



*THE **BEAUTY** WATCH LIST™*

Personal care products should support our health, not compromise it. If any of your products contain ingredients in this list, they are either banned in the EU, or are being closely watched because they are known, or suspected to have negative health impacts. Protect your health now...

There's a lot of hype around the word 'clean' right now. Whether it's clean eating or clean beauty, but what do we actually mean by clean? Well, in a beauty sense, clean products should only include ingredients to support health, not compromise it. When companies create their formulas, safety and quality of ingredients should be the main priority.

As a consumer, it's important to know your stuff when it comes to what's in your products. Just as you want to know where your food came from and what you're putting into your body, you should also seek to find out what exactly you're putting on your skin. Whether that be in the form of makeup, moisturizers, suncreams and even fragrances. Anything that goes on your skin is can ultimately be absorbed into your body, so it's important to be in the know.

Many of you may be shocked to learn that cosmetics companies in the USA are free to put a number of potentially dangerous chemicals into their products. It's been a staggering 80 years since Congress last passed cosmetics law.

Let's hit you with some stats... In Europe there are more than 1,300 ingredients on the 'banned list', meaning they can't ever be used in health and beauty products. Yet, here in America, there are just 8 prohibited ingredients on



that list... something doesn't quite stack up!

We're not saying all American health and beauty products are packed to the gills with toxins, but we think it's pretty alarming that this isn't taken more seriously. We want to put our cards on the table right here, right now and reassure our lovely consumers that we comply wholly with the EU Cosmetics Regulations – always have and always will. Using anything else other than those deemed safe just isn't in our nature. The EU leave no stone unturned when looking into the effects of different ingredients, so if they're banning something, it's for good reason.

That's why ALL our products contain only clean, wonderful ingredients with no hidden surprises!

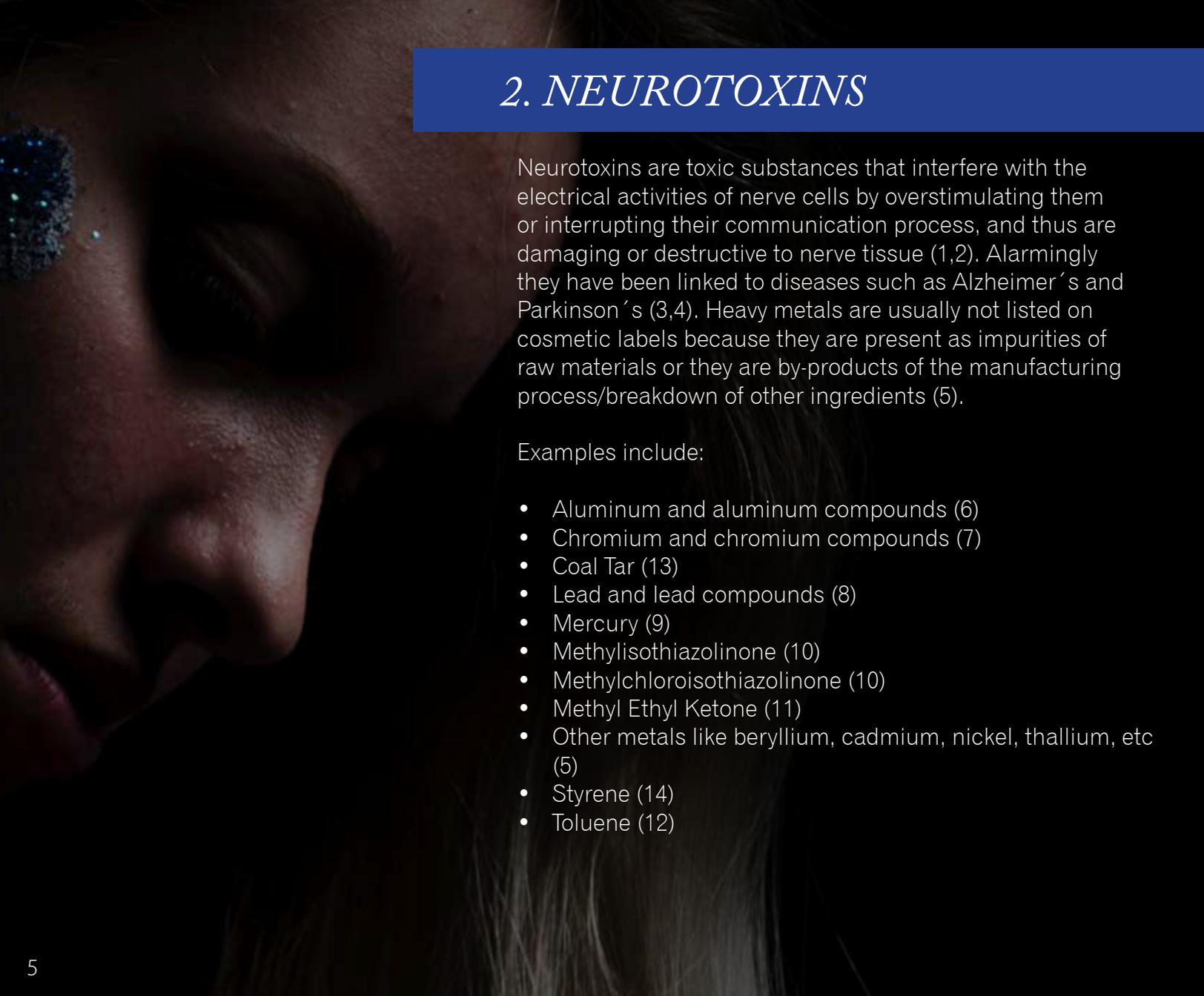
Now, back to this list of toxins in The Beauty Watch List™; in order to give you a helping hand in understanding these ingredients, we've broken them down into their 13 classifications, which is a much easier way of learning what's what...



1. PETROCHEMICALS

As the name alludes to, these are compounds derived from petroleum and gas – not what you would want to find in your luxurious face cream! They could be contaminated with polycyclic aromatic hydrocarbons (PAHS), which have caused reproductive carcinogenic and teratogenic effects along immune and skin damage on laboratory animals (1). Mineral oil, one of the main petrochemicals used in skincare, coats the skin like plastic, clogging pores and creating a build-up of toxins. It also slows cellular development, which can cause earlier signs of aging. More worryingly, it is also suspected to cause cancer and disrupt hormonal activity (2). Examples include:

- Benzene (4)
- Coal tar dyes (FD&C and D&C colors; 4)
- Ethanolamines: DEA, MEA, TEA (4)
- Ingredient names with the clause “butyl” like butylene glycol (4)
- Ingredient names with the clause “eth” like cetareth (4)
- Ingredient names with the clause ethyl like ethylenediaminetetraacetic acid (EDTA; 4)
- Ingredient names with the clause “methyl” like methyl alcohol (4)
- Ingredient names with the clause “propyl” propylene glycol (4)
- Mineral oil (liquid paraffinum, paraffin oil, paraffin wax, petrolatum; 4)
- PEG compounds (polyethylene glycol, polyoxyethylene; 4)
- Petrolatum (3)
- Phenoxyethanol (4)
- Synthetic fragrance (4)
- Toluene (4)

A close-up, low-angle photograph of a person's face, focusing on the eye and forehead. The person is wearing a blue sequined headband. The background is dark and out of focus.

2. NEUROTOXINS

Neurotoxins are toxic substances that interfere with the electrical activities of nerve cells by overstimulating them or interrupting their communication process, and thus are damaging or destructive to nerve tissue (1,2). Alarmingly they have been linked to diseases such as Alzheimer's and Parkinson's (3,4). Heavy metals are usually not listed on cosmetic labels because they are present as impurities of raw materials or they are by-products of the manufacturing process/breakdown of other ingredients (5).

Examples include:

- Aluminum and aluminum compounds (6)
- Chromium and chromium compounds (7)
- Coal Tar (13)
- Lead and lead compounds (8)
- Mercury (9)
- Methylisothiazolinone (10)
- Methylchloroisothiazolinone (10)
- Methyl Ethyl Ketone (11)
- Other metals like beryllium, cadmium, nickel, thallium, etc (5)
- Styrene (14)
- Toluene (12)

3. ENDOCRINE DISRUPTING CHEMICALS (EDCS)

These are chemicals, mostly manmade, found in everything from foods to health and beauty products, even toys (1). They can interfere with the body's endocrine system by increasing or decreasing production of certain hormones; mimicking them, by turning one hormone into another; interfering with hormone signaling; instructing cells to die prematurely; competing with essential nutrients; binding to essential hormones, and accumulating in organs that produce hormones (2). Not nice! These disruptions can cause cancerous tumors, birth defects as well as reproductive, developmental, neurological and immune effects in both humans and wildlife. Xenoestrogens, which cause estrogen dominance, are arguably the most well-known EDCs.

Watch out for:

- Benzene (3)
 - Benzophenone (4,5)
 - Bisphenol A (BPA; 1,2) *
 - BHA (butylated hydroxyanisole; 6)
 - BHT (butylated hydroxytoluene; 7)
 - Boric Acid (43)
 - Dioxin (2)
 - Fragrance/Synthetic Musk (4,5,41)
 - Homosalate (8,9,10)
 - Octinoxate (Octyl Methoxycinnamate; 11,12,13,14,15)
 - Oxybenzone (4,5)
 - PABA (42)
 - Parabens (16,17,18,19,20)
 - Polytetrafluoroethylene (PTFE/ Teflon; 21,22,23,24,25)
 - Phthalates (26,27,28,29)
 - Resorcinol (30,31,32,33,34)
 - Synthetic musks (35,36,37)
 - Styrene (44)
 - Triclosan (38,39)
 - Triphenyl Phosphate (40)
- *found in plastic containers

4. pH DISRUPTORS

These chemicals strip the skin's acid mantle either by overly acidifying the skin (chemical peels) or overly alkalizing it (foaming cleansers). The acid mantle is formed by secretions from sweat and sebaceous glands as well as the breakdown of fatty acids by beneficial microflora (1). It acts as a barrier and allows lipids and moisture onto the skin, while protecting it from environmental pollution and non-beneficial bacterial (2). As you might expect, the acid mantle is at its strongest and most effective when the skin is slightly acidic (2). Researchers have found the optimal pH range of acidity is between 4.7 and 5 (3). Studies have shown women whose skin is in an alkaline state tend to develop more fine lines and crow's feet around their eyes than those with acidic skin (4). Skin in an alkaline state tends to be drier, more brittle, and more susceptible to sun damage than a mildly acidic skin surface (4). Mildly acidic skin has been found to have a 50 per cent lower rate of wrinkling than those with alkaline skin (4). The effect of pH on adhesion of resident skin micro flora was also assessed; an acid skin pH (4.7 – 5) keeps the resident bacterial flora attached to the skin, whereas an alkaline pH (8–9) promotes the dispersal from the skin. In vitro, *Propionibacterium acnes* (*P. acnes*) have been found to flourish at pH values between 6 and 6.5, whereas its growth is considerably decreased at pH values less than 5.5 (6). Rosacea and eczema sufferers have increased facial pH values, compared to those of people with healthy skin, which make them prone to irritation (5,7,14). Look out for:

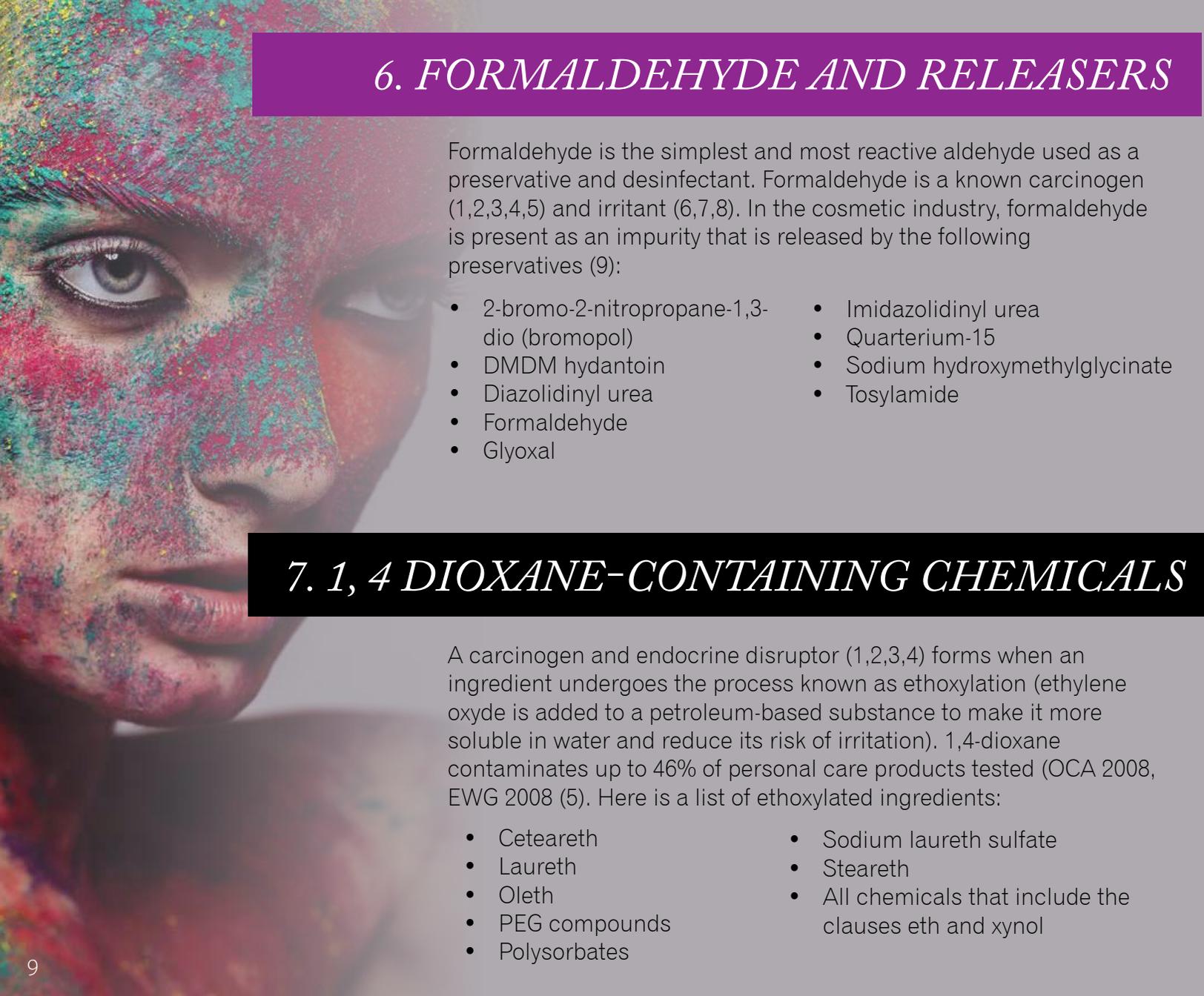
- Acids: azelaic, alpha hydroxy, beta hydroxy, kojic acid, trichloroacetic acids, etc. (5,8)
- Alcohols: ethanol, SD alcohol, isopropyl alcohol (14)
- Benzoyl Peroxide (5)
- Chlorinated Water (9)
- Jessner Formula: lactic acid, salicylic acid, resorcinol (5)
- Phenol (10)
- Retinol and its Derivatives (11)
- Soap bars (12)
- Sulfur (5)
- Surfactants: anionic, cationic and zwitterionic (13)
- Troclocarban (5)

5. CARCINOGENS

Any substance capable of causing cancer in living tissue. Due to the lack of proper regulation of cosmetic ingredients by the FDA, it is extremely common to find carcinogens in personal care formulas. The FDA states “cosmetic products and ingredients are not subject to FDA premarket approval authority, with the exception of color additives... Cosmetic firms are responsible for substantiating the safety of their products and ingredients before marketing.” Examples include:

- Acetaldehyde (51)
 - Acrylates: ethyl acrylate, ethyl/methyl methacrylate, acrylates/acrylamide copolymer, etc (53)
 - Benzene (1,2,3,4)
 - Benzophenone & related compounds: avobenzene/parsol 1789, oxybenzone (5,6)
 - Coal tar (7,8,9,10)
 - Ethanolamine compounds (DEA, MEA, TEA; 11,12,13,14)
 - Ethylane oxide (15,16,17)
 - Formaldehyde (18,19,20,21)
 - Fragrance (22)
 - Heavy metals (23,24,25; arsenic, cadmium, chromium, etc*)
 - Hydroquinone (26)
 - Mineral oils (27,28,29)
 - Phenacetin (30,31,32,33)
 - Polyacrylamide (34)
 - Polytetrafluoroethylene (PTFE/Teflon; 35,36,37,38)
 - P-Phenylenediamine (39,40,41)
 - Retinol compounds (42)
 - Silica (43,44,45,46)
 - Styrene (52)
 - Talc (47,48,49)
 - Titanium dioxide (when inhaled; 50)
- * heavy metals, such as chromium and cadmium serve as colorants in make-up, but others, such as arsenic are present in shampoo, facial lotion, foundation, etc. as a result of cosmetic ingredients contamination.





6. *FORMALDEHYDE AND RELEASERS*

Formaldehyde is the simplest and most reactive aldehyde used as a preservative and disinfectant. Formaldehyde is a known carcinogen (1,2,3,4,5) and irritant (6,7,8). In the cosmetic industry, formaldehyde is present as an impurity that is released by the following preservatives (9):

- 2-bromo-2-nitropropane-1,3-dio (bromopol)
- DMDM hydantoin
- Diazolidinyl urea
- Formaldehyde
- Glyoxal
- Imidazolidinyl urea
- Quaternium-15
- Sodium hydroxymethylglycinate
- Tosylamide

7. *1, 4 DIOXANE-CONTAINING CHEMICALS*

A carcinogen and endocrine disruptor (1,2,3,4) forms when an ingredient undergoes the process known as ethoxylation (ethylene oxide is added to a petroleum-based substance to make it more soluble in water and reduce its risk of irritation). 1,4-dioxane contaminates up to 46% of personal care products tested (OCA 2008, EWG 2008 (5)). Here is a list of ethoxylated ingredients:

- Cetareth
- Laureth
- Oleth
- PEG compounds
- Polysorbates
- Sodium laureth sulfate
- Steareth
- All chemicals that include the clauses eth and xynol

8. NITROSAMINE-FORMING CHEMICALS

These carcinogenic (1,2,3) compounds are present in various food products, they are formed in cured meats by the conversion of sodium nitrate. In the health and beauty industry, they are generated when amines mix with preservatives that can break down into nitrates. Like 1,4 dioxane, nitrosamines are not listed on product labels because they are impurities (4,5).

- Aminomethyl propanol
- Cocamidopropyl Betaine
- Cocamide DEA
- DEA (diethanolamine)
- Hydrogenated lecithin
- MEA (monoethanolamine)
- Sodium Lauryl Sarcosinate
- Stearalkonium hectorite
- TEA (triethanolamine)
- Ingredient names with the clause amine



9. *TOXIC PENETRATION ENHANCERS*

These detrimental chemicals improve the skin's absorption capabilities. The use of penetration enhancers in personal care products can be extremely damaging to health if the formulas contain other harmful ingredients. There are approximately 35 penetration enhancers that can commonly be found in cosmetics and personal-care products (1), the most toxic ones are listed as follows:

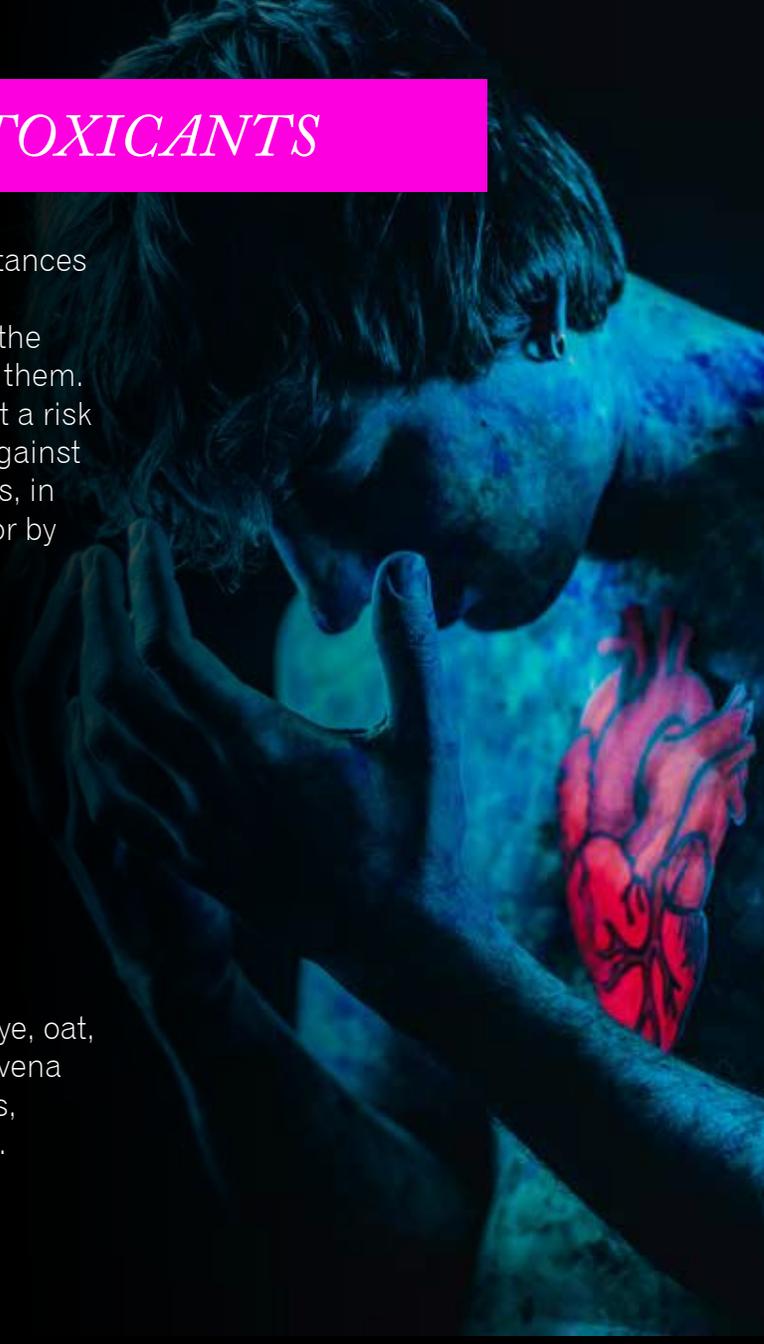
- Ammonium glycolate and lactate (1)
- Benzophenone and related compounds (1)
- EDTA compounds (disodium and tetrasodium) (2,3)
- Homosalate (4, 5)
- Hydrogenated lecithin (6, 7)*
- Nanoparticles (1,8)
- Octinoxate (1)
- Propylene Glycol (9)
- SD Alcohol 40 (10)
- Sodium Lauryl Sarcosinate (1)
- Sodium Lauryl Sulfate (1)

*possible nitrosamine contamination

10. ALLERGENS/IMMUNE-TOXICANTS

Allergens, also known as antigens, are any type of substances that are recognized by the immune system as harmful, and thus a vigorous immune response is generated via the production of antibodies to protect our systems against them. Immune-toxicants are synthetic substances that present a risk of damaging the immune system, the body's defense against potentially disease-causing microorganisms or elements, in living things through absorption, ingestion, inhalation, or by altering the body's environment. Watch out for:

- 2-Bromo-2-Nitropropane-1,3-Diol (Bronopol) (1)
- Benzophenone (25)
- Butylphenyl methylpropional (28)
- Butoxyethanol (27)
- Cationic Surfactants: Benzalkonium Chloride (2), Stearalkonium Chloride (3), etc.
- Diazolidinyl Urea (4)
- Ethanolamides: DEA (5), MEA (6), TEA (7)
- FD & C Colour Pigments (8)
- Fragrance (9)
- Gluten*: formulas that contain wheat, barley, malt, rye, oat, triticum vulgare, hordeum vulgare, secale cereale, avena sativa, fermented gran extract, yeast extract, dextrans, tocopherol (vitamin E), tocopherol acetate (10,11,12).
- Imidazolidinyl Urea (13)
- Isopropyl Palmitate (14)



- Lanolin (15)
- Maize*: decyl glucoside, ethanol, lauryl glucoside, starch, polysorbates, sorbitol, vitamins C & E, xanthan gum, xilitol, zea mays (16).
- Methylisothiazolinone (17)
- Methylchloroisothiazolinone (17)
- N-Methyl-Pyrrolidone (23)
- PABA (21)
- Phenoxyethanol (22)
- P-Phenylenediamine (24)
- Phenylphenol (26)
- Quaternium 15 (18)
- Soy*: lecithin, guar gum, mono/di/triglycerides, oleic acid, olive oil**, polyamide 3, PEG 5, PEG 10, PEG 16, PEG 25, PEG 3, PEG 40, vegetable glycerin/glycerine/vegetable glycerin, glycine soja, vegetable stearic acid, magnesium stearate, vitamin E (tocopherol acetate/tocopherols), natural flavors (19).
- Toluene (20)

* topical application does not generate reactions, but if these allergens are present in skincare they can be inadvertently ingested (1).

** could be contaminated with soybean oil; only buy certified organic

11. SILICONE-DERIVED INGREDIENTS

Silicones are characterized by having resistance to chemicals, temperature, water, high-lubricity and good insulating properties. In the health and beauty industry, compounds derived from silicone are used as solvents, emollients, humectants, viscosity-controlling as well as a slip/wetting/conditioning agents. Breast implants is, perhaps their most well-known use. Silicone-derived ingredients are occlusive (1), which means they create a physical barrier to prevent transepidermal water loss. This barrier, however, traps anything beneath the skin, not just moisture. Recent studies have indicated that prolonged exposure of the skin to sweat by occlusion causes skin irritation (2). These chemicals are also non-biodegradable, causing a negative environmental impact (3). Research collected by the Plaintiff's Steering Committee (PSC) for the National Breast Implant Litigation shows that silicone has marked effects on the adrenal glands and liver and induces chronic inflammation. Silicones can help some ingredients penetrate the skin more effectively. Dow Corning cites some research with silicone and hydroquinone in which "the silicone gum induced the formation of a reservoir of hydrocortisone in the stratum corneum" (4). See more below:

- Dimethicone
- Dimethicone Copolyol
- Cyclohexasiloxane
- Cyclomethicone
- Cyclopentasiloxane
- Dimethyl Polysiloxane
- Phenyl Trimethicone
- Silicone Oil
- Ingredients with the clause methicone, siloxane



12. RESPIRATORY TOXINS

These are compounds, most of them man-made, which can either cause adverse effects on the respiratory tract or interfere with its functions. The respiratory system starts with the nose, nasal cavities, paranasal sinuses, nasopharynx, and larynx. It continues with a conducting segment (trachea and bronchi) that enters the lungs. A transitional segment made up of respiratory bronchioles and primary, secondary, and tertiary bronchioles moves air deep into the lungs. An exchange segment made up of alveolar duct, atrium, alveolar sac, and alveolus passes oxygen into the blood and carbon dioxide and water out of the blood. In summary, the lungs place oxygen from the air into the blood and send carbon dioxide and water back into the air. The respiratory tract also warms and moistens the incoming air, regulates air flow, removes airborne particles and cools the entire organism (1). Respiratory toxicity can include a variety of acute and chronic pulmonary conditions, including local irritation, bronchitis, pulmonary edema, emphysema, and cancer (2), hence the importance of avoiding health and beauty products that could harm it. Examples include:

- Acetaldehyde (13)
 - Acrylates (14)
 - Aluminum (1)
 - Ammonia (1)
 - Asbestos* (1)
 - Beryllium* (1)
 - BHT (9)
 - Cadmium* (1)
 - Carbon Black (11)
 - Chlorine** (1)
 - Formaldehyde* (1)
 - Fragrance (5)
 - Isopropyl Acetone (7)
 - Methyl Ethyl Ketone (7)
 - Mica (3)
 - P-Phenylenediamine (8)
 - Phenylphenol (10)
 - Propylene Glycol (1)
 - Resorcinol (12)
 - Titanium Dioxide (4)
 - Toluene (6)
- * impurity in cosmetics
** cleansing water impurity

13. TERATOGENS

Teratogens are any agent, substance, organism, condition and/or process that causes impaired prenatal development and lead to congenital malformations or even death. Teratogens include certain drugs (such as thalidomide), alcohol, cigarettes, infections (such as German measles), malnutrition, environmental pollutants, stressors and ionizing radiation (1). The most common anomalies associated with teratogenic exposures during the fetal period are fetal growth restriction (intrauterine growth retardation) and mild errors of morphogenesis (abnormalities of phenogenesis), such as epicanthic folds, clinodactyly, functional CNS abnormalities and others (2). There are billions of potential teratogens, and many of them (with proven teratogenic effects) are present in conventional health and beauty formulas.

- 1,4 dioxane (3)
- Acetaldehyde
- Acrylates: ethyl/methyl methacrylate (18)
- Aluminum, Lead and other Heavy Metals (4,13)
- Benzophenone (5)
- Dibutyl Phthalate (6)
- Diethanolamine (7)
- Ethylene and Triethylene Glycol (8)
- Methanol (17)
- Methyl Ethyl Ketone (14)
- Methyl Chloride
- Methyl Salicylate (9)
- N-Methyl-Pyrrolidone (14)
- Parabens (11)
- Synthetic Musks (12)
- Toluene (10)



WHAT YOU CAN DO NEXT

- Check the ingredients of all your skincare and personal care products. If you find they contain any listed here, or from our Banned List, throw them out, or return them back to the company. Methodically replace the products you threw out by replacing them with much cleaner ones instead.
- As a Compact Signer since 2005, we fully support EWG's work and frequently point folks to their Skin Deep® cosmetics database. However while their database is very helpful to determine the safety of cosmetic ingredients, there are many inconsistencies and conflicting data with respects to certain ingredients that are generating inaccurate safety rating scores for natural products. In the meantime we hope the many requests from natural brands to review the way they rate ingredients is changed to a reflect a clearer, more precise safety rating.
- If your favorite product(s) use EU banned, or toxic ingredients, contact the company to get them removed. Post questions and comments on their various social media platforms and get their followers involved in this important conversation.

REFERENCE SECTION

1. Petrochemicals

- (1) <http://www3.epa.gov/epawaste/hazard/wastemin/minimize/factshts/pahs.pdf>
- (2) <http://articles.mercola.com/sites/articles/archive/2010/08/14/red-alert-on-cosmetic-products-will-they-cause-a-health-disaster-like-asbestos-did.aspx>
- (3) <http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/petrolatum/>
- (4) <http://cosmeticdatabase.com>

2. Neurotoxins

- (1) Dorland, W. A. Newman. 2007. Dorland's illustrated medical dictionary. Philadelphia, PA: Saunders.
- (2) <http://energyfanatics.com/2010/05/02/ten-neurotoxins-you-should-avoid/>
- (3) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3056430/>
- (4) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3234449/>
- (5) <http://articles.mercola.com/sites/articles/archive/2011/06/04/new-study-finds-major-toxins-in-many-cosmetics.aspx>
- (6) Agency for Toxic Substances and Disease Registry (ATSDR) (2008). Toxicological profile for Aluminum. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. Available online: <http://www.atsdr.cdc.gov/toxprofiles/tp22.pdf>. Accessed November 5, 2013.
- (7) Agency for Toxic Substances and Disease Registry (ATSDR) (2012). Toxicological profile for Chromium. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. Available online: <http://www.atsdr.cdc.gov/toxprofiles/tp7.pdf>. Accessed November 5, 2013.
- (8) Needleman, Herbert L.; Schell, Alan; Bellinger, David; Leviton, Alan; Allred, Elizabeth N. (1990). The long-term effects of exposure to low doses of lead in childhood. An 11-year follow-up report. *New England Journal of Medicine* 322 (2): 83–88.
- (9) Agency for Toxic Substances and Disease Registry (ATSDR) (1999). Toxicological profile for mercury. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. Available online: <http://www.atsdr.cdc.gov/toxprofiles/tp46.pdf>. Accessed November 5, 2013. See more at: <http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/lead-and-other-heavy-metals/#sthash.5EbZ7k7W.dpuf>

- (10) <http://www.ewg.org/skindeep/ingredient/703935/METHYLISOTHIAZOLINONE/>
- (11) INCHEM. International Programme on Chemical Safety. Methyl Ethyl Ketone. Available online: <http://www.inchem.org/documents/ehc/ehc/ehc143.htm>
- (12) <http://www.ewg.org/skindeep/ingredient/706577/TOLUENE/>
- (13) Pinsky, C., & Bose, R. (1988). Pyridine and other coal tar constituents as free radical-generating environmental neurotoxicants. *Molecular and cellular biochemistry*, 84(2), 217-222
- (14) Environmental Protection Agency. Styrene. Integrated Risk Information System, 2014. Available online: <http://www.epa.gov/iris/subst/0104.htm>.

3. Endocrine Disruptors

- (1) <http://www.niehs.nih.gov/health/topics/agents/endocrine/>
- (2) <http://www.ewg.org/research/dirty-dozen-list-endocrine-disruptors>
- (3) The Endocrine Disruption Exchange (TEDX). Benzene. Available online: <http://endocrinedisruption.org/popup-chemical-details?chemid=401> July 24, 2014.
- (4) Kim S. & Choi K., Occurrences, toxicities, and ecological risks of benzophenone-3, a common component of organic sunscreen products: A mini-review. *Environment International*, vol. 70, pp 143-57, 2014.
- (5) Nakagawa Y. & Suzuki T. Metabolism of 2-hydroxy-4-methoxybenzophenone in isolated rat hepatocytes and xenoestrogenic effects of its metabolites in MCF-7 human breast cancer cells. *Chemico-Biological Interactions*, vol. 139, no. 2, pp 115-128, 2002.
- (6) <http://www.ewg.org/skindeep/ingredient/700740/BHA/>
- (7) <http://www.ewg.org/skindeep/ingredient/700741/BHT/#sthash.8b6otXwB.dpuf>
- (8) Schreurs R, Lanser P, Seinen W, van der Burg R. Estrogenic activity of UV filters determined by an in vitro reporter gene assay and an in vivo transgenic zebrafish assay. *Archives of Toxicology*, vol. 76, no. 5-6, pp 257-261, 2002.
- (9) Kunz P, Fent K. Multiple hormonal activities of UV filters and comparison of in vivo and in vitro estrogenic activity of ethyl-4-aminobenzoate in fish. *Aquatic Toxicology*, vol. 79, pp 305-324, 2006.
- (10) Jiménez-Díaz I, et al. Simultaneous determination of the UV-filters benzyl salicylate, phenyl salicylate, octyl salicylate, homosalate, 3-(4-methylbenzylidene) camphor and 3-benzylidene camphor in human placental tissue by LC-MS/MS. Assessment of their in vitro endocrine activity.

Journal of Chromatography B, vol. 936, pp 80-87, 2013.

- (11) Axelstad, M., Boberg, J., Hougaard, K. S., Christiansen, S., Jacobsen, P. R., Mandrup, K. R., ... & Hass, U. (2011). Effects of pre-and postnatal exposure to the UV-filter Octyl Methoxycinnamate (OMC) on the reproductive, auditory and neurological development of rat offspring. *Toxicology and applied pharmacology*, 250(3), 278-290.
- (12) Darbre, P. D. (2006). Environmental oestrogens, cosmetics and breast cancer. *Best practice & research clinical endocrinology & metabolism*, 20(1), 121-143.
- (13) Schlumpf, M., Cotton, B., Conscience, M., Haller, V., Steinmann, B., & Lichtensteiger, W. (2001). In vitro and in vivo estrogenicity of UV screens. *Environmental health perspectives*, 109(3), 239.
- (14) Schlumpf, M., Schmid, P., Durrer, S., Conscience, M., Maerker, K., Henseler, M., ... & Lichtensteiger, W. (2004). Endocrine activity and developmental toxicity of cosmetic UV filters—an update. *Toxicology*, 205(1), 113-122.
- (15) Boas, M., Feldt-Rasmussen, U., & Main, K. M. (2012). Thyroid effects of endocrine disrupting chemicals. *Molecular and Cellular Endocrinology*, 355(2), 240-248.
- (16) Darbre PD., et al., Paraben esters: review of recent studies of endocrine toxicity, absorption, esterase and human exposure, and discussion of potential human health risks. *Journal of Applied Toxicology*, 2008.
- (17) Prusakiewicz JJ., et al., Parabens inhibit human skin estrogen sulfotransferase activity: Possible link to paraben estrogenic effects. *Toxicology*, vol. 232, pp 248-56, 2007.
- (18) Darbre PD., et a., Paraben esters: review of recent studies of endocrine toxicity, absorption, esterase and human exposure, and discussion of potential human health risks. *Journal of Applied Toxicology*, 2008.
- (19) Golden R., et al., A review of the endocrine activity of parabens and implications for potential risks to human health. *Critical Reviews in Toxicology*, vol. 35, pp 435-58, 2005.
- (20) Dabre PD., et al., Oestrogenic activity of isobutylparaben in vitro and in vivo. *Journal of Applied Toxicology*, vol. 22, no. 4, pp 219-26. 2002.
- (21) Guizhen Du, Hongyu Huang, Jialei Hu, Yufeng Qin, Di Wu, Ling Song, Yankai Xia, Xinru Wang Endocrine-related effects of perfluorooctanoic acid (PFOA) in zebrafish, H295R steroidogenesis and receptor reporter gene assays. *Chemosphere*, Volume 91, Issue 8, May 2013, Pages 1099–1106.
- (22) Guizhen Du, Hongyu Huang, Jialei Hu, Yufeng Qin, Di Wu, Ling Song, Yankai Xia, Xinru Wang

- Endocrine-related effects of perfluorooctanoic acid (PFOA) in zebrafish, H295R steroidogenesis and receptor reporter gene assays. *Chemosphere*, Volume 91, Issue 8, May 2013, Pages 1099–1106.
- (23) Manhai Long, Mandana Ghisari, Eva Cecilie Bonefeld-Jørgensen. Effects of perfluoroalkyl acids on the function of the thyroid hormone and the aryl hydrocarbon receptor *Environmental Science and Pollution Research*. November 2013, Volume 20, Issue 11, pp 8045-8056.
- (24) Guizhen Du, Hongyu Huang, Jialei Hu, Yufeng Qin, Di Wu, Ling Song, Yankai Xia, Xinru Wang Endocrine-related effects of perfluorooctanoic acid (PFOA) in zebrafish, H295R steroidogenesis and receptor reporter gene assays. *Chemosphere*, Volume 91, Issue 8, May 2013, Pages 1099–1106.
- (25) Hongxia Zhang, Yin Lu, Bin Luo, Shengmin Yan, Xuejiang Guo, and Jiayin Dai. Proteomic Analysis of Mouse Testis Reveals Perfluorooctanoic Acid-Induced Reproductive Dysfunction via Direct Disturbance of Testicular Steroidogenic Machinery. *J. Proteome Res.*, 2014, 13 (7), pp 3370–3385. DOI: 10.1021/pr500228d. June 18, 2014 21Henry ND, Fair PA. *J Appl Toxicol*. 2013 Apr;33(4):265-72. doi: 10.1002/jat.1736. Epub 2011 Sep 21. Comparison of in vitro cytotoxicity, estrogenicity and anti-estrogenicity of triclosan, perfluorooctane sulfonate and perfluorooctanoic acid. 22Melzer, D., Rice, N., Depledge, M. H., Henley, W. E., & Galloway, T. S. (2010). Association between serum perfluorooctanoic acid (PFOA) and thyroid disease in the US National Health and Nutrition Examination Survey. *Environmental health perspectives*, 118(5), 686.
- (26) European Commission. List of 146 substances with endocrine disruption classifications prepared in the expert meeting. Available online: http://ec.europa.eu/environment/archives/docum/pdf/bkh_annex_13.pdf August 13, 2014.
- (27) The Endocrine Disruption Exchange (TEDX). Diethyl phthalate. Available online: <http://endocrinedisruption.org/popup-chemical-details?chemid=527> August 13, 2014.
- (28) The Endocrine Disruption Exchange (TEDX). Di(2-ethylhexyl) phthalate. Available online: <http://endocrinedisruption.org/popup-chemical-details?chemid=505> August 13, 2014.
- (29) The Endocrine Disruption Exchange (TEDX). Dibutyl phthalate. Available online: <http://endocrinedisruption.org/popup-chemical-details?chemid=510> August 13, 2014.
- (30) European commission: Scientific Committee on Consumer Products. Annex 13: List of 146 Substances with endocrine disruption classifications prepared in the Expert meeting. Available online at: http://ec.europa.eu/environment/archives/docum/pdf/bkh_annex_13.pdf
- (31) Lindsay R.H, Hill J.B, Gaitan E, Cooksey R.C, Jolley R.L, (1992) Antithyroid Effects of Coal Derived Pollutants, *Journal of Toxicology and Environmental Health*, 37(4), 467-481.

- (32) Divi R, Doergel D, (1994) Mechanism-Based Inactivation of Lactoperoxidase and Thyroid Peroxidase by Resorcinol Derivatives, National Center for Toxicological Research.
- (33) Ghisari M, Bonefeld-Jorgensen E.C, (2009) Effects of plasticizers and their mixtures on estrogen receptor and thyroid hormone functions. *Toxicology Letters* 189: 67-77.
- (34) Waring R, Ramsden D, Jarratt P, Harris R, (2012) Biomarkers of endocrine disruption: cluster analysis of effects of plasticizers on Phase 1 and Phase 2 metabolism of steroids. *International Journal of Andrology* 35: 415-423.
- (35) Seinen W, Lemmen JG, Pieters RH, Verbruggen EM, Van der Burg B. (1999). AHTN and HHCB show weak estrogenic but no uterotrophic activity. *Toxicol. Lett.* 111, 161–168.
- (36) Schreurs RH, Sonneveld E, Jansen JH, Seinen W, van der Burg B. 2005. Interaction of polycyclic musks and UV filters with the estrogen receptor (ER), androgen receptor (AR), and progesterone receptor (PR) in reporter gene bioassays. *Toxicol Sci.* 83(2): 264-72.
- (37) Bitsch N, Dudas C, Körner W, Failing K, Biselli S, Rimkus G, Brunn H. 2002. Estrogenic activity of musk fragrances detected by the E-screen assay using human mcf-7 cells. *Arch Environ Contam Toxicol.* 43(3): 257-64.
- (38) Zorrilla, L., et al (2009). The effects of Triclosan on Puberty and Thyroid Hormones in Male Wistar Rats. *Toxicological Sciences.* 107(1) 56-64.
- (39) Ahn et al (2008). In Vitro Biologic Activities of the Antimicrobials Triclocarban, Its Analogs, and Triclosan in Bioassay Screens: Receptor-Based Bioassay Screens. *Environ Health Perspectives.* 116(9): 1203–1210.
- (40) <http://www.ewg.org/research/nailed>
- (41) Muller S, Schmid P, Schlatter C. Occurrence of nitro and non-nitro benzenoid musk compounds in human adipose tissue. *Chemosphere*, vol. 33, no. 1, pp 17-28, 1996. (42) Morohoshi K, Yamamoto H, Kamata R, Shiraishi F, Koda T, and Morita M. "Estrogenic activity of 37 components of commercial sunscreen lotions evaluated by in vitro assays."
- (43) http://www.ewg.org/skindeep/ingredient/700799/BORIC_ACID/
- (44) European Commission. Annex 13. List of 146 substances with endocrine disruption classifications prepared in the Expert meeting. Available online: http://ec.europa.eu/environment/archives/docum/pdf/bkh_annex_13.pdf.

4. pH disruptors

- (1) Telofski, L. et al. The Infant Skin Barrier: Can We Preserve, Protect, and Enhance the Barrier? *Dermatol Res Pract.* 2012; 2012: 198789.
- (2) Ali, S. and Yosipovitch, G. Skin pH: From Basic Science to Basic Skin Care. *Acta Derm Venereol.* 2013; 93: 261-267.
- (3) Korting, HC. and Braun-Falco, O. The Effect of Detergents on Skin pH and Its Consequences. *Clinics in Dermatology.* 1996. 14:23-
- (4) Hillebrand, G. et al. Progression of temporary into persistent facial wrinkling: an 8-year longitudinal study. *Br J Derm.* 2008.
- (5) Saba M. A, Yosipovitch G. Skin pH: From Basic Science to Basic Skin Care. *Acta Derm Venereol* 2013; 93: 261–267.
- (6) Korting HC, Braun-Falco O. The effect of detergents on skin pH and its consequences. *Clin Dermatol* 1996; 14: 23–27.
- (7) Lacey N, Ní Raghallaigh S, Powell FC. Demodex mites--commensals, parasites or mutualistic organisms? *Dermatology.* 2011;222(2):128-30. doi: 10.1159/000323009. Epub 2011 Jan 11.
- (8) http://www.cidesco-canada.com/AHA's++++and++++BHA's_eng.html
- (9) Lambers H, Piessens S, Bloem A, Pronk H, Finkel P. Natural skin surface pH is on average below 5, which is beneficial for its resident flora. 2006 Oct;28(5):359-70. doi: 10.1111/j.1467-2494.2006.00344.x.
- (10) <http://practicaldermatology.com/2011/09/the-who-what-where-and-why-of-facial-peels/>
- (11) <http://www.doctoroz.com/videos/three-anti-aging-products-you-dont-need?page=2>
- (12) Yosipovitch G, Hu J. The importance of skin pH. *Skin & aging* 2003; 11(3):88-93. Copyright 2003 HMP Communications.
- (13) Kim E, Kim S, Nam GW, Lee H, Moon S, Chang I. The alkaline pH-adapted skin barrier is disrupted severely by SLS-induced irritation. 2009 Aug;31(4):263-9. doi: 10.1111/j.1468-2494.2009.00491.x. Epub 2009 May 20.
- (14) http://www.paulaschoice.com/expert-advice/skin-care-basics/_/alcohol-in-skin-care-the-facts#alcoholskin

5. Carcinogens

- (1) National Toxicology Program. CAS registry number: 62-44-2 toxicity effects. Available online: <http://ntp.niehs.nih.gov/testing/status/chemid/hsdb-62-44-2.html> July 23, 2014.
- (2) IARC Monographs. Agents classified by the IARC Monographs. Vol. 1-109, available online: <http://monographs.iarc.fr/ENG/Classification/ClassificationsAlphaOrder.pdf> July 22, 2014.
- (3) Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Available online: http://oehha.ca.gov/prop65/prop65_list/files/P65single01032014.pdf July 22, 2014.
- (4) Silent Spring Institution. Mammary carcinogens review database: phenacetin. Available online: http://sciencereview.silentspring.org/mamm_detail.cfm?cid=71-43-2 July 24, 2014.
- (5) Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Available online: http://oehha.ca.gov/prop65/prop65_list/files/P65single01032014.pdf July 1, 2014.
- (6) Rhodes MC., et al. Carcinogenesis studies of benzophenone in rats and mice. *Food Chem Toxicol*, vol. 45, no. 5, pp 843-851, 2007.
- (7) EWG's Skin Deep Cosmetics Database. Coal tar. Available online: http://www.ewg.org/skindeep/ingredient/701514/COAL_TAR/ July 28, 2014.
- (8) National Toxicology Program. Reports on Carcinogens, twelfth edition, 2011. Available online: <http://ntp.niehs.nih.gov/ntp/roc/twelfth/roc12.pdf> July 23, 2014. (9) IARC Monographs. Agents classified by the IARC Monographs. Vol. 1-109, available online: <http://monographs.iarc.fr/ENG/Classification/ClassificationsAlphaOrder.pdf> July 22, 2014.
- (10) U.S. Environmental Protection Agency. IRIS: coke oven emissions. Available online: <http://www.epa.gov/iris/subst/0395.htm> July 24, 2014.
- (11) Stout, M. D., Kissling, G. E., Suárez, F. A., Malarkey, D. E., Herbert, R. A., & Bucher, J. R. (2008). Influence of *Helicobacter hepaticus* infection on the chronic toxicity and carcinogenicity of triethanolamine in B6C3F1 mice. *Toxicologic pathology*, 36(6), 783-794.
- (12) Report on Carcinogens, Twelfth Edition (2011) Available Online: <http://ntp.niehs.nih.gov/ntp/roc/twelfth/profiles/Nitrosamines.pdf>. Accessed November 5, 2013.
- (13) Hepatocarcinogenic Available Online: <http://www.merriam-webster.com/medical/hepatocarcinogenic>. Accessed November 5, 2013. (14) Lehman-McKeeman, L. D., Gamsky, E. A., Hicks, S. M., Vassallo, J. D., Mar, M. H., & Zeisel, S. H. (2002). Diethanolamine induces hepatic

- choline deficiency in mice. *Toxicological sciences*, 67(1), 38-45.
- (15) Silent Spring Institution. Mammary carcinogens review database: ethylene oxide. Available online: http://sciencereview.silentspring.org/mamm_detail.cfm?cid=75-21-8 July 28, 2014.
 - (16) Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Available online: http://oehha.ca.gov/prop65/prop65_list/files/P65single01032014.pdf July 22, 2014.
 - (17) Centers for Disease Control and Prevention. NOISH pocket guide to chemical hazards: naphtha (coal tar). Available online: <http://www.cdc.gov/niosh/npg/npgd0275.html> July 24, 2014.
 - (18) Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Available online: http://oehha.ca.gov/prop65/prop65_list/files/P65single01032014.pdf July 22, 2014.
 - (19) IARC Monographs. Agents classified by the IARC Monographs. Vol. 1-109, available online: <http://monographs.iarc.fr/ENG/Classification/ClassificationsAlphaOrder.pdf> July 22, 2014.
 - (20) U.S. Department of Health and Human Services Public Health Service National Toxicology Program. Report on carcinogens. 12th edition, 2011.
 - (21) U.S. Environmental Protection Agency. IRIS: formaldehyde. Available online: <http://www.epa.gov/iris/subst/0395.htm> July 24, 2014.
 - (22) Endocrine Disruption. TedX List of Potential Endocrine Disruptors. Available online: <http://endocrinedisruption.org/popup-chemical-details?chemid=527>
 - (23) Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Available online: http://oehha.ca.gov/prop65/prop65_list/files/P65single01032014.pdf July 23, 2014.
 - (24) IARC Monographs. Agents classified by the IARC Monographs. Vol. 1-109, available online: <http://monographs.iarc.fr/ENG/Classification/ClassificationsAlphaOrder.pdf> July 23, 2014.
 - (25) National Toxicology Program. CAS registry number: 62-44-2 toxicity effects. Available online: <http://ntp.niehs.nih.gov/testing/status/chemid/hsdb-62-44-2.html> July 23, 2014.
 - (26) Jimbow, K., Obata, H., Pathak, M. A. and Fitzpatrick, T. B., 1974. Mechanisms of depigmentation by hydroquinone. *Journal of Investigative Dermatology* 62, pp. 436–449.
 - (27) Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Available online: http://oehha.ca.gov/prop65/prop65_list/files/P65single01032014.pdf July 22, 2014.
 - (28) National Toxicology Program. CAS registry number: 62-44-2 toxicity effects. Available online: <http://ntp.niehs.nih.gov/testing/status/chemid/hsdb-62-44-2.html> July 23, 2014.
 - (29) IARC Monographs. Agents classified by the IARC Monographs. Vol. 1-109, available online: <http://>

- monographs.iarc.fr/ENG/Classification/ClassificationsAlphaOrder.pdf July 22, 2014.
- (30) Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Available online: http://oehha.ca.gov/prop65/prop65_list/files/P65single01032014.pdf July 22, 2014.
- (31) IARC Monographs. Agents classified by the IARC Monographs. Vol. 1-109, available online: <http://monographs.iarc.fr/ENG/Classification/ClassificationsAlphaOrder.pdf> July 22, 2014.
- (32) National Toxicology Program. Reports on carcinogens, twelfth edition (2011): phenacetin. Available online: <http://ntp.niehs.nih.gov/ntp/roc/twelfth/roc12.pdf> July 31, 2014.
- (33) Silent Spring Institution. Mammary carcinogens review database: phenacetin. Available online: <http://ntp.niehs.nih.gov/testing/status/chemid/hsdb-62-44-2.html> July 22, 2014.
- (34) National Toxicology Program. (2011). NTP 12th Report on Carcinogens. Report on carcinogens: carcinogen profiles/US Dept. of Health and Human Services, Public Health Service, National Toxicology Program, 12.
- (35) Yang, C., Tan, Y.S., Harkema, J.R., Haslam, S.Z. Differential effects of peripubertal exposure to perfluorooctanoic acid on mammary gland development in C57Bl/6 and Balb/c mouse strains (2009) *Reproductive Toxicology*, 27 (3-4), pp. 299-306.
- (36) Zhao, Y., Tan, Y. S., Haslam, S. Z., & Yang, C. (2010). Perfluorooctanoic acid effects on steroid hormone and growth factor levels mediate stimulation of peripubertal mammary gland development in C57BL/6 mice. *Toxicological sciences*, kfq030.
- (37) Van der Putte, I., Murín, M., Van Velthoven, M., & Affourtit, F. (2010). Analysis of the risks arising from the industrial use of perfluorooctanoic acid (PFOA) and ammonium perfluorooctanoate (APFO) and from their use in consumer articles. Delft (NL): RPS Advies. (38) White, S.S., Kato, K., Jia, L.T., Basden, B.J., Calafat, A.M., Hines, E.P., Stanko, J.P., Wolf, C.J., Abbott, B.D., Fenton, S.E. Effects of perfluorooctanoic acid on mouse mammary gland development and differentiation resulting from cross-foster and restricted gestational exposures (2009) *Reproductive Toxicology*, . Article in Press.
- (39) Rojanapo W, Kuradinun P, Tepsuwan A, Chutunataewin S, Tanyakaset M. (1986) Carcinogenicity of an oxidation product of p-phenylenediamine. *Carcinogenesis* 7(12): 1997-2002.
- (40) Bolt H.M, Golka K (2007) The Debate on Carcinogenicity of Permanent Hair Dyes: New Insights. *Critical Reviews in Toxicology* 37: 521-536.
- (41) Chung K.T, Kirkovsky L, Kirkovsky A, Purcell W. (1997) Preview of mutagenicity of monocyclic aromatic amines: quantitative structure-activity relationships. *Mutation Research* 387:1-16.

- (42) NTP report: "Photocarcinogenesis study of retinoic acid and retinyl palmitate" August 2012 http://ntp.niehs.nih.gov/ntp/htdocs/lt_rpts/tr568_508.pdf April 6, 2015
- (43) U.S. Department of Health and Human Services Public Health Service National Toxicology Program. Report on carcinogens. 12th edition, 2011.
- (44) IARC Monographs. Agents classified by the IARC Monographs. Vol. 1-109, available online: <http://monographs.iarc.fr/ENG/Classification/ClassificationsAlphaOrder.pdf> July 22, 2014.
- (45) Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Available online: http://oehha.ca.gov/prop65/prop65_list/files/P65single01032014.pdf July 22, 2014.
- (46) Centers for Disease Control and Prevention. NOISH pocket guide to chemical hazards, silica, crystalline. Available online: <http://www.cdc.gov/niosh/npg/npgd0684.html> July 22, 2014.
- (47) International Agency for Research on Cancer. Carbon black, titanium dioxide, talc. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, vol. 93, pp 1-419, 2010. Available online: <http://monographs.iarc.fr/ENG/Monographs/vol93/mono93.pdf>
- (48) Merritt M, Green A, Nagle C, Webb P, Australian Cancer Study (Ovarian Cancer), Australian Ovarian Cancer Study Group. Talcum powder, chronic pelvic inflammation and NSAIDS in relation to risk of epithelial ovarian cancer. *Int. J. Cancer*, vol. 122, pp 170-176, 2008.
- (49) Rosenblatt K, Weiss N, Cushing-Haugen K, Wicklund K, Rossing M. Genital powder exposure and the risk of epithelial ovarian cancer. *Cancer Causes Control*, vol. 22, pp 737-742, 2011.
- (50) IARC Working Group on the Evaluation of Carcinogenic Risks to Humans. (2010). Carbon black, titanium dioxide, and talc. IARC monographs on the evaluation of carcinogenic risks to humans/ World Health Organization, International Agency for Research on Cancer, 93, 1
- (51) IARC. Re-evaluation of some organic chemicals, hydrazine and hydrogen peroxide. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, vol. 71, pp 99-106, 1999. Available online: <http://monographs.iarc.fr/ENG/Publications/techrep42/TR42-12.pdf>.
- (52) National Toxicology Program. Report on Carcinogens, Thirteenth Edition. U.S. Department of Health and Human Services, 2014. Available online: http://ntp.niehs.nih.gov/ntp/roc/content/listed_substances_508.pdf.
- (53) U.S. Environmental Protection Agency. Ethyl Acrylate. Technology Transfer Network, Air Toxics Web Site, 2013. Available online: <http://www.epa.gov/ttnatw01/hlthef/ethylacr.html#ref2>

6. Formaldehyde Releasers

- (1) U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program. "Formaldehyde (Gas) CAS No. 50-00-0: Reasonably anticipated to be a human carcinogen." Eleventh Report on Carcinogens. December 2002. Available at: <http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s089form.pdf>. Accessed October 16, 2009.
- (2) International Agency for Research on Cancer. "IARC classifies formaldehyde as carcinogenic to humans." Press release. June 15, 2004. www.iarc.fr/en/Media-Centre/IARC-Press-Releases/Archives-2006-2004/2004/IARC-classifies-formaldehyde-as-carcinogenic-to-humans. Accessed January 9, 2009.
- (3) Zhang et al 2009. Meta-analysis of formaldehyde and hematologic cancers in humans. *Mutation Research* 681: 150-168.
- (4) Australian Government Department of Health and Ageing. Priority Existing Chemical Assessment Report No. 28: Formaldehyde. November 2006. Page 68. Available at: http://www.nicnas.gov.au/Publications/CAR/PEC/PEC28/PEC_28_Full_Report_PDF.pdf. Accessed January 9, 2009.
- (5) Bartnik FG, Gloxhuber C, Zimmermann V. Percutaneous absorption of formaldehyde in rats. *Toxicol Lett.* 1985;25(2):167-72.
- (6) Flyvholm MA, Menné T. Allergic contact dermatitis from formaldehyde. A case study focusing on sources of formaldehyde exposure. *Contact Dermatitis.* 1992 Jul;27(1):27-36.
- (7) Boyvat A, Akyol A, Gürgey E. Contact sensitivity to preservatives in Turkey. *Contact Dermatitis.* 2005;52(6):333-337.
- (8) Pratt MD, Belsito DV, DeLeo VA, Fowler JF Jr, Fransway AF, Maibach HI, Marks JG, Mathias CG, Rietschel RL, Sasseville D, Sherertz EF, Storrs FJ, Taylor JS, Zug K. North American Contact Dermatitis Group patch-test results, 2001-2002 study period. *Dermatitis.* 2004;15(4):176-83. Erratum in: *Dermatitis.* 2005;16(2):106.
- (9) <http://www.ewg.org/skindeep/ingredient/702500/FORMALDEHYDE/#>

7. 1,4 Dioxane

- (1) <http://www.ewg.org/research/dirty-dozen-list-endocrine-disruptors>
- (2) Environmental Protection Agency (2003). 1,4 Dioxane (CASRN 123-91-1). Integrated Risk

Information System. Available at <http://www.epa.gov/NCEA/iris/subst/0326.htm>. Accessed August 19, 2008.

- (3) National Toxicology Program (2005). Report on Carcinogens, 11th Edition; U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program, January 2005. Available at <http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s080diox.pdf>. Accessed August 19, 2008.
- (4) Office of Environmental Health Hazard Assessment (OEHAA) (2004). State of California Environmental Protection Agency. Chemicals known to the state to cause cancer or reproductive toxicity. Available at http://oehha.ca.gov/prop65/prop65_list/files/41604list.html. Accessed August 19, 2008.
- (5) <http://www.ewg.org/skindeep/ingredient/726331/1%2C4-DIOXANE/#>

8. Nitrosamine-forming chemicals

- (1) U.S. EPA (2012). N-Nitrosodimethylamine (CASRN 62-75-9). Integrated Risk Information System. <http://www.epa.gov/iris/subst/0045.htm>
- (2) Agents Classified by the IARC Monographs, Volumes 1–109 (Online). Available online: <http://monographs.iarc.fr/ENG/Classification/ClassificationsAlphaOrder.pdf>. Accessed November 5, 2013.
- (3) Report on Carcinogens, Twelfth Edition (2011) (Online). Available online: <http://ntp.niehs.nih.gov/ntp/roc/twelfth/profiles/Nitrosamines.pdf>. Accessed November 5, 2013.
- (4) <http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/nitrosamines/>
- (5) <http://www.ewg.org/skindeep/ingredient/726336/NITROSAMINES/>

9. Toxic Penetration Enhancers

- (1) http://www.preventcancer.com/consumers/cosmetics/documents/ToxicBeauty-Table4_penenh.pdf
- (2) http://www.ewg.org/skindeep/ingredient/702146/DISODIUM_EDTA/
- (3) http://www.ewg.org/skindeep/ingredient/706510/TETRASODIUM_EDTA/
- (4) Brand R, Pike J, Wilson R, Charron A. Sunscreens containing physical UV blockers can increase transdermal absorption of pesticides. *Toxicology and Industrial Health*, vol. 19, pp 9-16, 2003.
- (5) Pont A, Charron A, Brand R. Active ingredients in sunscreens act as topical penetration enhancers for the herbicide 2,4-dichlorophenoxyacetic acid. *Toxicology and Applied Pharmacology*, vol. 195,

pp 348-354, 2004.

- (6) http://www.ewg.org/skindeep/ingredient/702931/HYDROGENATED_LECITHIN/
- (7) <http://www.ncbi.nlm.nih.gov/pubmed/11358109>
- (8) Environmental Working Group. Sunscreen Report: Nanotechnology – Summary (2008). Available online: http://www.cosmeticsdatabase.com/special/sunscreens2008/report_nanotechnology.php. Accessed July 28, 2008.
- (9) http://www.ewg.org/skindeep/ingredient/705315/PROPYLENE_GLYCOL/
- (10) http://www.ewg.org/skindeep/ingredient/705848/SD_ALCOHOL_40/

10. Allergens/Immune-toxicants

- (1) [http://www.ewg.org/skindeep/ingredient/700019/2-BROMO-2-NITROPROPANE-1,3-DIOL_\(FORMALDEHYDE_RELEASER\)/](http://www.ewg.org/skindeep/ingredient/700019/2-BROMO-2-NITROPROPANE-1,3-DIOL_(FORMALDEHYDE_RELEASER)/)
- (2) http://www.ewg.org/skindeep/ingredient/700674/BENZALKONIUM_CHLORIDE/#
- (3) http://www.ewg.org/skindeep/ingredient/706279/STEARALKONIUM_CHLORIDE/
- (4) http://www.ewg.org/skindeep/ingredient/701923/DIAZOLIDINYL_UREA_%28FORMALDEHYDE_RELEASER%29/
- (5) <http://www.ewg.org/skindeep/ingredient/718373/DIETHANOLAMINE/>
- (6) <http://www.ewg.org/skindeep/ingredient/702286/ETHANOLAMINE/>
- (7) <http://www.ewg.org/skindeep/ingredient.php?ingred06=706639>
- (8) <http://articles.mercola.com/sites/articles/archive/2011/02/24/are-you-or-your-family-eating-toxic-food-dyes.aspx>
- (9) <http://www.ewg.org/skindeep/ingredient/702512/FRAGRANCE/>
- (10) <http://www.sciencedaily.com/releases/2011/10/111031114941.htm>
- (11) Thompson T, Grace T. Gluten in cosmetics: is there a reason for concern? J Acad Nutr Diet. 2012;112(23):1316-23.
- (12) <http://www.glutenfreemakeupgal.com/gluten-info/not-safe/possibly-gluten-filled-ingredients>
- (13) http://www.ewg.org/skindeep/ingredient/703119/IMIDAZOLIDINYL_UREA_%28FORMALDEHYDE_RELEASER%29/
- (14) <http://www.ncbi.nlm.nih.gov/pubmed/6216057>

- (15) <http://www.medscape.com/viewarticle/574162>
- (16) <http://www.livecornfree.com/2010/04/ingredients-derived-from-corn-what-to.html>
- (17) Cosmetic Ingredient Review Expert Panel (1992). Final Report on the Safety Assessment of Methylisothiazolinone and Methylchloroisothiazolinone. *Journal of the American College of Toxicology*, 11(1).
- (18) De Groot AC, White IR, Flyvholm MA, Lensen G, and Coenraads PJ. "Formaldehyde-releasers in cosmetics: relationship to formaldehyde contact allergy. Part 1. Characterization, frequency and relevance of sensitization, and frequency of use in cosmetics." *Contact Dermatitis*. 2010 Jan;62(1):2-17. Print.
- (19) <http://mayashappyplace.blogspot.mx/2013/02/how-to-avoid-soy-derivatives-and-gluten.html>
- (20) <http://www.cdc.gov/niosh/docs/81-123/pdfs/0619.pdf>
- (21) Hodges ND, Moss SH, and Davies DJ. "Elucidation of the nature of genetic damage formed in the presence of the sunscreensing agent, para-amino benzoic acid, during irradiation with near ultraviolet light."
- (22) Chasset, F., Soria, A., Moguelet, P., Mathian, A., Auger, Y., Francès, C., & Barete, S. (2015). Contact dermatitis due to ultrasound gel: A case report and published work review. *The Journal of dermatology*.
- (23) <http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/nail-polish-removers/>
- (24) Schnuch A, Geier J, Uter PJ et al. National rates and regional differences in sensitisation to allergens of the standard series. *Contact Dermatitis* 1997; 37: 200-209.
- (25) Nedorost S., Facial erythema as a result of benzophenone allergy. *Journal of the American Academy of Dermatology*, vol. 49, no. 5, pp259-261, 2003.
- (26) <http://www.ewg.org/skindeep/ingredient/704823/PHENYLPHENOL/>
- (27) <http://www.ewg.org/skindeep/ingredient/700842/BUTOXYETHANOL/>
- (28) IFRA. P-tert-Butyl-alpha-methylhydrocinnamic aldehyde (BMHCA). IFRA Standard, 2013. Available online: www.ifraorg.org/view_document.aspx?docId=23334.

11. Silicone-Derived ingredients

- (1) <http://www.skintherapyletter.com/2001/6.13/2.html>
- (2) <http://www.ncbi.nlm.nih.gov/pubmed/8654072>
- (3) <https://www.dowcorning.com/content/publishedlit/Chapter21.pdf>

(4) <https://www.truthinaging.com/review/what-is-it-silicones-and-should-we-avoid-them>

12. Respiratory Toxins

- (1) <http://www.atsdr.cdc.gov/substances/toxorganlisting.asp?sysid=22>
- (2) http://scorecard.goodguide.com/health-effects/explanation.tcl?short_hazard_name=resp
- (3) <http://toxnet.nlm.nih.gov/cgi-bin/sis/search2/r?dbs+hsdb:@term+@DOCNO+2539>
- (4) Nazarencko, 2012
- (5) <http://www.ewg.org/skindeep/ingredient/702512/FRAGRANCE/>
- (6) ASTDR, Toxicological Profile for Toluene, September 2000. Available online: <http://www.atsdr.cdc.gov/toxprofiles/tp56.pdf>. Accessed November 5, 2013. See more at: <http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/toluene/#sthash.8FUVEeNb.dpuf>
- (7) <http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/nail-polish-removers/>
- (8) European Commission: Scientific Committee on Consumer Products Opinion on p-Phenylenediamine. Found online at http://ec.europa.eu/health/ph_risk/committees/04_sccp/docs/sccp_o_069.pdf
- (9) Environmental Working Group, "Skin Deep. Butylated Hydroxytoluene," (Online). Available: <http://www.ewg.org/skindeep/ingredient/700741/BHT/>. (Accessed 20 June 2013).
- (10) <http://www.ewg.org/skindeep/ingredient/704823/PHENYLPHENOL/>
- (11) NIOSH Pocket Guide to Chemical Hazards. Carbon black. Available online. July 11, 2014.
- (12) <http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/resorcinol/>
- (13) <http://www.cdc.gov/niosh/npg/npgd0001.html>
- (14) Aydin O, Attila G, Dogan A, Aydin M, Canacankatan N, Kanik A. The effects of methyl methacrylate on nasal cavity, lung, and antioxidant system (an experimental inhalation study). *Toxicological Pathology*, vol. 30, no. 3, pp 350-356, 2002.

13. Teratogens

- (1) <http://umich.edu/~psycours/350/jaeckelj/terats.htm>
- (2) <http://www.annclinlabsci.org/content/40/2/99.full>
- (3) (5) Office of Environmental Health Hazard Assessment (OEHAA) (2004). State of California Environmental Protection Agency. Chemicals known to the state to cause cancer or reproductive

- toxicity. Available at http://oehha.ca.gov/prop65/prop65_list/files/41604list.html. Accessed August 19, 2008.
- (4) <http://www.ncbi.nlm.nih.gov/pubmed/3059176>
 - (5) Weisbrod C.J., et al. Effects of the UV Filter Benzophenone-2 on Reproduction in Fish. *Toxicology and applied pharmacology*, vol. 225, no. 3, pp 255-66, 2007.
 - (6) <http://www.ncbi.nlm.nih.gov/pubmed/22019469>
 - (7) Panchal, S. R., & Verma, R. J. (2013). Spermatotoxic effect of diethanolamine: An *in vitro* study. *Asian Pacific Journal of Reproduction*, 2(3), 196-200.
 - (8) <http://www.ncbi.nlm.nih.gov/pubmed/3722711>
 - (9) <http://toxnet.nlm.nih.gov/cgi-bin/sis/search/a?dbs+hsdb:@term+@DOCNO+1935>
 - (10) ASTDR, Toxicological Profile for Toluene, September 2000. Available online: <http://www.atsdr.cdc.gov/toxprofiles/tp56.pdf>. Accessed November 5, 2013. See more at: <http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/toluene/#sthash.yarqbiCK.dpuf>
 - (11) Kang K.S., et al., Decreased sperm number and motile activity on the F1 offspring maternally exposed to butyl p-hydroxybenzoic acid (butyl paraben).
 - (12) Shi J, Li M, Jiao Z, Zhang J, Fend Y, Shao B. Microarray analysis of gene expression in mouse (strain 129) embryonic stem cells after typical synthetic musk exposure. *Bull Environ Contam Toxicol*, vol. 90, pp 17-21, 2013.
 - (13) Agency for Toxic Substances and Disease Registry (ATSDR) (2007). Toxicological profile for Lead. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. See more at: <http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/lead-and-other-heavy-metals/#sthash.zC4hEsVb.dpuf>
 - (14) <http://www.safecosmetics.org/get-the-facts/chemicals-of-concern/nail-polish-removers/>
 - (15) <http://www.cdc.gov/niosh/npg/npgd0001.html>
 - (16) California Proposition 65. Office of Environmental Health Hazard Assessment, 2015. Available online: http://oehha.ca.gov/prop65/prop65_list/Newlist.html.
 - (17) European Commission. Annex III. European Commission Health and Consumers. Available online: http://ec.europa.eu/consumers/cosmetics/cosing/index.cfm?fuseaction=search.results&annex_v2=III&search.
 - (18) Singh A, Lawrence W, Autian J. Embryonic-fetal toxicity and teratogenic effects of a group of methacrylates esters in rats. *J. Dent. Res*, vol. 51, pp 1632-1638, 1972