Homosalate

Homosalate is a widely used chemical in sunscreens and skin care products with SPF. Homosalate is a potential endocrine disruptor and studies in cells suggest it may impact hormones. In addition to direct health concerns following homosalate exposure, the chemical may also enhance the absorption of pesticides in the body.

WHAT IS HOMOSALATE?

Homosalate is an organic compound that belongs to a class of chemicals called salicylates. Salicylates prevent direct skin exposure to the sun's harmful rays by absorbing ultraviolet (UV) light.[5] Homosalate specifically absorbs short-wave UVB rays, which are associated with DNA damage and increased risk of skin cancer.[6][7]

Found In

- Sunscreen
- Skin Care Products with Sun Protection[1][2][3][4]

What to look for on the label

- Homosalate
- Homomenthyl salicylate
- HMS
- HS
- 3,3,5-trimethyl-cyclohexyl-salicylate

Health Concerns

Endocrine Disruption: Homosalate impacts the body's hormone systems, and in particular, the estrogen system.[8][9] In human breast cancer cells, which grow and multiply in response to estrogen, homosalate exposure led to 3.5 times more cell growth and multiplication.[10]
Some studies have identified the androgen and progesterone systems to be impacted by homosalate exposure. The androgen and progesterone hormone systems are also affected by homosalate.[11][12][13][14][15][16] Although these findings have only been observed in cell cultures, caution should be exercised considering the role of these hormones in the regulation of development of reproductive organs.

The endocrine disrupting effects of homosalate are particularly concerning since homosalate and other cosmetic UV filters have been identified in human breast milk samples,[17] and the estrogenic activity of homosalate has been observed in human placental tissues.[18] Gestation and infancy are both vulnerable periods of development when exposure to hormone-disrupting compounds can lead to adverse health effects.

Breast milk contamination may be quite common. In one study of 54 mother-child pairs, 85.2% of the breast milk samples contained UV filters.[19] The mother's use of UV filter-containing products during pregnancy and/or lactation was significantly correlated with the presence of these compounds in the milk.

Skin Absorption: Homosalate is absorbed by the outer layer of the skin.[20][21][22] Commercially available sunscreens containing homosalate have been shown to enhance the amount of pesticides we absorb through our skin. Increased absorption of the herbicide 2,4-D was found in mice wearing homosalate-containing sunscreens in combination with the potent insect repellent DEET.[23][24]

Vulnerable Populations

Babies & Children (https://www.safecosmetics.org/population/babies-children/), Pregnant Women (https://www.safecosmetics.org/population/pregnant-women/), Workers (https://www.safecosmetics.org/population/workers/)

Regulations

N/A

How to Avoid?

Read labels and avoid products with Homosalate. Choose cream or lotion-based sunscreens with zinc oxide or titanium dioxide.

Explore other Chemicals

Mica (https://www.safecosmetics.org/chemicals/mica/)

Nail Polish Removers (https://www.safecosmetics.org/chemicals/nail-polish-removers/)

Preservatives (https://www.safecosmetics.org/chemicals/preservatives/)

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

Nitrosamines (https://www.safecosmetics.org/chemicals/nitrosamines/)

Polyacrylamide (https://www.safecosmetics.org/chemicals/polyacrylamide/)

View All Chemicals of Concern > (/chemicals/)

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