Octinoxate

Octinoxate, also called Octyl methoxycinnamate or (OMC), is a UV filter. It can be absorbed rapidly through skin.

Octinoxate has been detected in human urine, blood and breast milk, which indicates that humans are systemically exposed to this compound. [1],[2] Octinoxate is an endocrine disruptor that mimics estrogen and can disrupt thyroid function.

WHAT IS OCTINOXATE?

Octinoxate filters UV-B rays from the sun. It does not protect against UV-A rays. Octinoxate dissolves in oil, which makes it a fat-seeking substance in the body. It is formed by combining methoxycinnamic acid and 2-ethylhexanol- compounds which are not harmful on their own. When mixed together, they form a clear liquid that does not dissolve in water. It is found in hair color products and shampoos, sunscreen, lipstick, nail polish, and skin creams. [5] In products other than sunscreens, it is used as a UV filter to protect the products from degrading when exposed to the sun.

Found In

- Hair color products and shampoos
- Sunscreen
- Lipstick
- Nail polish
- Skin creams

What to look for on the label

- Octinoxate
- Methoxycinnamate (OMC),
- Parsol
- Parsol MCX
- Parsol MOX
- Escalol
- 2-ethylhexyl p-methoxycinnamate

Health Concerns

Endocrine disruption: Octinoxate increases cell proliferation in cells that grow in response to estrogen exposure. [2],[6],[7] Lifetime estrogen exposure is an established risk factor in the development and progression of breast cancer. Octinoxate affects other hormone systems as well. For instance, it reduces thyroid hormones in blood serum. [8] Thyroid hormones are critical for metabolic functions in the body including

mammary gland development. Octinoxate exposure has also been found to alter the reproductive systems of female offspring, with significantly lowered hormone (estradiol and progesterone) levels, [1] which is associated with infertility and miscarriages. In males, there is a reduction in sperm count at all dose levels. [1]

Reproductive organs and development toxicity: Numerous studies have reported that octinoxate exhibits antiandrogenic activity, which is linked to harmful effects on reproductive organ development in male and female fetuses exposed in utero. These effects can be further passed onto their offspring. Moreover, octinoxate alters the weight and structure of reproductive organs in male and female rats.[9]

Vulnerable Populations

Babies & Children (https://www.safecosmetics.org/population/babies-children/), Pregnant Women (https://www.safecosmetics.org/population/pregnant-women/), Teenagers (https://www.safecosmetics.org/population/teenagers/), Women of Color (https://www.safecosmetics.org/population/women-of-color/)

Regulations

Octinoxate is approved for use in cosmetics worldwide; the maximum concentration in ready-for-use preparations varies according to local legislation. [3] According to the U.S. FDA, the recommended use level is up to 7.5 percent. [4]

How to Avoid?

Despite the numerous studies and concerns about octinoxate toxicity and its effect on human body systems, octinoxate is approved worldwide. [3] In the United States, it is required to be listed on labels as an active ingredient. To avoid the product in sunscreen, read the list of active ingredients and skip products that rely on octinoxate. Check labels on hair care products, lipsticks nail polish and skin creams, and choose products that do not contain octinoxate or octyl methoxycinnamate (OMC).

Explore other Chemicals

Ethanolamine Compounds (MEA, DEA, TEA And Others) (https://www.safecosmetics.org/chemicals/ethanolamine-compounds/)

Carcinogens in Cosmetics (https://www.safecosmetics.org/chemicals/known-carcinogens/)

Ethoxylated Ingredients (https://www.safecosmetics.org/chemicals/ethoxylated-ingredients/)

Butylated Compounds (https://www.safecosmetics.org/chemicals/butylated-compounds/)

Retinol and Retinol Compounds (https://www.safecosmetics.org/chemicals/retinol-and-retinol-compounds/)

Synthetic Musks (https://www.safecosmetics.org/chemicals/synthetic-musks/)

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