Safe Cosmetics

Overall chemicals

All of us are exposed to toxic chemicals through our everyday use of cosmetics and personal care products as well as through the air we breathe, food we eat, water we drink and a variety of household products. As a result, we all carry toxic industrial chemicals inside our bodies.





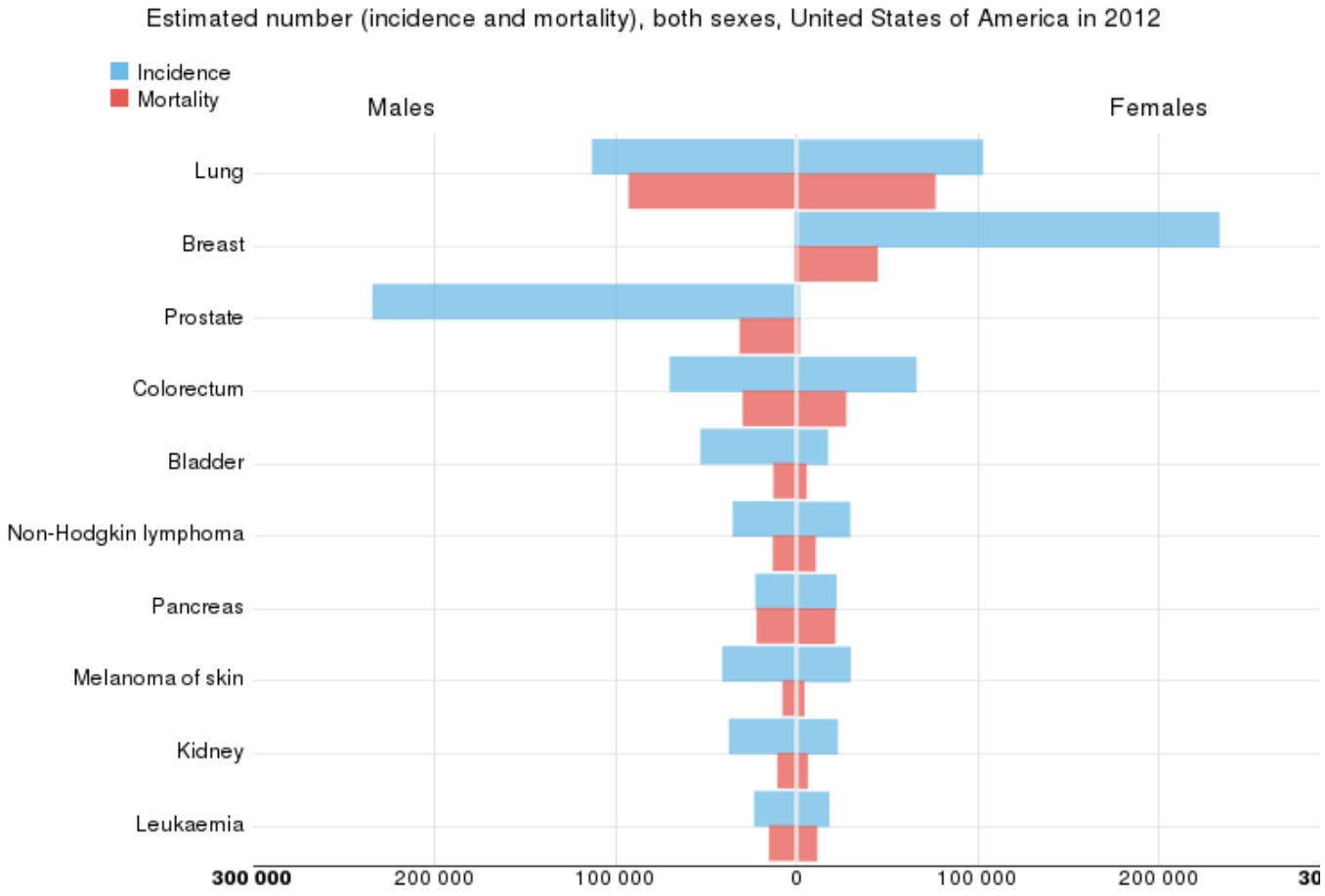
Chemicals of concern

A **carcinogen** is any substance, radionuclide, or radiation that is an agent directly involved in causing cancer.

Endocrine disruptors are chemicals (EDCs) that, at certain doses, can interfere with harmonal system of the body (**endocrine** systems), which is responsible for all vital features such as growth, sexual development and even behaviour.
These disruptions can cause cancerous tumors, birth defects, and other developmental disorders.

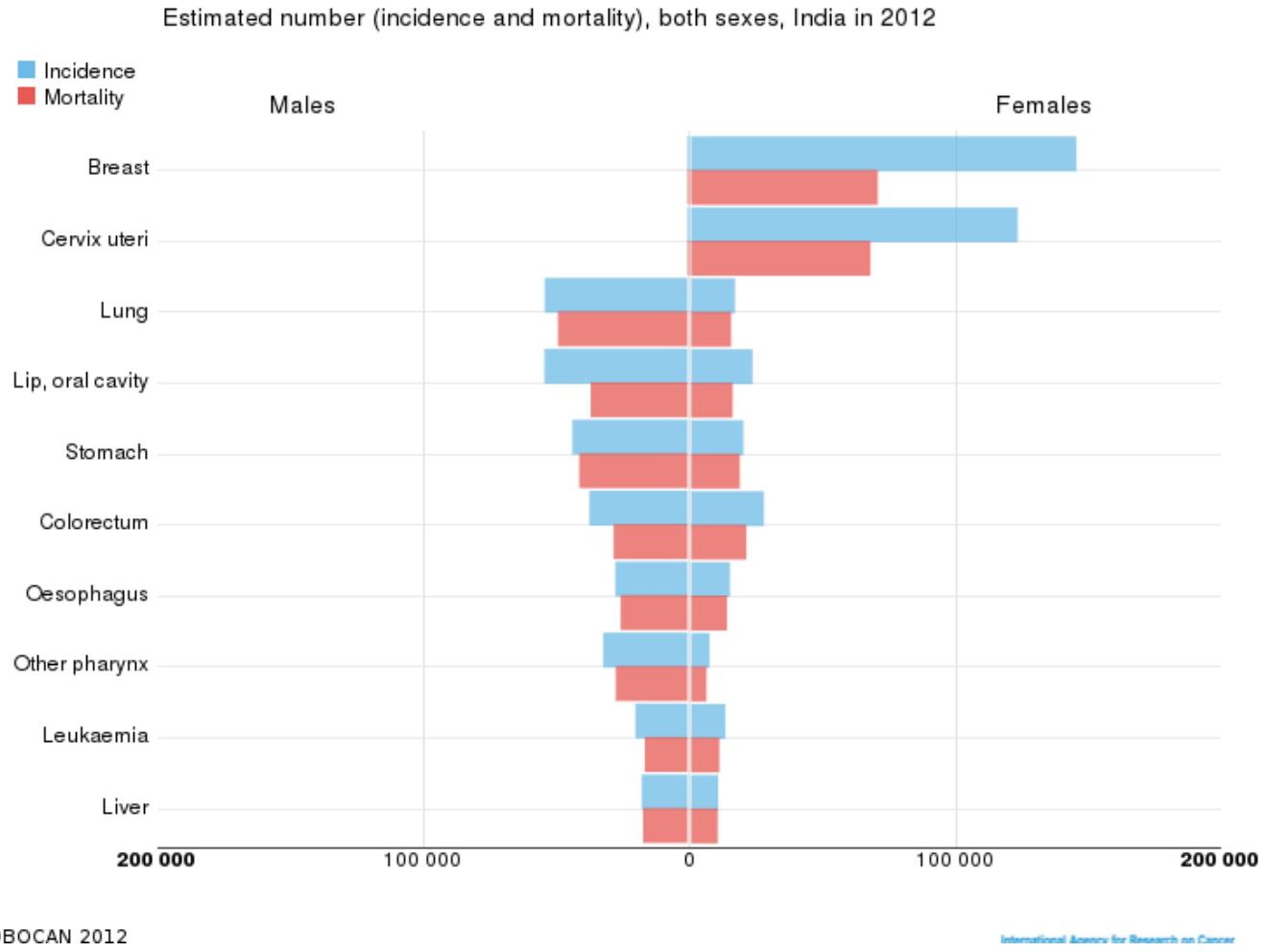
Source: wikipedia

Cancer statistics



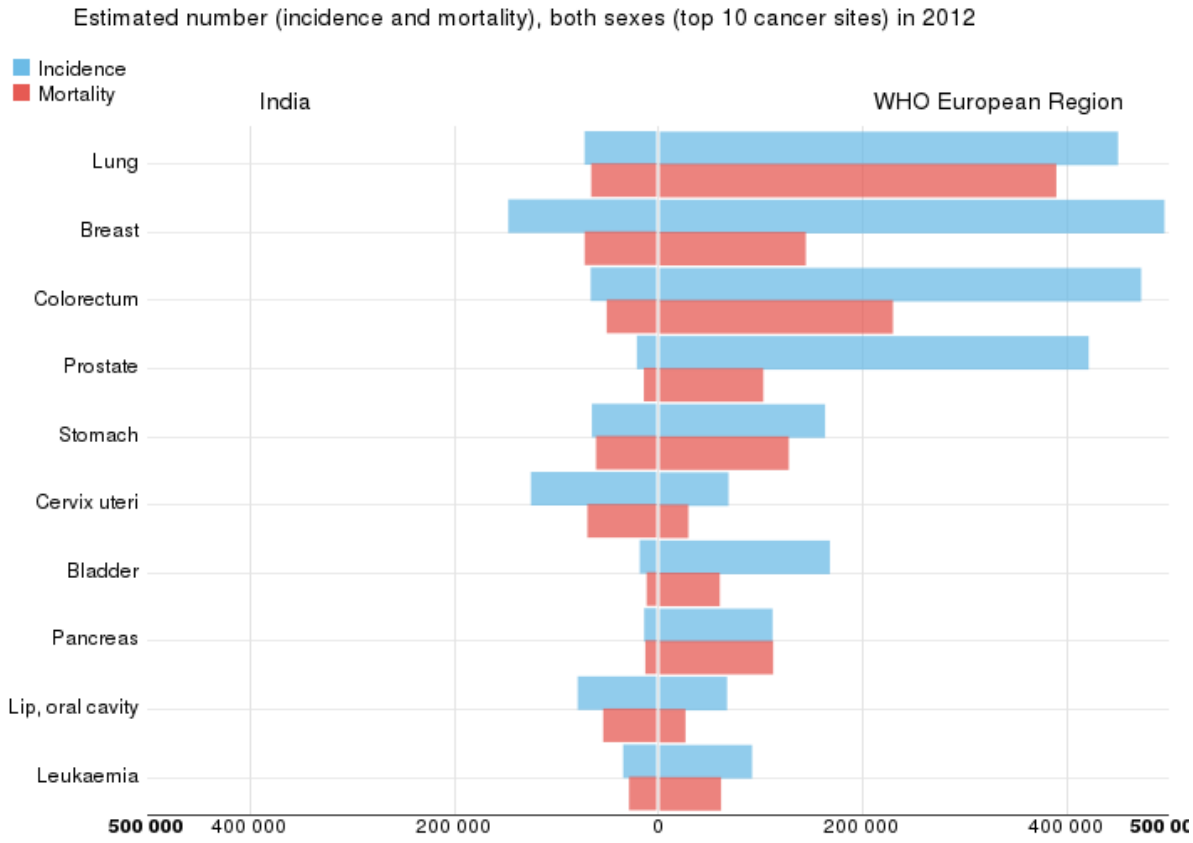
Data = high quality regional (coverage lower than 10%).
Method = estimated as the weighted average of the local rates

Source: WHO



US: Same number of male and female cancer cases
In India: More female have cancer

Cause? : Poor health, More handling of house cleaning products, cosmetics



Data source: GLOBOCAN 2012
Graph production: Cancer Today (http://gco.iarc.fr/today)

International Agency for Research on Cancer
World Health Organization

Two thirds of cases of prostate cancer are diagnosed in more developed regions of the world

Prostate cancer is the second most common cancer in men worldwide.

Reason?

More use of cosmetic products-deodrant, perfumes, smoking, furniture, plastic, food-red meat

Endocrine disrupting chemicals (EDCs)

Human and wildlife health depends on the ability to reproduce and develop normally. This is not possible without a healthy endocrine system.

Diseases induced by exposure to EDCs during development in animal model and human studies.

- **Harmone related cancers**
  - **Breast/prostate cancer**

- **Reproductive dysfunctions**
  - **Infertility**
  - **Early puberty**

- **Cardio-vascular problems**
- **Disturbance of metabolism**
  - **Obesity**
  - **Diabetes**

- **Immune system**
  - **Asthma**
  - **Heart disease/hypertension**
  - **Stroke**
- **Brain/nervous system**
  - **Alzheimer disease**
  - **Parkinson disease**
  - **ADHD/learning disabilities**

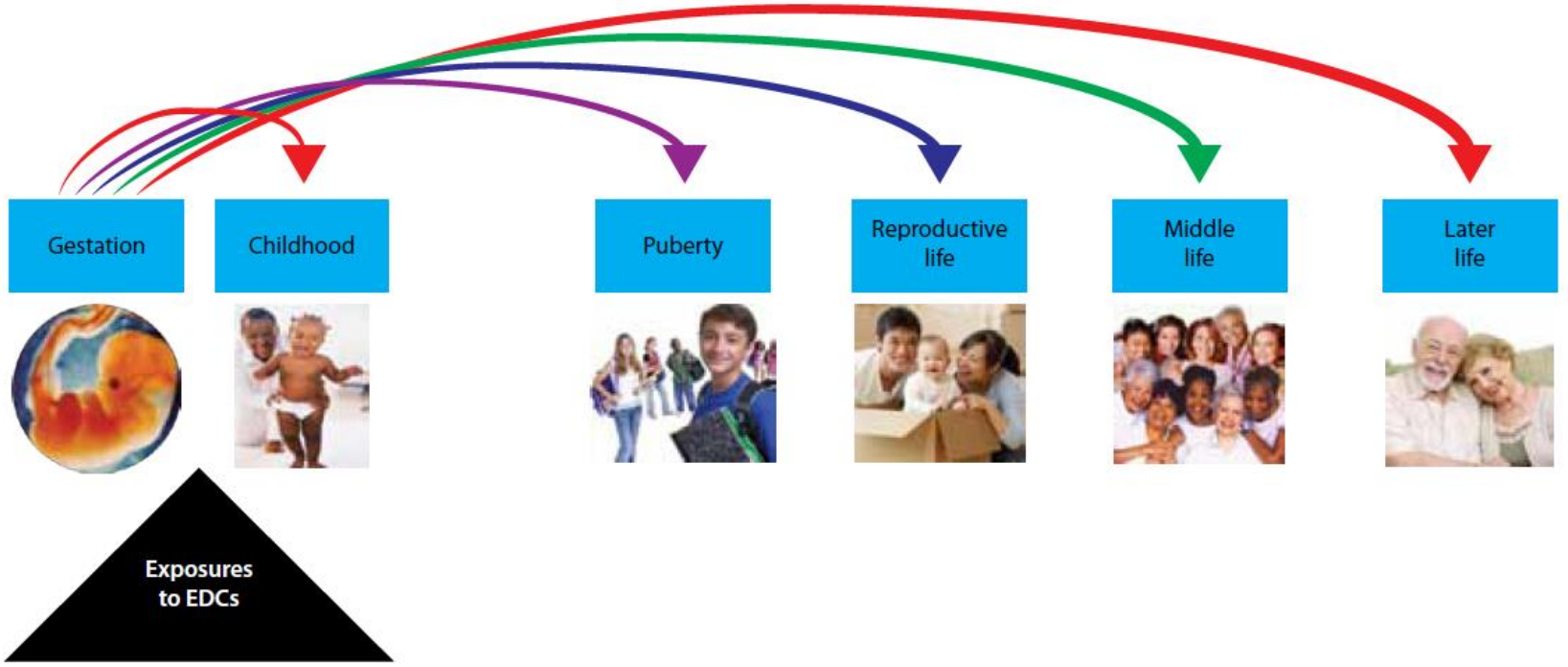
Why should we be concerned?—Human disease trends

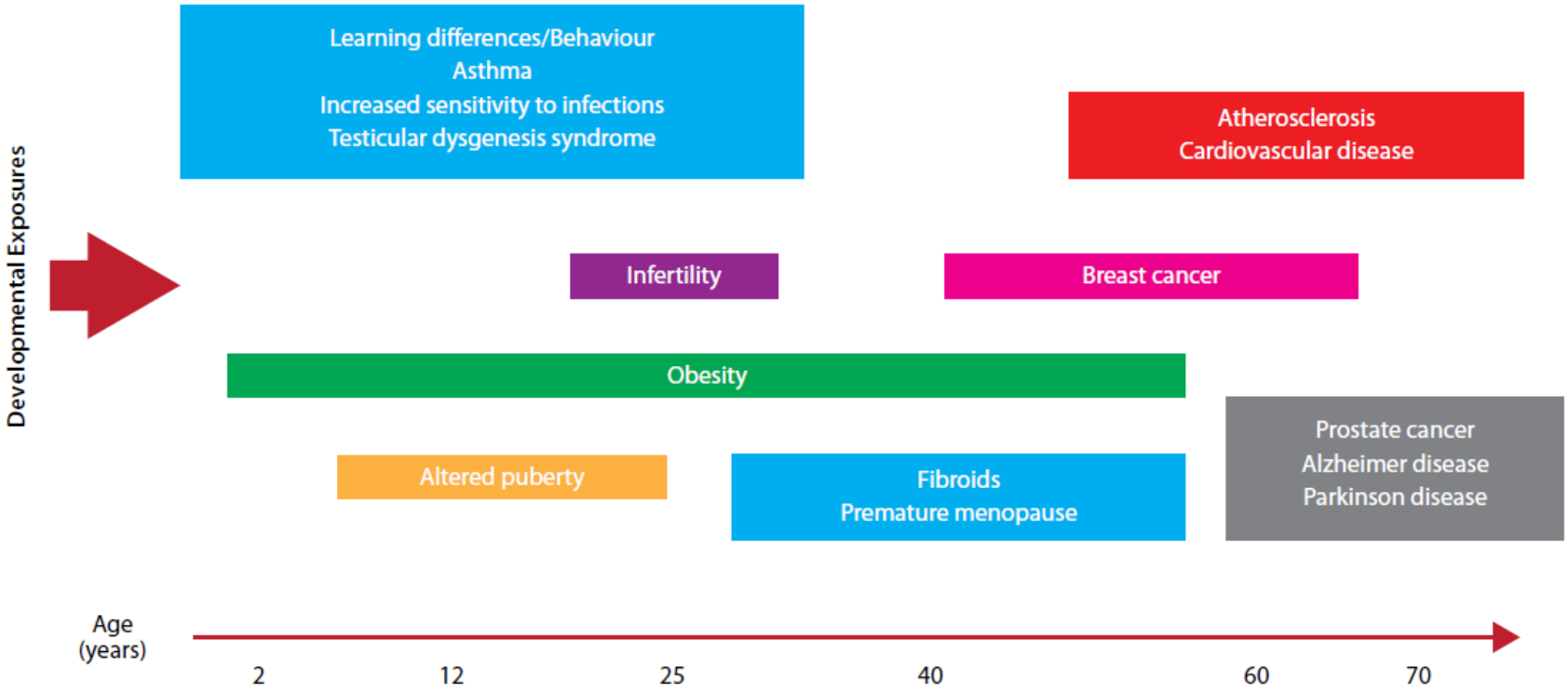
Chemical cocktails:

EDCs are more dangerous when acting together at the same time.

Exposure to EDCs could impair the health of our children and their children.

The effects of early exposures to EDCs may be manifested any time in life.




Learning differences/Behaviour
Asthma
Increased sensitivity to infections
Testicular dysgenesis syndrome
Atherosclerosis
Cardiovascular disease
Infertility
Breast cancer
Obesity
Prostate cancer
Alzheimer disease
Parkinson disease
Altered puberty
Fibroids
Premature menopause
Developmental Exposures
Age
(years)
2
12
25
40
60
70

EDCs from multiple sources can be taken up by humans by several routes, entering the body via ingestion, inhalation and skin uptake.

Cosmetics

"intended to be applied to the human body for cleansing, beautifying, promoting attractiveness, or altering the appearance without affecting the body's structure or functions".

Ayurvedic, Natural, Organic and herbal

Herbal

Herbal products are made of plant extrac ts, plant roots, leaves, etc. and used as per their properties.

Are they completely natural?

Herbal products are free of chemicals. However, pesticides may have been used in their growing.

Natural

Natural products are made from plants and minerals that occur in nature and have not been produced in a laboratory and are not man made. However, pesticides, chemical fertilizers, etc. might have been used to enhance their growth.

There is no regulation on the word 'natural'. A product being claimed as natural may have as low as 1% natural ingredients.

Ayurvedic

Ayurveda is medicinal science which includes use of herbs as well as heavy metals like gold, silver, copper, tin, mercury, sulphur, animal extracts, etc.

Organic

Organic products are also made from natural ingredients but they are grown without the use of chemicals or pesticides. According to (USDA) organic is "a labelling term that indicates that the food or other agricultural product has been produced through approved methods. Synthetic fertilizers, sewage sludge, irradiation, and genetic engineering may not be used."

Labelled 'made with organic ingredients', it implies the product is made with at least 70% organic ingredients.

- A product is considered "natural" when it contains ingredients that are sourced from nature rather than created synthetically.

- Synthetic chemicals are produced through laboratory manipulation and are not found in nature, though it is possible to create synthetic versions of natural ingredients (such as Vitamin E.)

- Natural products generally don't include ingredients like petrochemicals, parabens, sodium lauryl and laureth sulfates, phthalates, synthetic dyes and synthetic colors.

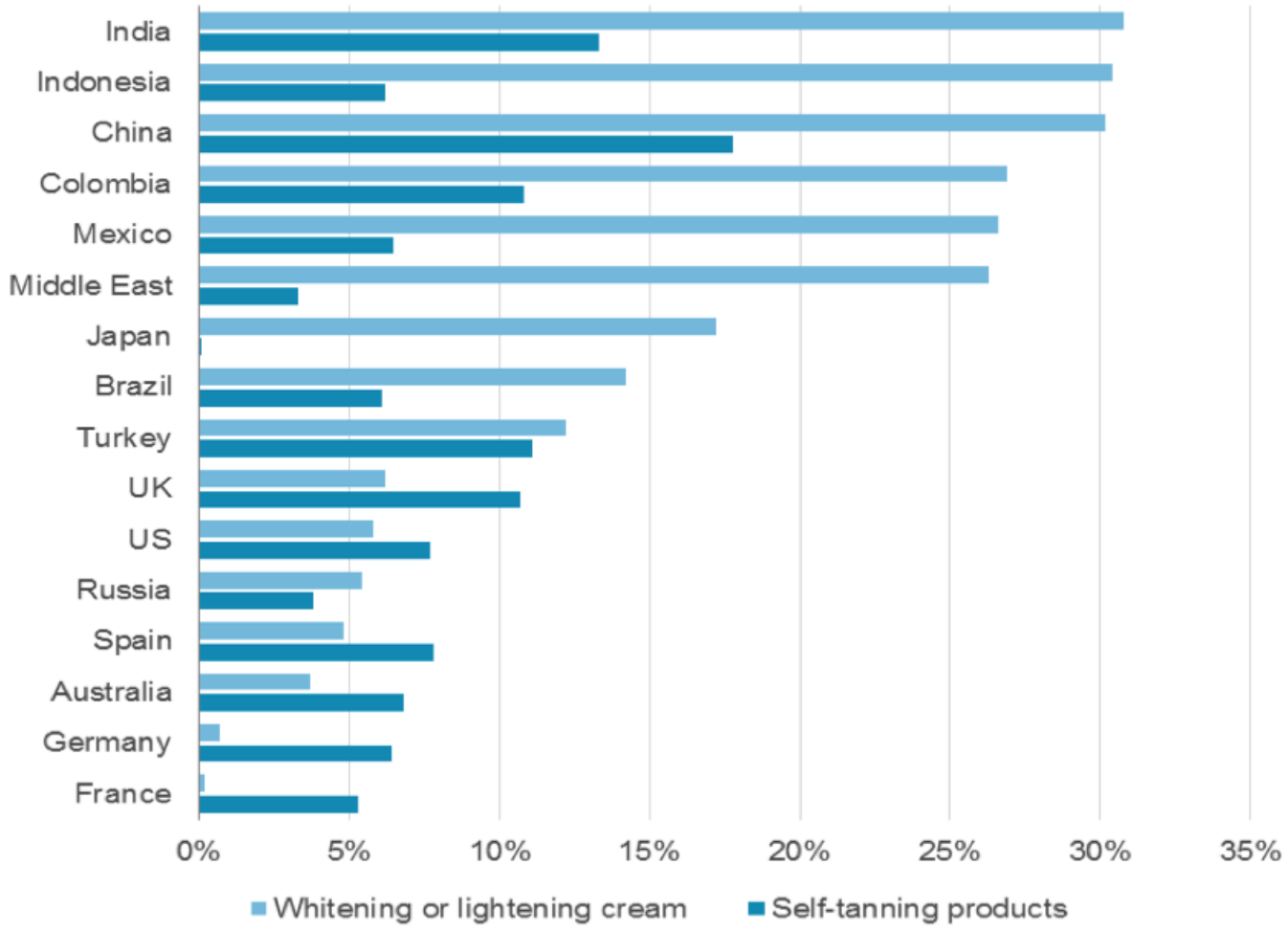
- The main distinction between natural and organic beauty products is that organic ingredients must pass more rigorous standards of purity. In order to be organic, an ingredient must have been derived without the use of synthetic pesticides, petroleum fertilizers or sewage sludge fertilizers, and it must not be a genetically modified organism (GMO.)

- **Labels on organic and natural beauty products can be very deceptive.**
- **In the United States, there is little regulation of advertising products with the term "natural." This means that a product with a low percentage of natural ingredients can still be advertised as "natural.“**
- **To advertise as organic, a company may have its product certified organic by the USDA. A USDA Organic Seal denotes that a product has an organic content of 95% or higher.**
- **Products with 70% or greater organic composition can be labeled "Made With Organic Ingredients." This means that products claiming they're made with organic ingredients could potentially also contain harmful synthetic ingredients.**

- **The requirements for the use of the terms “natural” and “organic” on cosmetics are interpreted differently from country to country because different organisations across Europe have developed their own standards and certification systems.**

- **However, it is important to realise that all the ingredients used in cosmetics are chemicals, whether natural or man-made.**

According to Indian regulations, any product containing even 1% of herbs and plant extracts can be termed as herbal. Majority ingredients are synthetic and some herbal ingredients in negligible proportions are added for marketing purposes. On top of that such companies use pallet of green colors on packaging and photographs of herbs, fruits, seed, etc. to convince us.


India
Indonesia
China
Colombia
Mexico
Middle East
Japan
Brazil
Turkey
UK
US
Russia
Spain
Australia
Germany
France
0%
5%
10%
15%
20%
25%
30%
35%
Whitening or lightening cream
Self-tanning products

How are cosmetics regulated?

- In **the United States**, both cosmetics and drugs are regulated by the FDA. Although the FDA requires that cosmetics be safe, it does not have the authority to require companies to test their cosmetic products (except some color additives) before they are put on the market.
- The **FDA holds cosmetic firms responsible for confirming the safety of their products** and ingredients prior to marketing. Products that have not been tested must carry the label, "Warning -- The safety of this product has not been determined."
- **Most testing of cosmetics (and their ingredients) look for short-term effects** such as skin or eye irritation or allergic reactions. It is much more difficult, however, to identify long-term toxic or carcinogenic (cancer-causing) effects.
- Cosmetics intended for retail sale must have a list of ingredients on the label. The list does not have to include flavor, fragrance, or trade secret ingredients. Products for use by professionals and samples distributed free of charge are not required to list ingredients on their labels.

"Beauty products are not as strictly regulated as food and drugs, so the labelling is not very standardized. It's hard for an everyday shopper to understand what the chemicals are,"

- **The European Union** has more stringent and protective laws for cosmetics than the United States. The hazard-based, precautionary approach of the EU acknowledges that chemicals linked to cancer and birth defects simply don't belong in cosmetics.

- The EU Cosmetics Directive (76/768/EEC) was adopted in January 2003 and most recently revised in **2013**. **The EU law bans 1,328 chemicals from cosmetics that are known or suspected to cause cancer, genetic mutation, reproductive harm or birth defects.**

- In comparison, the U.S. FDA has only banned or restricted 11 chemicals from cosmetics. Unlike the United States, EU law requires pre-market safety assessments of cosmetics, mandatory registration of cosmetic products, government authorization for the use of nanomaterials and prohibits animal testing for cosmetic purposes.

- See more at: http://www.safecosmetics.org/get-the-facts/regulations/international-laws/#sthash.aLh4tM2T.dpuf

As of 11 March 2013, cosmetics tested on animals can no longer be sold in Europe, even if the testing happened outside the EU.

The new REACH requirements for skin sensitisation entered into force on 11 October 2016 making non-animal testing the default requirement.

“Tip of the iceberg”

- ✓ Only a small fraction of the hundreds of thousands of synthetic chemicals in existence have been assessed for endocrine disrupting activity
- ✓ How many EDCs are there? Where do they come from? What are the human and wildlife exposures? What are their effects individually and in mixtures during development and adulthood and even across generations?
- ✓ What are their mechanisms of action? How can testing for EDCs be improved? All of these questions need answers.

- Industry experts and CSE team leaders state that the **regulatory control over the cosmetics industry in India is extremely weak and ineffective.**
- Limits are set only for a few heavy metals in the colourants category.
- **There are no limits for many other heavy metals, or common heavy metals** in other categories besides colourants.
- **There are no set limits for finished products**
- Most worryingly, **none of the finished products are tested by regulators.**
- Finally, there is no government or state level organization specifically assigned or empowered to enforce the available regulations.

Carcinogens and endocrine disruptors in Cosmetics

Sindoor

In olden days, sindoor was made at home using turmeric powder, alum, calcium salt, camphor, saffron, sandalwood and beet extracts.

Chemical composition of sindoor

The synthetic dye industry grows low-priced red dyes termed as sindoor which are available everywhere and mainly contain the following:

Vermillion, reddish orange element which is a powdered form of cinnabar (HgS (mercury(II) sulfide); like most mercury compounds it is toxic)

lead and other synthetic materials

There are many unbranded blood red powders available at cheap rates in the market, because the manufacturers aim at producing any local dye which is readily available along with toxic substances and other bulking materials.

- Cosmetics in India have portions of mercury and chromium in them.

- **44 per cent of our fairness creams contain mercury which is universally acknowledged as toxic. And 50 per cent of our lipsticks contain chromium which causes cancer.**

- The study tested 73 cosmetic products of four different categories for heavy metals: 32 fairness creams (26 for women and six for men) were tested for mercury. 30 lipsticks, eight lip balms and three anti-ageing creams were tested for lead, cadmium, chromium and nickel. The samples included Indian and international cosmetic brands along with a few herbal products.

1. Cadmium, Lead and Other Heavy Metals

In: Lipsticks, Eyeshadow, Blusher, Cover Stick, Foundation

Some Brands Using It: Maybelline, L'Oreal, Nars.

What to look for: Lead acetate, chromium, thimerosal, hydrogenated cotton seed oil, sodium hexametaphosphate.

Health Concerns: Cadmium is a carcinogen that has been found in breast cancer biopsies and shown to cause cancer cells to multiply in lab experiments. **Lead** interferes with a variety of body processes and is toxic to organs and tissues including the heart, bones, intestines, kidneys and nervous systems. A study conducted in 2011 on 400 lipsticks 'found very low levels of lead and the FDA does not believe these levels are harmful. However, according to findings by Duke University researchers there is NO safe amount of lead.

2. Ethanolamine Compounds

In: Eyeliners, Mascara, Eye shadows, Blush, Make-up bases, Foundations**.**

Some Brands Using It: Cover Girl, Maybelline New York, Neutrogena, Revlon

What to look for*:* Triethanolamine, diethanolamine, DEA, TEA, cocamide DEA, cocamide MEA, DEA-cetyl phosphate, DEA oleth-3 phosphate, lauramide DEA, linoleamide MEA, myristamide DEA, oleamide DEA, stearamide MEA, TEA-lauryl sulfate.

Health Concerns: May increase risk of cancer especially with prolonged and repeated use; bio-accumulation, organ system toxicity.

3 Benzophenone & Related Compounds

FOUND IN: Lip balm, nail polish, foundations, baby sunscreens, fragrance, shampoo, conditioner, hair spray, moisturizers, and foundation

WHAT TO LOOK FOR ON THE LABEL: Benzophenone, ingredients containing the word benzophenone (for example benzophenone-2), BP# (for example BP2), oxybenzone, sulisobenzone, sulisobenzone sodium

WHAT IS BENZOPHENONE?
Benzophenone is widely used in household products, such as sunglasses, food packaging, laundry and cleaning products to protect from UV light. Benzophenone occurs naturally in some foods (such as wine grapes and muscat grapes) and is added to other foods as a flavouring.

HEALTH CONCERNS: Cancer, endocrine disruption, developmental and reproductive toxicity, organ system toxicity, irritation, ecotoxicity

REGULATIONS: Benzophenone, benzophenone-2, benzophenone-3, benzophenone-4, and benzophenone-5 restricted in cosmetics in United States and oxybenzone is restricted in cosmetics at up to 10% maximum concentration in the EU

4. Formaldehyde and Formaldehyde Releasing Preservatives

In: Coloured cosmetics, Eyelash Glue, Nail Polish

Some Brands Using It: Orly, Spa Rituals, Maybelline, Coty

What to look for*:* Formaldehyde, quaternium-15, DMDM hydantoin, imidazolidinyl urea, diazolidinyl urea, sodium hydroxymethylglycinate, 2-bromo-2-nitropropane-1,3-diol (bromopol)
Health Concerns: Formaldehyde is a carcinogenic impurity released by the above mentioned cosmetic preservatives. Banned in Sweden and Japan.

4. Octinoxate

In: Lipsticks, Nail Polish.
Some Brands Found Using It: Avon, Rimmel, Coty
What to look for*:* Octinoxate, methoxycinnamate (OMC), parsol, parsol MCX, parsol MOX, escalol, 2-ethylhexyl p-methoxycinnamate
Health concerns: Endocrine disruption, associated with cancer growth, persistence and bioaccumulation, ecotoxicology, organ system toxicity.

5. Parabens

In: Just about anything, from eyelash glue and makeup to skincare products

Some Brands Found Using It: Many! Surprisingly, LUSH, Kiehl's and other 'natural' brands

What to look for: Proprylparaben, Isopropylparaben, Butylparaben, Isobutylparaben

Health Concerns: Parabens are being phased out for use in the EU as they have been clearly linked to cancer. Also related to developmental/reproductive toxicity, Ecotoxicology, Endocrine disruption, Allergies/immunotoxicity.

REGULATIONS:

- Formaldehyde is prohibited in Japan,[1] and restricted in the EU;[2]
- coal tar is prohibited in the EU;[3]
- benzene is prohibited in the EU;[4]
- ethylene oxide is prohibited in the EU;[5]
- chromium is prohibited in the EU; [6]
- cadmium compounds are prohibited in Japan[7] and the EU;[8]
- arsenic is prohibited in the EU.[9] - See more at: http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/known-carcinogens/#sthash.KR2rDh6l.dpuf

As cancer is a difficult disease to diagnose in terms of exactly what causes it, in most cases doctors are reluctant to point the finger at one specific cause, even when there are strong causal links, such as smoking and lung cancer.

But considering that the average American woman wears over 500 chemicals a day, eats nearly 4 pounds of lipstick in a lifetime and absorbs 60% of all makeup and cosmetics into her bloodstream, isn't it better to be safe than sorry?

The Campaign for Safe Cosmetics

RED LIST

NAIL POLISH

- ✔ Formaldehyde
- ✔ Tolune
- ✔ Dibutyl phthalate
- ✔ Isopropyl acetone
- ✔ Methyl ethyl ketone
- ✔ N-methyl-pyrrolidone
- ✔ Ethyl acrylate
- ✔ Ethyl methacrylate
- ✔ Methyl methacrylate

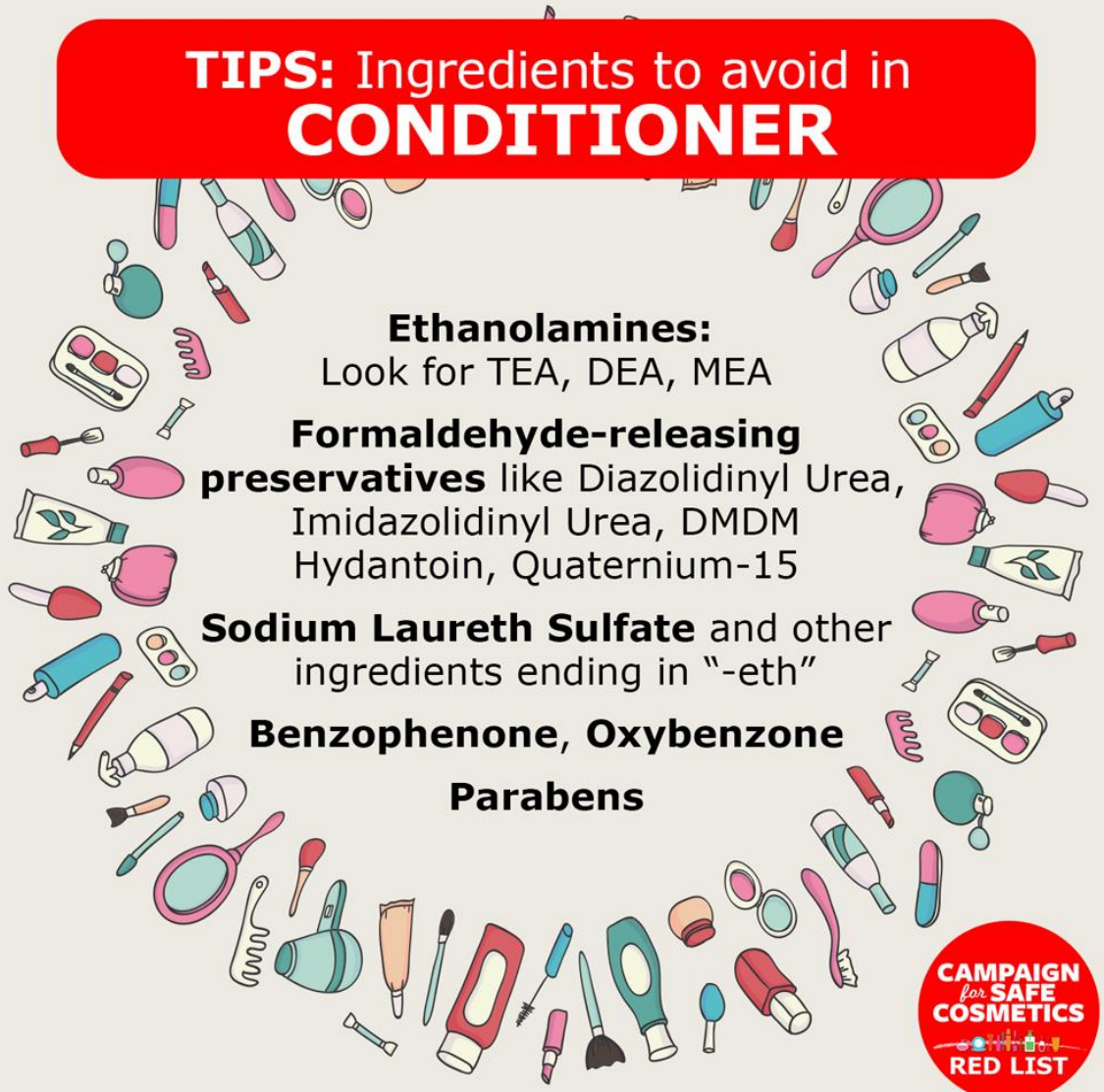
CAMPAIGN for SAFE COSMETICS
safecosmetics.org

TIPS: Ingredients to avoid in **FRAGRANCE**

Diethyl phthalate
Dibutyl phthalate
Contaminant concerns:
Ethylene Oxide, nitrosamines
Benzophenone
Parabens
Butylated hydroxyanisole (BHA)
Galaxolide
Musk xylene
Musk ketone
Ocinoxate
Tonalide
Styrene

CAMPAIGN for SAFE COSMETICS
RED LIST

TIPS: Ingredients to avoid in **CONDITIONER**



Ethanolamines:
Look for TEA, DEA, MEA

Formaldehyde-releasing preservatives like Diazolidinyl Urea, Imidazolidinyl Urea, DMDM Hydantoin, Quaternium-15

Sodium Laureth Sulfate and other ingredients ending in "-eth"

Benzophenone, **Oxybenzone**

Parabens

CAMPAIGN for SAFE COSMETICS
RED LIST

TIPS: Ingredients to avoid in **LIPSTICK**

BHA

Hydrogenated Cotton Seed Oil

Mineral Oil

Padimate O

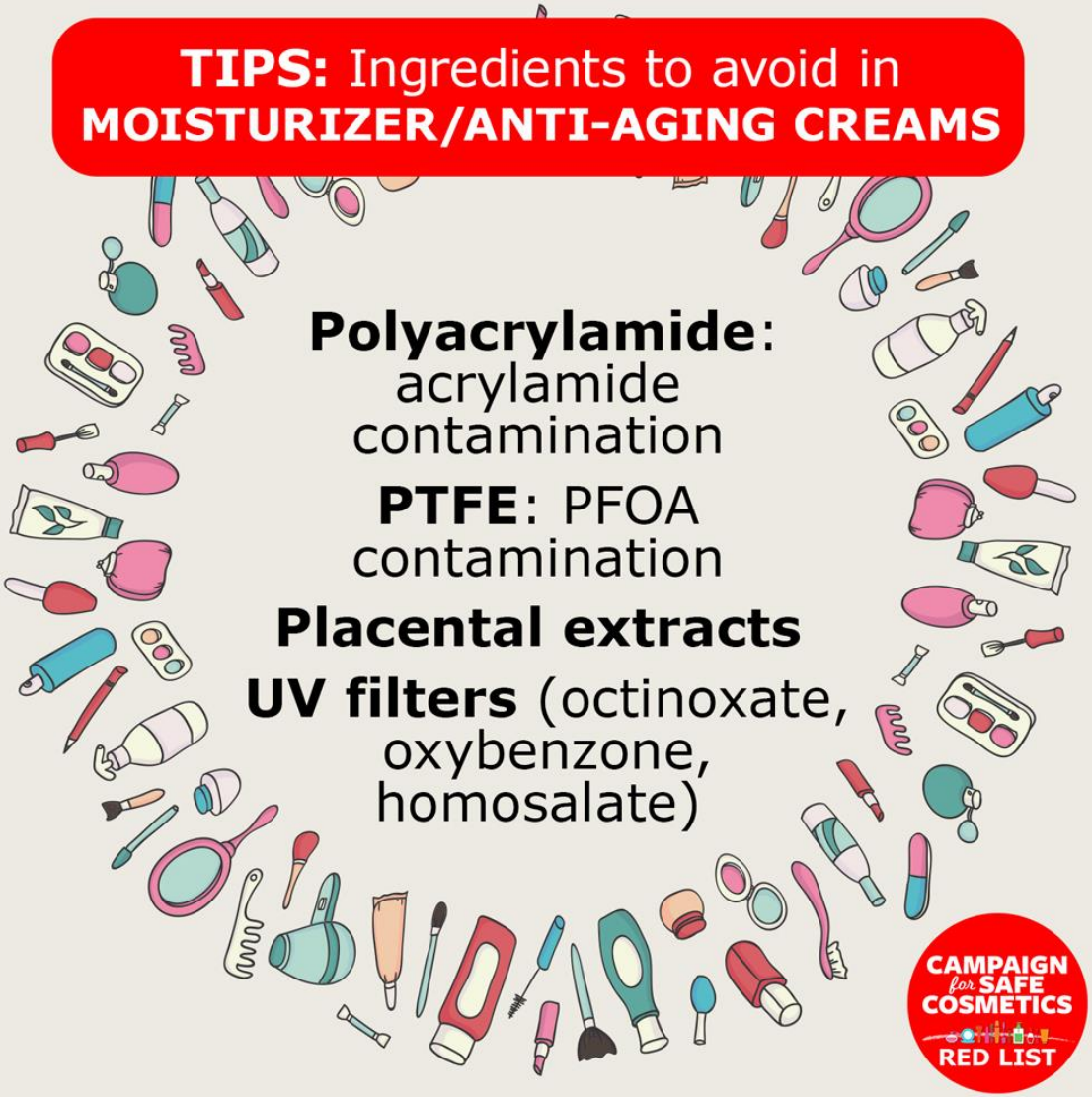
Petrolatum

Lead and other heavy metals

CAMPAIGN for SAFE COSMETICS

RED LIST

TIPS: Ingredients to avoid in **MOISTURIZER/ANTI-AGING CREAMS**



Polyacrylamide: acrylamide contamination

PTFE: PFOA contamination

Placental extracts

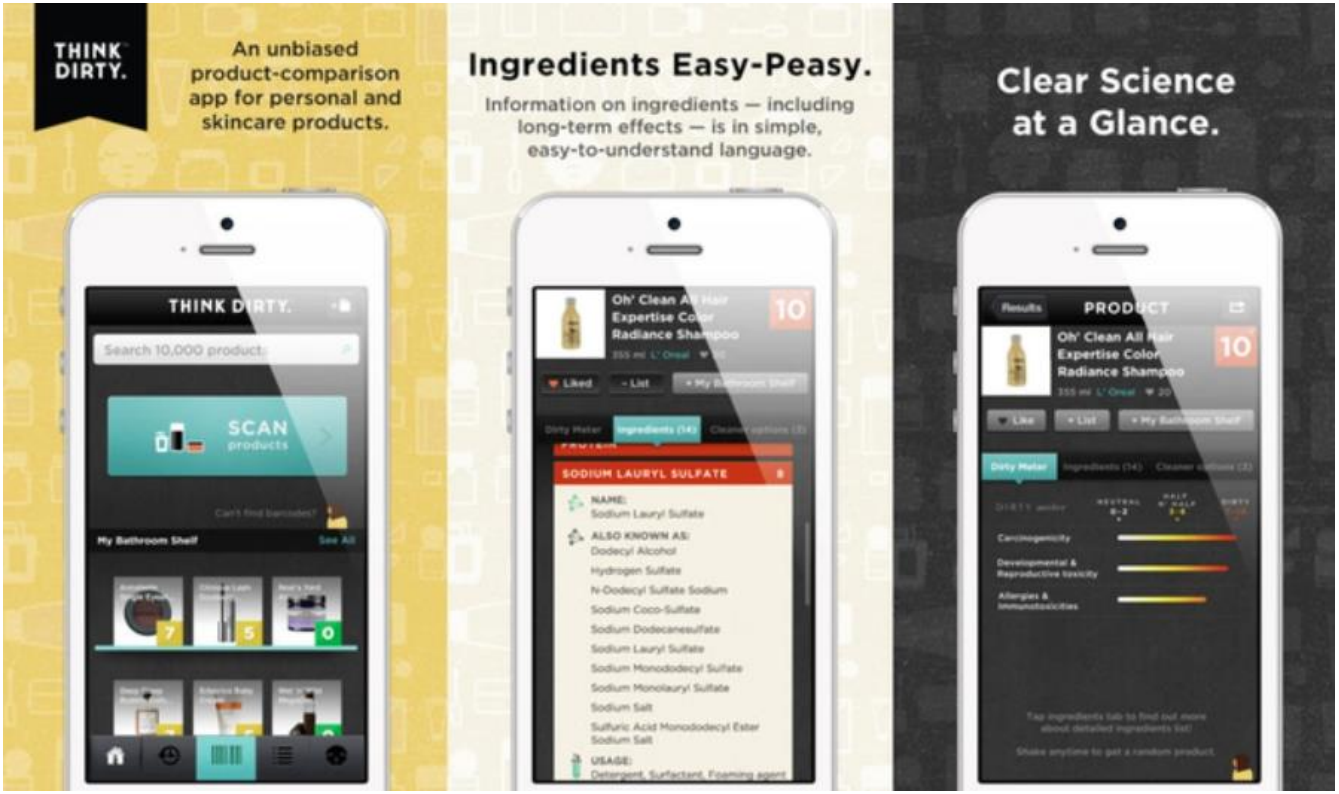
UV filters (octinoxate, oxybenzone, homosalate)

CAMPAIGN for SAFE COSMETICS RED LIST

Apps

FOR BEAUTY PRODUCTS

Think Dirty: This app lets you scan a barcode or type in a product name and it will tell you of any potentially toxic ingredients in your cosmetics and personal care products.



Certified natural cosmetics

True Friends of Natural and Organic Cosmetics

When the **NATRUE** Label appears on a package, you can be sure that the product it contains is not only compliant with a strict standard but also that a reliable certification process has been carried out by independent certification bodies.

NATRUE classified ingredients into three easy-to-understand types

- **Natural ingredients** are unmodified and may be obtained only by physical processes or fermentation.

- **Derived natural ingredients** are the result of permitted chemical reaction processes on only natural ingredients.

- **Nature-identical ingredients** can be either pigments, minerals or preservatives. They are reproduced in the laboratory but exist in nature. These ingredients are allowed when strictly necessary in order to ensure consumer safety (preservatives) or for purity (minerals/pigments). All of them have one essential characteristic: they can be found in nature.

- **Nothing artificial (man-made) is allowed.**

COSMOS-standard

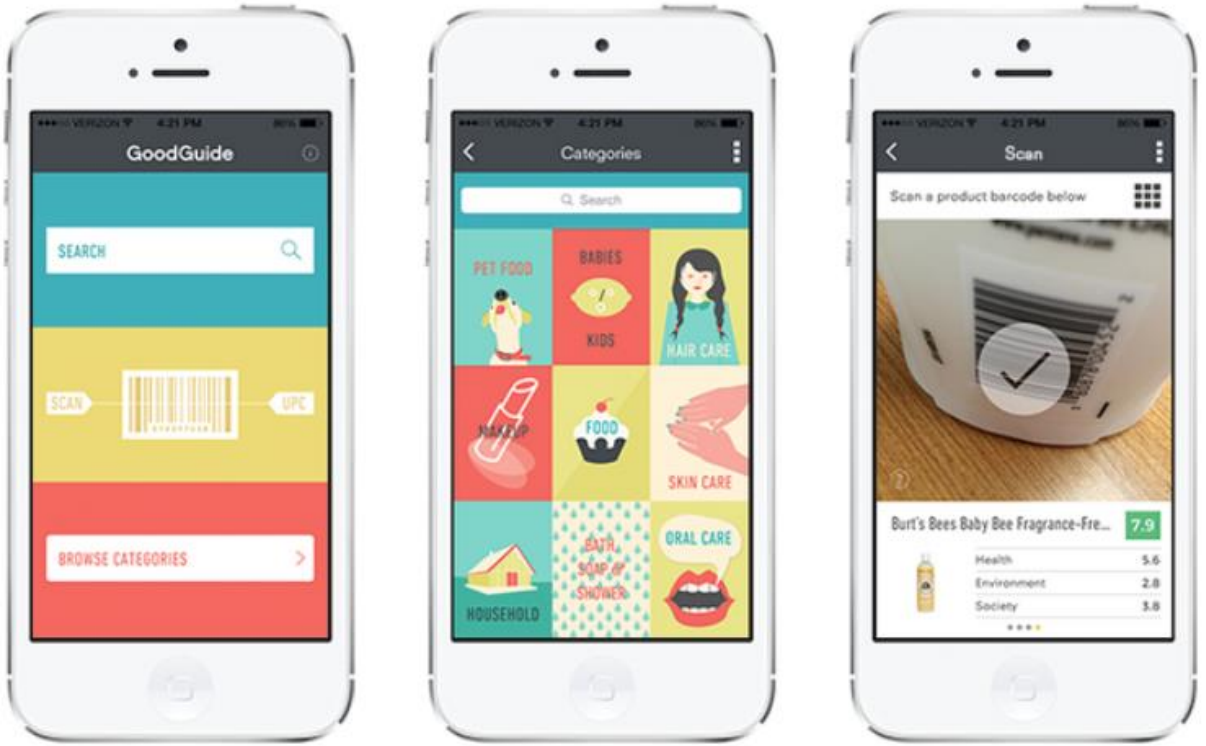
Here they are with some of the key standards:

Physically processed agro-ingredients – at least 95% must be organic and there is also a list that must be organic. Only simple physical processes allowed (similar to foods);

BDIH

FOR CLEANING PRODUCTS

Goodguide: This app lets you scan or search a robust database of over 250,000 products across multiple categories. Search for household cleaning products and get information on the ingredients they contain and 10-point rating based on its health, environmental, and social impact.



Documentaries:

The Human experiment

forks over knives

food choices

Take home message

Lower the risk factors of chemicals by lowering their use and being wise while choosing a product!

Keep minimum intake of meat products, process food !

Balance your lifestyle with proper food and exercise!


thank
you . . .