

## Toxins in Skin Care

Mother Nature is the best cure for Father Time. She always has been and always will be. Do we really believe that any scientist, university or technology will ever come up with anything as beautiful as a rose? As cell regenerative as comfrey? More anti-inflammatory than Lily? More fragrant than essential oil of lavender? Or better for wrinkles than rosehip seed oil? For a skin care product to be truly “natural” it would have to be free of all synthetic chemicals.

Scientific laboratories cannot duplicate Mother Nature. In skin care products it has been proven over and over that plant ingredients, free of synthetic chemicals are best. Mother Nature has an inherent ability to balance the skin and body. Why? (1) Because plants have been used in skin care for 25,000 years, tried and true. (2) Because synthetic chemicals don't work to improve performance of the skin or improve overall health. (3) Because it is just a matter of time, before they tell us the latest fad or latest chemical is causing cancer.

Well, let's take a look at the alternative, synthetic chemicals. The United States Center for Disease Control has stated—“that many adults have high levels of toxic chemicals in their bodies because of synthetic ingredients in many mass-market personal care products.”<sup>1</sup> The most common ones to avoid are – Synthetic fragrances, which are potential carcinogens, synthetic colors, and talc, which has been linked to respiratory damage. The parabens may result in reproductive damage. All of the formaldehyde releasing preservatives, DMDM hydantoin, quaternium15, and diazolidnyl urea, all release formaldehyde as they degrade.

The scientific world has constant new chemicals, all which are to be avoided. The latest information of toxic chemicals in skin care are nanoparticles, like most synthetic chemicals, they were once assumed safe. According to a letter to manufacturers of cosmetic and skin care products dated September 12, 2006 – Friends of the Earth states “preliminary scientific research has shown that many types of nanoparticles can be toxic to human tissue and cell structure.” These studies have found that some consequences of the use of nanoparticles can include increased oxidative stress, inflammatory cytokine production, DNA mutilation and even cell death.<sup>2</sup> Titanium dioxide nanoparticles used in sunscreen have been demonstrated to catalyze the formation of free radicals in skin cells, which caused damage to DNA.<sup>3</sup> Sunscreen manufacturers are not required to identify nanoparticle ingredients on product labels or conduct safety tests.

According to Nanomaterials, Sunscreens on Cosmetics, small ingredients, big risks (an article published by Friends of the Earth Australia and Friends of the Earth, United States May, 2006) “Nanotechnology is a powerful new technology for taking apart and reconstructing nature at the atomic and molecular level.”<sup>4</sup> “The fundamental properties of matter changes at the nano-scale. The properties of atoms and molecules are not governed by the same physical laws as larger objects or

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<sup>1</sup> Quoted from the Natural Foods Merchandiser, June 2001

<sup>2</sup> Oberdorster G, Maynard A, Donaldson K, Castranova V, Fitzpatrick J, Ausman K, Carter J, Karn B, Kreyling W, Lai D, Olin S, Monteiro-Riviere N, Warheit D, and Yang H (2005). “Principles for characterising the potential human health effects from exposure to nanomaterials: elements of a screening strategy”. *Particle and Fibre Toxicology* 2:8

<sup>3</sup> Donaldson K, Beswick P, Gilmour P (1996). “Free radical activity associated with the surface of particles: a unifying factor in determining biological activity?” *Toxicology Letter* 88:293-298; Dunford R, Salinaro A, Cai L, Serpone N, Horikoshi S, Hidaka H, Knowland J (1997). “Chemical oxidation and DNA damage catalysed by inorganic sunscreen ingredients”. *FEBS Letters* 418:87-90

<sup>4</sup> The Royal Society and The Royal Academy of Engineering, UK (2004). *Nanoscience and nanotechnologies*.

even larger particles, but by ‘quantum mechanics’. The physical, chemical properties are much different than their larger counterpart. The color, solubility, strength and even electrical conductivity and magnetic behavior can be different. Even chemical reactivity and biological activity are dissimilar”.<sup>5</sup> “Nanoparticles of titanium dioxide and zinoxide are said to produce free radicals and cause DNA damage to human skin cells when exposed to U.V. light”<sup>6</sup> The answer? Stay away from all synthetic chemicals.

My conclusion, it’s simple, do not use skin care products that contain synthetic chemicals of any kind. Buy from companies that are organic growers, use organic ingredients, take the time and care to handcraft products for you. It’s better for you, it’s better for the environment. It is just a matter of time before they warn you of the dangers of the latest fad of the newest synthetic ingredient. Stay away from synthetics!

Lily is the founder and formulator of Lily Organics, Inc. She is the author of Beauty, Health, and Happiness, A Way of Life. Copyrighted © All rights to Lily Morgan. For more information on chemicals in skin care or Lily Organics, go to [www.lilyorganics.com](http://www.lilyorganics.com) or call 303-455-4194 or 1-800-333-LILY (5459).

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<sup>5</sup> Oberdorster G, Oberdorster E and Oberdorster J (2005). “Nanotoxicology: an emerging discipline from studies of ultrafine particles”. Environmental Health Perspectives 113(7):823-839

<sup>6</sup> Dunford R, Salinaro A, Cai L, Serpone N, Horikoshi S, Hidada H, Knowland J (1997).

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