



Reef Safe Sunscreen FAQ

- **What's the big deal about sunscreen?** In recent years, scientific studies have found that certain common sunscreen chemicals can negatively affect corals. Due to this research, locations such as Hawaii have banned the use and sale of certain sunscreen chemicals.
- **How much sunscreen enters the ocean each year?** An estimated **4,000 - 6,000 tons of sunscreen enter reef areas around the world annually**. According to the National Park Service, the deposition of sunscreen on reef areas is concentrated on popular tourist sites.
- **When does Hawaii's sunscreen bill go into effect?** The law (Senate Bill 2571) was passed in July 2018 and takes effect on January 1, 2021.
- **Which ingredients does Hawaii's sunscreen bill ban?** Oxybenzone and Octinoxate
- **What does the bill specifically prohibit?** Hawaii's sunscreen bill makes it unlawful to sell, offer for sale, or distribute for sale any sunscreen protection personal care product that contains oxybenzone or octinoxate, or both, without a medically-licensed prescription.
- **What about other ingredients?** While the sunscreen bill only bans Oxybenzone and Octinoxate, it's best to avoid other harmful chemicals including Avobenzone, Homosalate, and Octocrylene (to name a few).
- **What's the most eco-friendly way to protect myself from the sun?** Cover up! Opt for long-sleeves, hats, rash guards, and/or pants to protect yourself from the sun. Sunscreen - even zinc oxide sunscreens - should be your last line of defense.
- **What about "Reef Safe" sunscreens?** Unlike labels such as "organic" or "Non-GMO", "reef safe" and "coral safe" are labels that are **not** regulated or evaluated by any regulatory agencies. Since "reef safe"/"coral safe" are not regulated labels, any sunscreen - regardless of its ingredients - can be labeled "reef safe" or "coral safe". **The best way to know if your sunscreen is safe for you and the reef is to read the ingredients label and avoid ingredients that include oxybenzone, octinoxate, avobenzone, homosalate.**
- **How can I tell if my sunscreen is safe for me and the ocean?** The only way to ensure that your sunscreen is environmentally safe is to **read the ingredients label (both active and inactive ingredients)**.
 - **Ingredients to choose:** non-nano Zinc-oxide; titanium dioxide
 - **Ingredients to avoid:** Oxybenzone, Octinoxate, Avobenzone, Homosalate



- **Do zinc oxide or titanium dioxide have any harmful environmental effects?**

Overall, there is a lack of scientific information related to the environmental impacts of zinc oxide and titanium dioxide. To date, most scientific research has focused on the effects of chemicals like oxybenzone. A few studies have evaluated the impacts of zinc oxide in powdered form (not in sunscreen).

With regards to zinc and titanium dioxide, the Environmental working group states:

When zinc oxide and titanium dioxide nanoparticles wash off skin, they enter the environment, with unknown effects. The implications of nanoparticle pollution for the environment have not been sufficiently assessed (Börm 2006).

Currently, the most environmentally accepted sunscreen options are those that utilize non-nano zinc oxide as the active ingredient.

It should be noted, however, that zinc oxide may physically settle on the reef and smother corals. The best option is to cover up with long-sleeves, hats, and rashguards. Nevertheless, evidence indicates that both zinc oxide and titanium dioxide pose a lower hazard than most other sunscreen ingredients approved for the U.S. market. More information via [Zinc Oxide Environmental Impacts](#).

- **What are chemical vs. mineral sunscreens?** UV filters are the major ingredients in sunscreens and can be separated into 2 categories:
 1. **Chemical (organic)** - benzophenones, cinnamates, camphor derivatives, etc.
 2. **Mineral (inorganic)** - zinc oxide and titanium dioxide
- **What is zinc oxide?** Zinc is a powdered mineral that sits on top of the skin. It can stand alone as a sunblock because it is truly effective against UVA, UVB and even UVC rays. It has been widely used in diaper creams because of its safety and effectiveness.
- **Why are zinc oxide and titanium dioxide sunscreens so thick?** As noted above, zinc is a powdered mineral that sits on top of the skin and physically prevents the sun from reaching your skin. These mineral (or physical) sunscreens purposefully go on thick and may not fully rub in. These ingredients also do not break down in the sun.
- **What are nano and non-nano particles?** Nanoparticles are extremely small particles (measuring a billionth of a meter). Due to their small size, sunscreens made with nanoparticles rub in transparent. On the other hand, non-nano particles are larger and therefore go on thicker. For more detailed information, visit the Environmental Working Group's [Nanoparticles page](#).
- **Do current federal sunscreen regulations ensure the safety and effectiveness of sunscreen minerals?** No. The U.S. government has not enacted regulations, guidelines or recommendations about particle characteristics that would maximize sun protection and minimize health risks. As a consumer, you're not likely to find detailed information about nanoparticles on product labels or from companies that make these products.