



Sunscreens and coral reefs: the less sunny side

Too much sun can cause a bad sunburn. Risk of burning is even greater when snorkelling on a coral reef due to the reflection off the aquamarine waters. How can you avoid the damaging effects from too much sun? **Sunscreen.** Yet, most common and commercially produced sunscreens are now known to pose a severe threat to coral reefs around the world.

A pioneering scientific study in 2008 concluded that certain sunscreens can promote a viral infection to corals and their host algae (zooxanthellae), causing coral bleaching (the expulsion of their symbiotic, energy producing algae). In 2015, the culprit in sunscreen was confirmed to be **oxybenzone** – (**benzophenone-3 or BP-3**) – the primary ingredient responsible for protecting our skin against damaging effects of ultraviolet light.



How can a sunscreen damage coral?

- Every year up to 14,000 tons of sunscreen washes off humans into coral reef environments
- The ingredients (e.g. oxybenzone, octinoxate) which filter UV light, can;
 - Cause bleaching of hard corals, even at low concentrations
 - Induce viral infections
 - Damage a coral's DNA and reproductive success
 - Cause coral larvae to stop swimming and change shape
 - Disrupts and deforms skeletal growth of juvenile corals
 - Cause coral death.

Today, there are alternatives:

Coral Reef CPR has identified two brands of safe, effective and responsible sunscreens that have partnered with us to protect our precious coral reefs:

1. **AETHIC Sôvée** – an exciting and eco-friendly Coral Reef CPR Partner. This natural, organic, reef-safe sunscreen is free from chemicals, including: nano particles, alcohol, parabens, titanium dioxide and petroleum emollients. It comes in an eco-friendly bottle! Read about the *Coral is Moral* Campaign (www.coralismoral.com) and buy reef-friendly sunscreen (www.aethic.com)
2. **Badger Balm**- are water resistant sunscreens free from coral-damaging ingredients They are natural, organic and biodegradable and contain non-nano, uncoated zinc oxide based minerals to provide broad spectrum protection. (www.badgerbalm.com)

For more information:

Danovaro R, Bongiorno L, Corinaldesi C, Giovannelli D, Damiani E, Astolfi P, Greci L and Pusceddu A (2008) Sunscreens cause coral bleaching by promoting viral infections. *Environmental health perspectives*, 116(4):441

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