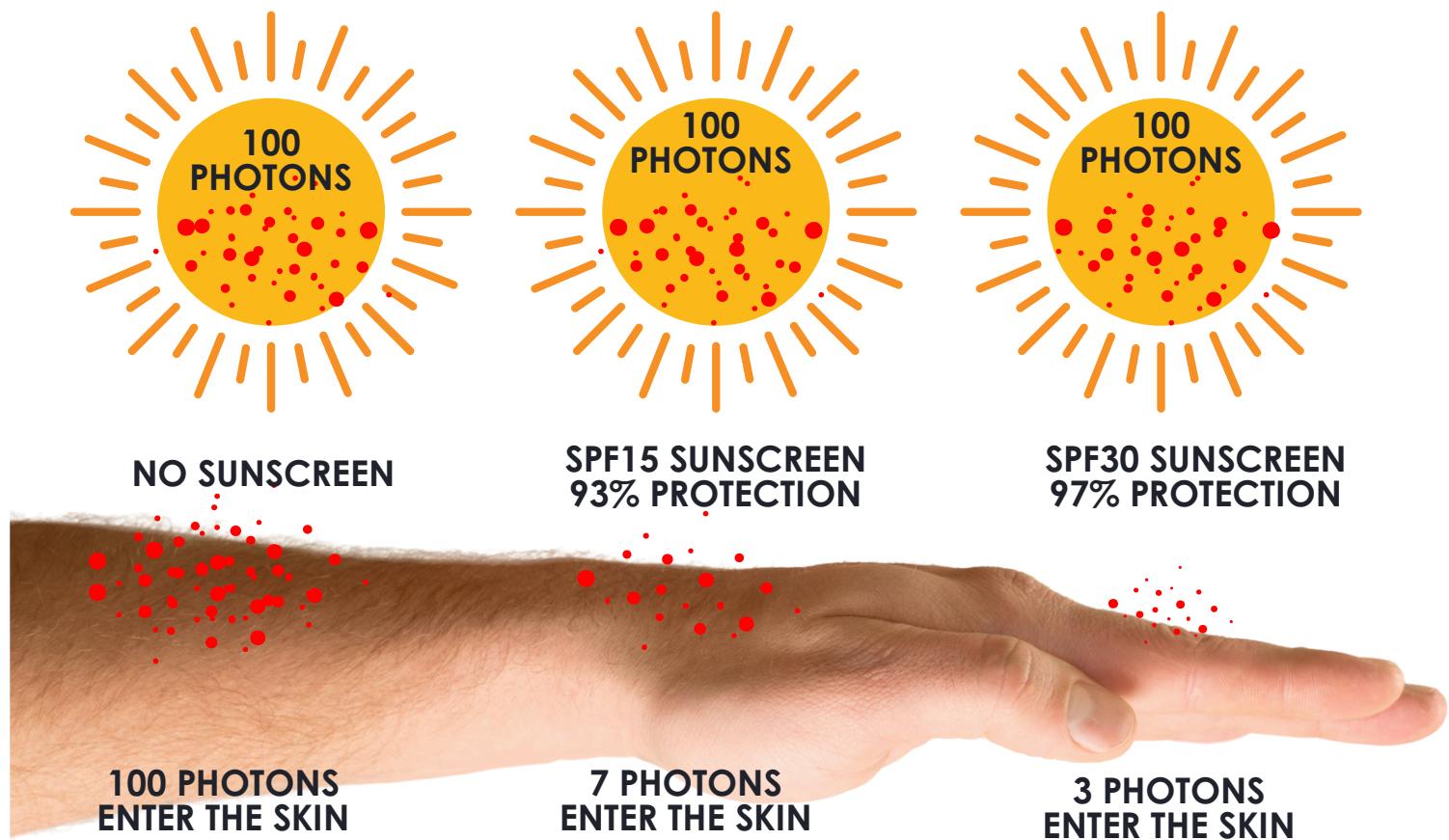


SUNSCREEN **PHYSICAL & CHEMICAL** EXPLAINED

HOW SPF SUNSCREEN PROTECTION WORKS



HOW DOES SPF WORK?

Photons are the fundamental particles of light and other forms of electromagnetic radiation. Photons travel and enter the skin. The higher number of photons that enter, the more damage occurs to your skin.

The SPF number indicates how long the sunscreen can protect the skin compared to no protection.

For example, SPF 15 allows about 7% of UVB rays to reach the skin, while SPF 30 blocks around 97%.

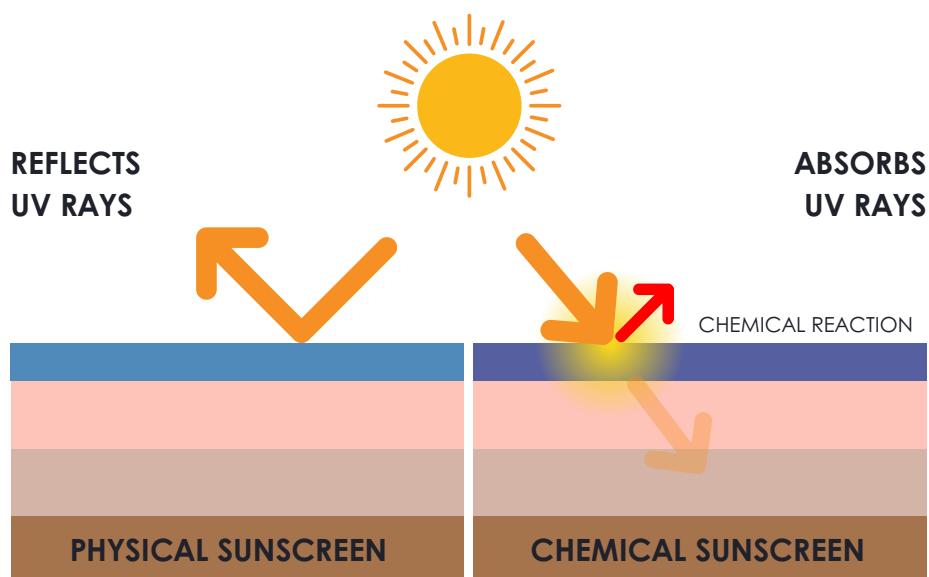
Remember: No sunscreen provides 100% protection, so reapplication every two hours (or after swimming or sweating) is essential for continued defense against sun damage.



THE DIFFERENCE BETWEEN CHEMICAL AND PHYSICAL SUNSCREEN

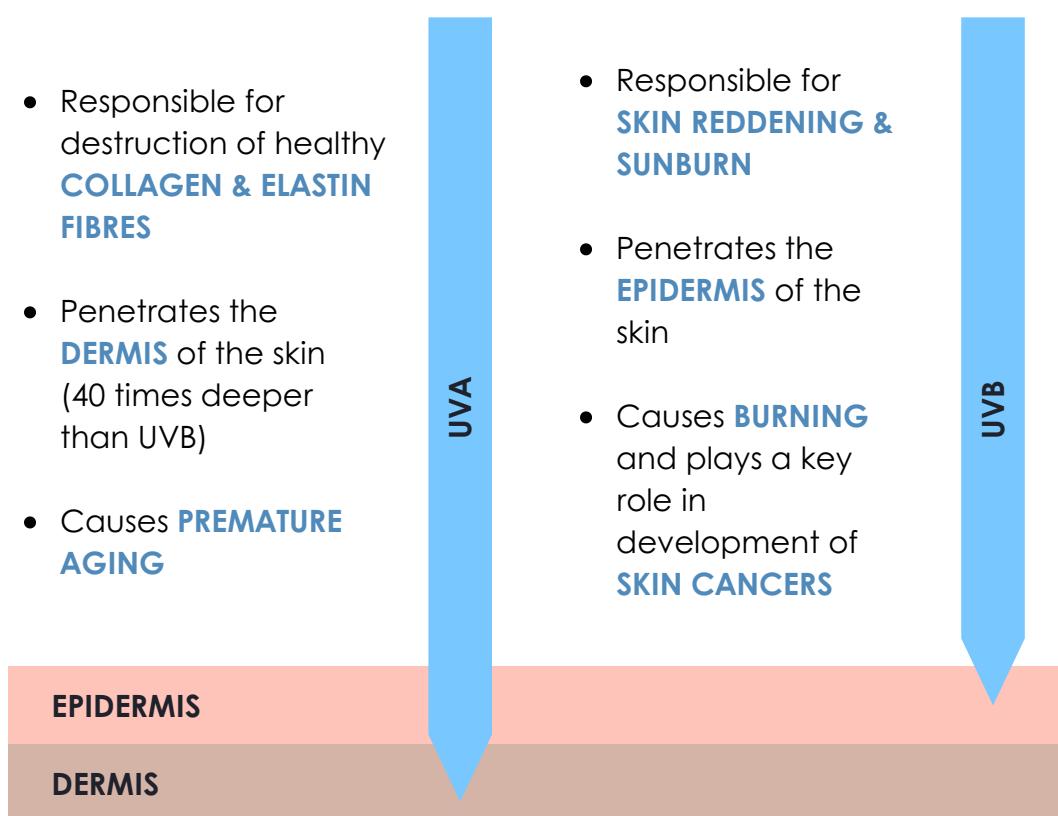
There are **two main types** of sunscreen:

1. **Chemical Sunscreens** – Absorb UV rays and convert them into heat, which is then released from the skin. These formulas are often lightweight and easy to apply.
2. **Physical (Mineral) Sunscreens** – Use ingredients like zinc oxide or titanium dioxide to create a reflective barrier that deflects UV rays away from the skin.



UVA VS. UVB

- Responsible for destruction of healthy **COLLAGEN & ELASTIN FIBRES**
- Penetrates the **DERMIS** of the skin (40 times deeper than UVB)
- Causes **PREMATURE AGING**
- Responsible for **SKIN REDDENING & SUNBURN**
- Penetrates the **EPIDERMIS** of the skin
- Causes **BURNING** and plays a key role in development of **SKIN CANCERS**

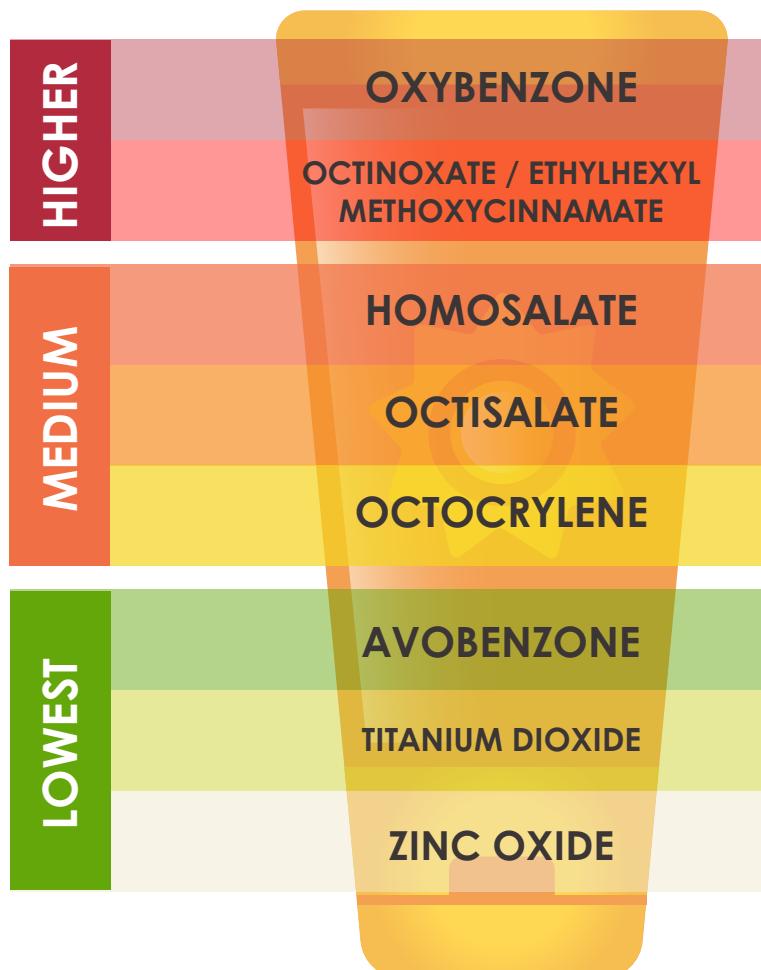


SUNSCREEN TOXICITY RATINGS*

How Sunscreen Toxicity is Rated:

- 1. Ingredient Safety** – Some chemical UV filters (like oxybenzone and octinoxate) are linked to hormone disruption and skin irritation, while others (like zinc oxide and titanium dioxide) are considered safer.
- 2. Absorption & Bioaccumulation** – Certain chemical filters can enter the bloodstream and may persist in the body.
- 3. Environmental Impact** – Some sunscreens contribute to coral reef damage, leading to bans in places like Hawaii.
- 4. Overall Skin Safety** – Factors like sensitivity, allergic reactions, and pore-clogging potential are considered.

For the safest options, look for **mineral sunscreens** with non-nano zinc oxide or titanium dioxide, fragrance-free formulas, and broad-spectrum protection while **avoiding oxybenzone, octinoxate, and parabens**.



*from EWG SkinDeep ratings



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