watch out for in your diet and when handling food? What are the alternatives and what should you avoid for the sake of your child?

This information brochure provides answers to these and similar questions. In addition, it provides practical ideas to help you reduce potential sources and create an environment that will help your child grow up healthy and strong.

Chemicals in Everyday Life

Many of the products we use for our daily needs contain chemicals – food, packaging, body care products, detergents and clothes are just a few examples.

Pregnant and breastfeeding women are also exposed to chemicals through the environment, food or consumer products, and these chemicals may be detrimental to both the mother's and the child's health. However, the use of many chemicals cannot be avoided. That is why we find it so important to provide you with information on how to reduce exposure to chemical sources.



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Endocrine Disruptors

Endocrine disruptors are chemicals that can affect the body's hormone balance and disrupt hormone regulation. Hormones are chemical messengers in the body. They control many bodily functions, including metabolism, growth and development, reproduction, sleep and mood.

Hormone regulation is particularly vulnerable during development phases, i.e. in unborn babies, infants and children.

In the interest of ensuring your child's healthy development, this brochure provides information to help you avoid everyday chemicals that are classed as endocrine disruptors.

Pregnancy and breastfeeding are perfect opportunities to kick unhealthy habits and remove the sources of harmful substances from your baby's environment.

Pregnant women, unborn children and infants are all highly sensitive and need an environment that is as free of harmful substances as possible. This brochure provides you with information and gives you tips on how to avoid harmful chemicals in your everyday routines.

Chemicals during Pregnancy



Various factors determine how harmful a substance is:

- The amount of a harmful substance and how often you are exposed to that chemical substance.
- The manner in which you are exposed to the substance. These substances can enter your body via the mouth (like food, medication), via the respiratory tract (inhalation) or the skin (cosmetics).
- The stage of pregnancy you are in.

Naturally, you are not expected to, and should not be expected to, live in a sterile bubble during pregnancy. However, by following a number of important suggestions and taking a few precautions you can protect both yourself and your baby from harmful chemicals.

Cosmetics and Tattoos – Less is more

Your skin care during pregnancy is very important. Due to hormonal changes, the skin becomes very sensitive. It may suddenly show reactions to specific ingredients in cosmetics that it did not react to before. In addition, some active agents can penetrate the skin and may be harmful to your unborn child. Therefore, it would be better for you to avoid certain cosmetic products.

Your skin becomes very sensitive during pregnancy.
Choose your cosmetics carefully!

What to avoid

- Do not get permanent tattoos and/or have them removed because of the chemical exposure, the high risk of infection and the added stress. Avoid black henna as well.
- Anti-acne or anti-aging products containing vitamin A (retinol) and vitamin A acids must not be used during pregnancy.
- Cosmetics containing salicylic acid (e.g. chemical scrubs, anti-dandruff shampoos, treatments against skin blemishes)
- The daily use of antitranspirants (deodorants) containing aluminium salts



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- Highly abrasive toothpastes (like those promising super or ultra-white teeth) containing triclosan and/or sodium dodecyl sulfate
- You should avoid permanent hair dyes entirely during the first three months of your pregnancy. If you decide to dye your hair, choose highlights because this method minimises contact with your scalp.
- Sprayable cosmetics can be inhaled: You should avoid using hairspray, deodorant sprays and perfumes during pregnancy.
- Generally, you should avoid perfume and any cosmetics containing lots of perfume. We advise against any direct application on the skin.



- Avoid any cosmetics containing endocrine disruptors such as chemical UV filters in sunscreens (benzophenone and ethylhexyl methoxycinnamate), preservatives in creams (parabens), hair dyes (resorcinol), conditioners (cyclotetrasiloxane) or denaturing agents in alcohol (diethyl phthalate).
- Avoid any direct application of pure essential oils on your skin during the first few weeks of your pregnancy. Also exercise caution with rosemary, jasmine or sage oil as these may cause cramps and bleeding.

What to watch out for

- If you have problems with your skin or scalp during your pregnancy (e.g. strong flaking), consult your doctor.
- You should use sunscreens with mineral UV filters.
- Use certified natural/organic cosmetic products (e.g. those marked '*Hergestellt gemäß ÖLMB*' [Manufactured according to the Austrian Food Code) or those bearing the Austrian label '*Zertifizierte Bio-Kosmetik*' [Certified organic cosmetic product]).
- Not all cosmetics that are available online are suitable. As a rule, rely on advice from experts.
- You should use mild cleaning and care products containing natural substances.
- Opt for non-acetone nail polishes and nail polish removers. To reduce any inhalation of solvent fumes to a minimum, avoid nail studios and make sure you air the room well when using nail polish and nail polish remover.
- Should you wish to dye your hair, then use natural products such as vegetable dyes. Whenever you are unsure about the effect of ingredients in care products, ask your doctor or pharmacist.

Smoking – The fuming risk

Smoking is dangerous to your health. Smoking during pregnancy and breastfeeding is harmful not only to you but especially to your baby!

Smokers inhale about 4,800 different chemicals, including nicotine, tar, arsenic, benzene, nitrosamines, cadmium, hydrogen cyanide, lead or carbon monoxide, all of which may cause serious damage to health. These harmful substances from tobacco smoke are absorbed by the unborn child and by the baby via the nursing mother's milk. They have been proven to harm the child!

In addition to the higher risk of preterm delivery, miscarriage or stillbirth, children exposed to maternal smoking during pregnancy usually weigh considerably less and grow slower. Also, the children of smokers are more likely to develop ADHD (attention deficit hyperactivity disorder) in childhood.

What to watch out for

- Quit smoking early on before you become pregnant. If you are pregnant already, you should stop smoking immediately. E-cigarettes and water pipes (*shisha*) are no harmless alternatives.
- Passive smoking harms you and your child as well. Avoid enclosed areas where people smoke (like cars, pubs). Ask smokers to refrain from smoking in your presence.

Alcohol – Your baby drinks what you drink

Alcohol during pregnancy and breastfeeding is harmful for your baby because your baby drinks what you drink. Alcohol can stunt a child's growth and intelligence. Therefore, we recommend that you abstain from consuming any type of alcohol while pregnant and breastfeeding.



© istockphoto.com/kristian sekulic

What to watch out for

- Sweet beverages containing alcohol (alcopops) also damage the health of your unborn child.
- Every litre of non-alcoholic beer, non-alcoholic sparkling wine and wine may contain residual alcohol of up to 0.5% by volume.
- Remember that when cooking or baking with alcohol, a certain amount of alcohol remains in the food.

- Many women develop a natural aversion to alcohol during their pregnancy. However, if you find it difficult to go without alcohol, make sure you talk to your doctor about any support options available.

Schnapps, rum, wine, sparkling wine, beer, alcopops and liqueur all contain alcohol. A half pint of beer, half a glass of wine and a shot of schnapps contain about the same amount of alcohol. You will also find alcohol in sweets (rum balls, chocolate, etc.), puddings (tiramisu, tarts, cakes, etc.), cooked sauces, in some homeopathic remedies, herbal extracts and in cough syrup.

Nutrition – Your baby eats what you eat

A balanced and suitable diet during pregnancy and breastfeeding is important to prevent the mother's stores from being depleted and to ensure that the baby gets the energy and nutrients it needs to grow and develop.

Moreover, what a mother eats during pregnancy or when breastfeeding affects the development of the child's sense of taste and has long-term effects on the child's eating habits.

You should avoid some foods entirely while you are pregnant as they may harm your baby (see the sections 'What to avoid' and 'Also avoid the following'). Opt for unprocessed, regional and seasonal food. Cook fresh food and add variety.

What to watch out for

- Check what condition the food is in and whether it is fresh.
You will find tips on how to maintain proper standards of hygiene at: www.richtigessenvonanfangan.at/eltern/richtig-essen/schwangere-und-stillende/wichtige-hygienetipps/
- You should limit the intake of beverages containing caffeine as a precaution: drink no more than two to three cups of coffee or no more than four cups of green/black tea a day.
Please note: Beverages like energy drinks, iced tea, cola drinks, iced coffee or guarana soft drinks contain caffeine as well!
- Opt for water, fruit tea and highly diluted fruit and vegetable juices. Avoid herbal infusions and rooibos tea as they may be contaminated with harmful substances.
- If you live in older buildings that still have lead in their drinking water pipes, make sure you let the tap run for a while in the morning and especially after lengthy absences (weekend or holiday) before you drink any water or use it to cook.
- Wash fruits and vegetable thoroughly or peel them before you eat any.

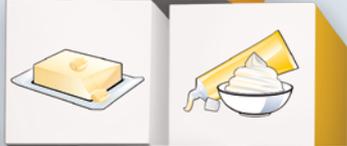
Fish is a healthy food but, unfortunately, it is often contaminated. Opt for native fish species (trout, char) as these usually contain lower levels of contaminants.



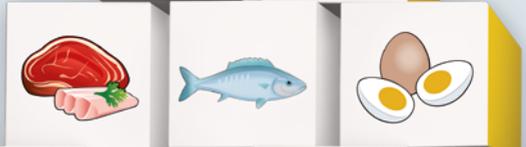
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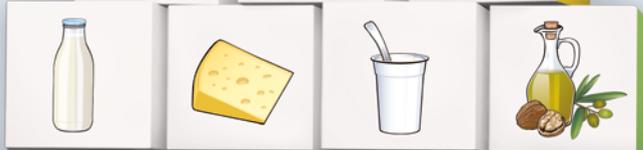
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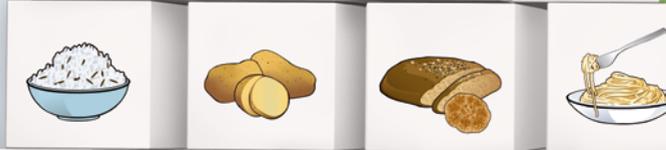
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daily _____



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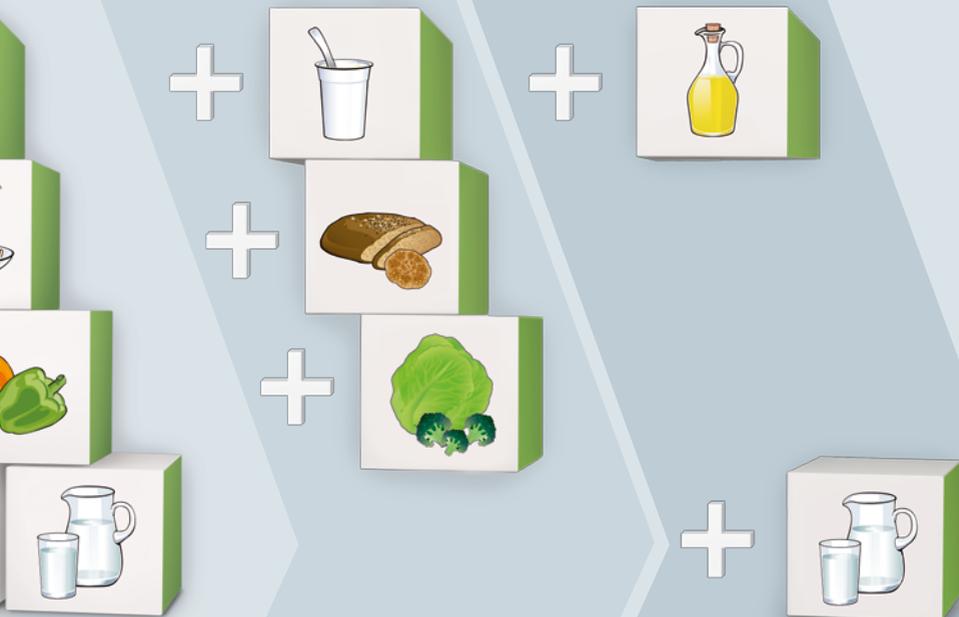
several times a day _____



daily _____



1st-12th week of pregnancy



**13th–27th week
of pregnancy**

**28th–40th week of
pregnancy and during
breastfeeding**



What to avoid

- You should avoid predatory fish like tuna, shark, swordfish, halibut, sea bass, snapper, butterfish or pike (the level of contaminants they contain may be higher than in other fish species).
- Innards
- Wild game, especially from animals shot with lead ammunition
- Beverages with high levels of caffeine (like energy drinks) and drinks containing quinine (like tonic water, bitter lemon)

- Sweets and drinks rich in glycyrrhizic acid (like liquorice); their labels include 'Süßholz' (Liquorice), 'enthält Süßholz' (Contains liquorice) or 'enthält Süßholz – bei hohem Blutdruck sollte ein übermäßiger Verzehr dieses Erzeugnisses vermieden werden' (Contains liquorice – If you have a history of high blood pressure, avoid eating too much of this product).
- (Strongly) smoked food of animal origin (fish, meat, seafood, cheese)

Also avoid the following

- Raw food of animal origin (fish, meat, seafood and eggs)
- Raw milk and dairy products made of raw milk, i.e. uncooked, unpasteurised milk
- Smear-ripened cheese (such as Quargel, Tilsit cheese) and soft cheese (including camembert, brie, blue cheese). Remove the rind before eating any other cheese variety.
- Unheated/raw sprouts and unheated frozen berries
- Open pickled food (e.g. olives, antipasti, cheese), ready-to-eat sandwiches, open salads (from the salad bar, for instance) and freshly pressed and unheated juices in food stores, food- and/or drink-serving venues and communal catering

Tips on how to maintain proper standards of hygiene

- You will find information on how to safely prepare food at:
 - www.richtigessenvonanfangan.at/eltern/richtig-essen/schwangere-und-stillende/wichtige-hygienetipps/

For further information, go to

- www.richtigessenvonanfangan.at/en/pregnancy-and-breastfeeding/



Medication – Ask your doctor or pharmacist first

Use medications as rarely and as little as possible during your pregnancy.

Avoid self-treatment.

Always ask your doctor or pharmacist first before you use any medication. Make sure you tell them about your pregnancy.

This is important not only for over-the-counter medication, like pain relievers, but also for any special product you can take to supplement your diet.

What to watch out for

- Herbal remedies and medicinal teas may also have undesirable effects.
- Some over-the-counter drugs can affect your and your baby's hormone levels. This may raise the baby's risk of suffering developmental disorders.
- If possible, avoid any medication that has been dyed with canthaxanthin.
- Avoid any remedies dissolved in alcohol (such as homeopathic products, herbal extracts, cough syrup).
- Ask your doctor whether you should take special products like vitamins and trace elements as supplements to your varied diet and which would be suitable.

Dental Treatments – Good planning is half the battle

The placement and removal of amalgam fillings exposes the mother and baby to mercury and should be avoided during pregnancy and breastfeeding. To be on the safe side, use any alternative materials with caution.

What to watch out for

- Major dental treatments, or dental treatments that can be scheduled, should be completed prior to a planned pregnancy.



Chemicals and Newborn Babies

Babies are considerably more sensitive to chemicals than adults. On the one hand, this is due to the fact that children, in proportion to their weight, breathe more air, eat more food and drink more water – therefore, they are also exposed to more harmful substances. On the other hand, their immune system, nervous system and hormone system are particularly sensitive during growth and development phases. So, make sure you create a healthy environment for you and your child.

Baby Care – Natural is better

Unfortunately, care products for babies may also contain ingredients that cause irritation or trigger allergies. Some substances are suspected of upsetting the child's hormone balance. Staying in contact with potentially hazardous substances for a lengthy period of time, like when taking a bath or applying lotion, will facilitate their entry into the body.

What to watch out for

- Use fragrance-free body care products containing as few ingredients as possible.
- Opt for vegetable oils that are not supplemented with mineral oil to treat dry skin (almond oil, for example).
- Soap is rarely needed when taking a bath; hot water and a washcloth are all you need. Vegetable oil or dairy cream are great alternatives to conventional bath additives.



What to avoid

- Avoid antibacterial soaps and body washes; they are unsuitable for the baby's sensitive skin.
- Do not use essential oils as these may trigger allergies in babies or even be toxic.
- Cosmetics (soaps, shampoos, lotions) that contain lavender and/or tea tree oil. These essential oils are suspected of being endocrine disruptors.

Toys – Quality beats quantity

Lots of toys and baby products, especially those made of plastic, contain synthetic chemicals. Babies do not yet need lots of toys; buy fewer toys of good quality instead. Especially toy (parts) that babies like to put into their mouth should not contain any harmful ingredients.

It is particularly important that toys are appropriate for the child's age and labelled with the CE mark. By affixing the CE mark, the manufacturer declares that a given toy meets the requirements of the Toy Safety Directive. However, studies have shown that toys may contain harmful substances even if they have the CE mark. Additional markings provide additional assurance.



Consult the following guide when looking out for appropriate toys:
www.ages.at/en/topics/toys/tips/

What to watch out for

- Wash products before use or unpack them to allow any toxic fumes to evaporate.
- We recommend you buy articles made of solid wood or toys that have not been treated with chemicals.
- Look out for independent certification marks, like the Austrian eco-label, the 'GS' mark (geprüfte Sicherheit which translates as Tested safety), or the '*spiel gut*' label (which translates as good toy); and for the label '*PVC-frei*' (i.e. PDV-free), '*BPA-frei*' (i.e. free of bisphenol A) or '*Phthalat-frei*' (i.e. free of phthalates).
- Do not buy perfumed toys or products that have a strong 'chemical' smell.
- Promotional gifts like cuddly toys and decorative articles are unsuitable for babies.
- Avoid electronic toys or toys that operate with batteries, especially for babies.

Baby Clothes – High in quality and low in harmful substances

Chemicals in clothes may cause damage to health. Heavy metals, formaldehyde, organostannic compounds, benzothiazoles and derivatives, nonylphenole and ethoxylates, perfluorinated surfactants, biocides and pesticides – the list of harmful substances that may be found in baby clothes is long. A child's immune system is not as resilient as that of an adult; the skin is very thin and permeable. Allergic reactions and irritations are the most frequent response.

What to watch out for

- Especially with baby clothes, appearance should not be the main criterion. It is more important to read what it says on the label. Settle for natural fabric and look out for the quality mark oeko-tex or the European eco-label.
- In case of doubt, buy baby clothes at specialised stores instead of at weekly street markets or in discount shops because quality baby clothes that are free of harmful substances cannot be produced at cut-rate prices. Ask whether they have any information on harmful substances and chemicals. This is how you can contribute to creating awareness for the issue.
- Also, when buying crawling und cuddly blankets, you should ensure that they are of high quality and free of harmful substances.
- Wash the items before letting your baby wear them for the first time; if possible, wash them several times. This will usually remove any soluble harmful substances from the fabric before it comes into contact with the skin.



What to avoid

- Not too colourful, please: colourful prints on t-shirts and the like frequently contain PVC, PVDC or chlorinated plastic. Lots of dyes, especially the darker ones, contain poisonous chemicals that can cause allergic reactions.
- You should also be wary of water-repellent and stain-resistant or crease-resistant clothes. These fabrics have often been treated with chemicals (e.g. perfluorinated surfactants, nonylphenole).
- You should avoid any new items entirely if their label says *wash separately*: This is an indication that the dyes and chemicals are not as bonded with the fibres as they are supposed to be in baby clothes.

Household and Cleaning – Hidden hazards

Babies crawl on all fours to explore their environment. In doing so, they are indirectly exposed to detergents whenever they touch surfaces that have been treated, when they crawl over such surfaces, breathe in the vapours or put things in their mouth. Disinfectants and detergents can be corrosive, irritate the skin and respiratory tract or trigger allergies. Major renovation projects (e.g. painting walls, laying floors, grinding operations) using chemicals, paint or varnishes should be avoided particularly during pregnancy and breastfeeding. If renovation work cannot be avoided, make sure you give the renovated rooms enough time to air out before moving in.

What to watch out for

- Always use mild detergents and cleaning agents and use them sparingly.
- If you have floors made of linoleum, plastic, tiles or natural stone and have plastic or sealed wooden furniture, all you need is hot water to clean them. Use a mild all-purpose cleaner for any heavily soiled areas.
- Opt for products that are as free of phosphates, solvents, preservatives and fragrances as possible. Polishes, waxes and agents used to treat surfaces frequently contain hazardous chemicals.
- Insect netting and mechanical fly or mosquito traps are free of poisonous chemicals and provide long-term relief.

- Watch out for hazard pictograms ('Achtung' (danger), 'reizend' (irritant) or 'ätzend' (corrosive)) and make sure you follow all the risk and safety precautions when products are labelled with any of these. Opt for products with the Austrian eco-label instead.
- Babies should not come into contact with a pet's anti-insect and flea collar. Ask your vet about possible alternatives. Generally, keep an eye on the health of your pets.



What to avoid

- Avoid cleaning sprays because the finely atomised droplets are easily inhaled.
- *Disinfecting* or *antibacterial* cleaning agents are usually unnecessary and may be harmful to your health.
- Keep away from scented candles, incense sticks and room deodorisers! They may cause respiratory symptoms.
- Avoid using insecticides like plug-in mosquito repellents, mosquito coils, insect sprays, etc. The desired detrimental effects are not limited to insects.
- If you cannot avoid the use of pesticides, make sure you heed the safety precautions and prevent the baby from coming into contact with the product.

The *Environment-Mother-Child* project (Um-MuKi)

Releasing persistent and hazardous chemicals into the environment is particularly detrimental for the health of pregnant women and their babies and must be avoided. On this account, the Federal Ministry for Sustainability and Tourism (BMNT) supported the *Environment-Mother-Child* project (Um-MuKi) and research about levels of contamination in order to work out specific measures that could be implemented.¹

The Federal Ministry for Sustainability and Tourism (BMNT) supports the European human biomonitoring initiative HBM4EU, which is a collaborative effort of 28 countries and around one hundred partners, including five Austrian institutions.²

The results are intended to help improve chemicals legislation for the protection of health and the environment and provide information on the safe handling of chemicals.

1 www.umweltbundesamt.at/en/services/services_pollutants/services_envhealth/en_um_muki/

2 www.umweltbundesamt.at/en/news_events_reports/news_eaa/en_news_2017/news_en_170203/

Links

Information about chemicals for consumers

www.bmk.gv.at/themen/klima_umwelt/chemiepolitik/konsumentinnen.html
www.bmk.gv.at/en/topics/climate-environment/chemicals-policy-biocide.html?page=1

Further information on the collaborative project Um-MuKi

www.umweltbundesamt.at/en/services/services_pollutants/services_envhealth/en_um_muki/

Further information on the Human Biomonitoring Initiative for Europe (HBM4EU)

www.hbm4eu.eu

Environmentally friendly products and services

www.umweltzeichen.at/en

Austrian website for sustainable consumption

www.bewusstkaufen.at

'Ratgeber Spielzeugauswahl' (Toy selection guide)

www.ages.at/en/topics/toys/tips/

'Informationen zu Chemikalien und Bioziden' (Information on chemicals and biocides)

www.umweltbundesamt.at/en/

Practical tips on handling chemicals in day-to-day life

www.umweltberatung.at/en-about-us

Keeping a healthy diet during pregnancy and breastfeeding

www.richtigessenvonanfangan.at/en/about-us/

Brochure: *'Schwangerschaft – Infektionen durch Nahrungsmittel'* (Pregnancy – foodborne illnesses)

www.ages.at/download/0/0/

d30b6b40eaf9d7d9b94f726ad346ccb20274a19a/fileadmin/AGES2015/Themen/Krankheitserreger_Dateien/Listerien/AGES_Schwangerschaft_Folder.pdf

'Aufnahmemengen von Farbstoffen, Konservierungsstoffen und Süßungsmitteln für die österreichische Bevölkerung (Auftrittsdaten 2014–2016)'

(Intake of colouring, preservatives and sweeteners in the Austrian population (in the period from 2014 to 2016))

www.ages.at/download/0/0/76b3d5cbc713229b2196d-

203c55b4d194e4520ec/fileadmin/AGES2015/Wissen-Aktuell/Themenberichte/Aufnahme_Farbstoffe.pdf

Austrian Agency for Health and Food Safety: *'Fischempfehlung – Quecksilber in Fisch'* (Fish recommendation – Mercury in fish)

www.ages.at/en/topics/residues-and-contaminants/mercury/mercury-in-fish/

'Endokrin aktive Substanzen in Kosmetika' (Endocrine active substances in cosmetics)

www.ages.at/en/service/ask-us-we-answer/

endocrine-substances-in-cosmetics/

www.ages.at/en/topics/endocrine-disrupting-chemicals/

'Wegweiser für eine gesunde Raumlufte' (Guide for healthy indoor air)

[www.bmk.gv.at/themen/klima_umwelt/luft/luft/innenraum/
gesunde_raumlufte.html](http://www.bmk.gv.at/themen/klima_umwelt/luft/luft/innenraum/gesunde_raumlufte.html)

www.bmk.gv.at/en/topics/climate-environment/air-noise-traffic.html

'Ökotest Ratgeber Babys' (Öko-Test guide – Babies)

www.oekotest.de/hefte/Spezial-Baby_T1604.html

Chemicals in our life – Website of the European Chemicals Agency

chemicalsinourlife.echa.europa.eu

 Federal Ministry
Republic of Austria
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and Consumer Protection

 Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

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