

**LATE**

**SB-2571**

Submitted on: 2/7/2018 7:07:25 AM

Testimony for WTL on 2/7/2018 1:20:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Leimomi Khan	Hawaiian Affairs Caucus Democratic Party of Hawaii	Support	Yes

Comments:

Aloha, the Hawaiian Affairs Caucus of the Democratic Party of Hawaii urges your support of SB 2571, especially because researchers have found oxybenzone concentrations in some Hawaiian waters at more than thirty times the level considered safe for coral. Studies from around the world have highlighted the detrimental impact of chemicals in sunscreen products on coral health and reproduction.

“Malama ‘Aina; Malama Kai”, from a spiritual and Hawaiian cultural view, the Kumulipo, a Hawaiian Creation Chant, tells us that the first organism born was the coral polyp, a very small and simple organism that was the basic building block for life in the seas. Thus, this is not just about protecting the coral, but also all life that it supports.

As an island community, coral reefs help protect our coastlines from the damaging effects of wave action and tropical storms and provide habitats and shelter for many marine organisms. Too, from an economic lens, healthy reefs contribute to our economy through fishing, tourism that offers diving tours, hotels, restaurants and other businesses based near reef systems that provide jobs and contribute to the economy.

Failure to take action now endangers healthy coral reefs. We should not want our legacy for future generations to be dead coral reefs, one contributing factor being the adverse impact of oxybenzone.

LEIMOMI KHAN

**LATE**

SB 2571

## HAWAI'I REEF AND OCEAN COALITION

**To: Senate Committee on Water and Land  
Sen. Karl Rhoads, Chair  
Sen. Mike Gabbard, Vice Chair**

**Senate Committee on Agriculture and Environment  
Sen. Mike Gabbard, Chair  
Sen. Gil Riviere, Vice Chair**

**Re: SB 2571, to Ban Sunscreens Containing OXYBENZONE and/or OCTINOXATE**

**Hearing: Wednesday, February 7, 2018, 1:20 p.m., Room 224**

**Position: STRONG SUPPORT**

The HAWAI'I REEF AND OCEAN COALITION – HIROC – was formed last year by coral reef scientists, educators, local Hawai'i environmental organizations, elected officials, and others to address a crisis facing Hawaii's coral reefs and ocean. We are currently asking the Legislature to pass a handful of very important bills to save our coral reefs – they are bills relating to sunscreens – this bill; plus bills on cesspools; Styrofoam; plastic straws, bottles and other marine debris; and sea level rise.

We strongly support SB 2571, which would ban sunscreens containing either oxybenzone or octinoxate, which quite simply are toxicants that are poisoning our reefs. **The science is clear; there is no reason for further delay; there are already commercially readily available alternatives on the market; and we must just stop killing our reefs**, which are essential to what is so basic to what is Hawai'i. HIROC thanks the Committee for this opportunity to testify on this very important bill.

Coral reefs are dying around the world. According to the U.S. Commission on Ocean Policy, the top three causes of coral reef decline are over-fishing of coral reef resources, reduction in water quality due to pollution, and massive bleaching events tied to global climate change. Because of Hawai'i's remote location in the middle of the Pacific, ocean acidification can pose a threat to Hawai'i's coral reefs in the future. Hawai'i is more dependent on healthy coral reefs than any other state and so needs to take the lead on reef protection measures.

Our shorelines, beaches, tourist-based economy, and pristine recreational waters are dependent on healthy coral reefs. Hawai'i cannot reach out and fix global pressures that contribute to coral reef deterioration, but we can increase the resiliency of our own coral reefs by reducing local "insults" that degrade reefs and prevent their restoration and sustainability.

We can increase the strength and health of our coral reefs by actively managing and mitigating localized stressors, such as: 1) runoff containing sediment, pesticides, fertilizers, and other pollutants; 2) nutrients from human waste, especially raw human waste from cesspools; 3) overfishing, especially of herbivores and other fish critical for reef health; 4) plastic marine

**Commented [h1]:** I completely agree with this, but just thinking about the political blow back that would come from CropLife and ACC.

debris; and 5) chemical sunscreens and other personal care products containing the chemicals oxybenzone and octinoxate.

This bill addresses the problem of sunscreens containing oxybenzone and octinoxate. The purpose of the bill is to help protect Hawai'i's coral reefs by prohibiting after December 31, 2019, the sale, offer to sell, and distribution of non-prescription sunscreen products that contain oxybenzone or octinoxate (or both).

Oxybenzone data in Hawai'i include concentrations in Honolua Bay on Maui in 2015 at 1.9 parts per billion. Octinoxate data in 2015 at 11 coral reef sites had concentrations from 6.9 to 1,516 parts per trillion. Studies show that far more minute amounts of oxybenzone and octinoxate severely harm corals and other reef organisms, such as fish, sea urchins, and seaweeds. Studies from around the globe indicate that oxybenzone and octinoxate appear to harm corals in four ways:

(1) By causing young and adult corals to bleach – or lose the living photosynthetic organism that feeds them – when exposed to natural stressors such as heat, cold, lack of light and lack of salt;

(2) By damaging coral DNA, which can reduce coral's lifespan and immunity to disease, as well as disrupting normal development and reproduction;

(3) By causing deformities in coral larvae that ultimately kill them.

(4) By the fact that oxybenzone and octinoxate are documented and recognized endocrine disruptors that adversely affect skeletal development, sexual characteristics, reproductive competency, and even critical survival behaviors. For example, in coral larvae, oxybenzone can cause the larvae to encase themselves in their own skeletons, effectively killing them.

In vertebrate toxicological studies, a preponderance of independent investigations have demonstrated that oxybenzone causes proliferation of **human breast cancer** cells, by accelerating the spread of cancer cells. Other studies have demonstrated that **exposure to oxybenzone increases prostate and lung cancer cell proliferation.**

The U.S. Centers for Disease Control have concluded from studies that over 97% of the U.S. population is contaminated with oxybenzone and octinoxate and found in their blood, urine and breast milk. Several studies have concluded that oxybenzone transfers into the fetus *in utero* via the umbilical cord, apparently reducing birth rate and overall weight in girls up to the age of 7. A pivotal study published in 2016 identified an etiological link between oxybenzone and the occurrence of a neurological disease call Hirschsprung's deformity (congenital megacolon) that can be fatal without surgery and occurs in demographics between one birth in 268 to 5,000 births. Numerous studies have shown strong links between oxybenzone/octinoxate exposure and negative impacts on fertility, ranging from unviability of sperm and low sperm counts to issue with inhibition of conception and other infertility diseases. Dating back to the early 1980s, there are over 100 scientific papers and industry reports demonstrating mutagenicity, reproductive toxicology and endocrine disruption, as well correlation of sunscreen abuse and misuse with the rise in global skin cancer statistics.

HIROC has received at least two dozen recent scientific articles supporting the contentions in this testimony relating to the toxicity of oxybenzone and/or octinoxate that we will gladly and promptly provide to the Committee upon request.

Science on endocrine disruption is still developing, but the current data and scientific studies already indicate potentially harmful health effects on humans, as well as harmful effects on corals and other marine biota. **Banning sales of oxybenzone and octinoxate now is amply justified under the precautionary principle**, and should be subject to a transparent formal human and ecological risk assessment as proposed by both the U.S. National Academy of Sciences and the U.S. Environmental Protection Agency.

(We are informed that the scientific definitions of oxybenzone and octinoxate, as contained in this bill, are not precisely correct. Corrections are in the footnote, below.)

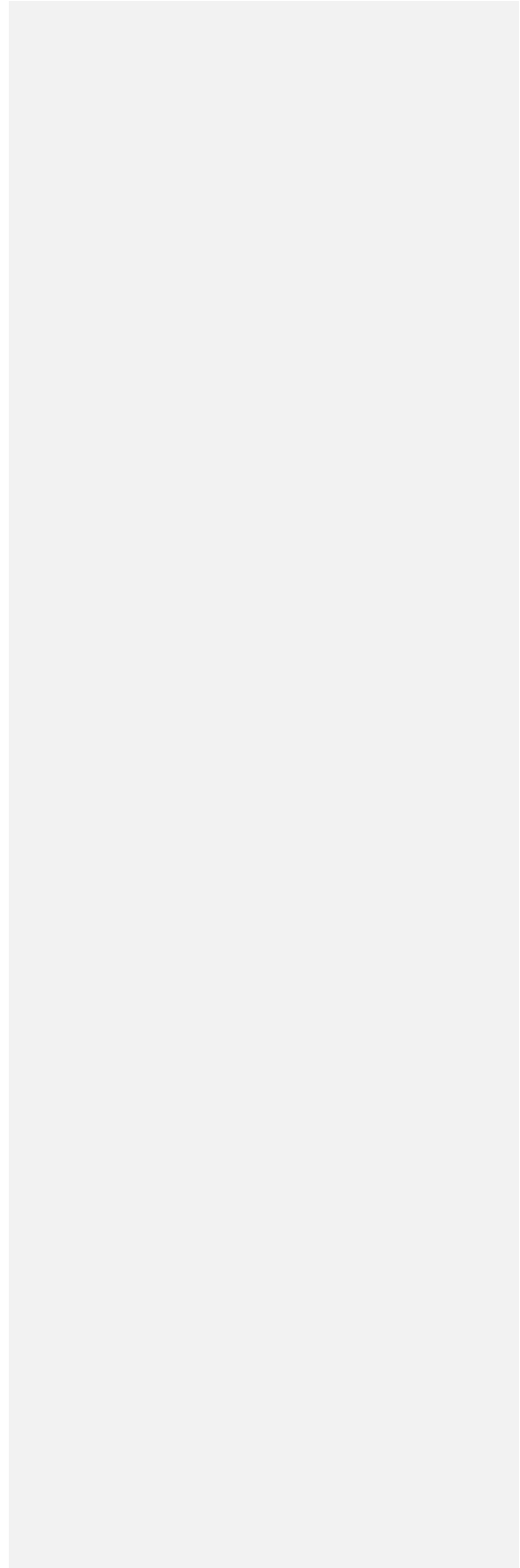
Thank you again for the opportunity to testify on this measure.

Alan B. Burdick, for HIROC  
[Burdick808@gmail.com/486-1018](mailto:Burdick808@gmail.com/486-1018)

"Octinoxate" means the chemical (RS)-2-Ethylhexyl (2E)-3-(4-methoxyphenyl)prop-2-enoate under the International Union of Pure and Applied Chemistry chemical nomenclature registry that has a chemical abstract service registry number 5466-77-3, and whose synonyms include [but are not limited to] ethylhexylmethoxycinnamate, octyl methoxycinnamate, Eusolex 2292, and Uvinul MC80, and is intended to be used as protection against ultraviolet light radiation with a spectrum wavelength from ~~370~~ 400 nanometers to ~~220~~ 280 nanometers in an epidermal sunscreen-protection personal care product.

"Oxybenzone" means the chemical (2-Hydroxy-4-methoxyphenyl)-phenylmethanone under the International Union of Pure and Applied Chemistry chemical nomenclature registry that has a chemical abstract service registry number 131-57-7, and whose synonyms include [but are not limited to] benzophenone-3, Escalol 567, Eusolex 4360, KAHSCREEN BZ-3, 4-methoxy-2-hydroxybenzophenone and Milestab 9, and is intended to be used as protection against ultraviolet light radiation with a spectrum wavelength from ~~370~~ 400 nanometers to ~~220~~ 280 nanometers in an epidermal sunscreen-protection personal care product.

SB 2571



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**SB-2571**

Submitted on: 2/7/2018 8:52:44 AM

Testimony for WTL on 2/7/2018 1:20:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Nova Covington	Goddess Garden Organics	Support	No

Comments:

As a concerned citizen and maker of natural mineral sunscreen, I want to pledge my strong support of Senate Bill 2571. I first started making natural mineral sunscreen because my daughter reacted to chemicals like oxybenzone. Research has shown these chemicals also have a toxic effect on coral reefs. Because the chemicals listed in SB2571 impact the reefs in multiple ways, they are incredibly potent. A single drop of oxybenzone can taint six Olympic-sized pools worth of water. That means one ounce of chemical sunscreen product can affect 114 million gallons of water.<sup>[i]</sup> National Public Radio reported 14,000 gallons of sunscreen make it to coral reefs every year.<sup>[ii]</sup> With coral reefs disappearing twice as fast as rainforests, they need all the help they can get.<sup>[iii]</sup>

We've been making reef-safe, natural mineral sunscreen for 13 years. We have always used natural zinc and titanium for sun protection instead of chemicals like oxybenzone and octinoxate. Because alternatives to chemical sunscreens are readily available to keep tourists safe from burns and skin cancer, there is no need to continue to put the reefs at risk. Banning the use of the chemicals listed in SB2571 is a very simple way to have a direct and positive impact on the reefs.

I've attached a study conducted by a local MBA student that further highlights the effects of chemical sunscreens on coral reefs. I hope you find it helpful.

Thank you for allowing me to testify on this important issue.

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<sup>[i]</sup> Downs, C.A., Kramarsky-Winter, E., Segal, R. et al. Arch Environ Contam Toxicol (2016) 70: 265. doi:10.1007/s00244-015-0227-7

<sup>[ii]</sup> [http://www.huffingtonpost.com/entry/sunscreen-coral-reefs\\_us\\_56274317e4b08589ef49bf67](http://www.huffingtonpost.com/entry/sunscreen-coral-reefs_us_56274317e4b08589ef49bf67)

<sup>[iii]</sup> <http://news.nationalgeographic.com/news/2007/08/070807-coral-loss.html>





SIERRA CLUB OF HAWAI'I  
MĀLAMA I KA HONUA. *Cherish the Earth.*

**LATE**

SENATE COMMITTEE ON WATER AND LAND

SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT

Wednesday, February 7, 2018 1:20PM Room 224

**In SUPPORT of SB 2571** Relating to water pollution

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Aloha Chairs Rhoads and Gabbard, Vice Chairs Gabbard and Riviere and members of the Committees,

On behalf of our 20,000 members and supporters, the Sierra Club of Hawai'i, a member of the Common Good Coalition, **strongly supports SB 2571**, which seeks to ban the sale, offer of sale, or distribution in the state of any SPF sunscreen protection personal care product that contains oxybenzone or octinoxate, or both, without a medically-licensed prescription.

Oxybenzone and octinoxate are chemical UV filters that are added to nearly 70% of non-mineral sunscreens<sup>1</sup>. They commonly wash into our oceans when applied at the beach, effectively harming our coral reef ecosystems. They damage coral DNA and inhibit their ability to reproduce, causes deformities on the coral, making them more susceptible to bleaching, and initiates endocrine disruption.<sup>2,3</sup> These pathologies can occur at concentrations as low as 62 parts per trillion, but some beaches in Hawai'i have oxybenzone levels higher than 700 parts per trillion<sup>4</sup>, a major concern when our reef system annually generates about \$800 million in gross revenues.<sup>5</sup>

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<sup>1</sup> <http://www.ewg.org/sunscreen/report/the-trouble-with-sunscreen-chemicals/>

<sup>2</sup> Downs CA, Kramarsky-Winter E, Segal R, et al. Toxicopathological Effects of the Sunscreen UV Filter, Oxybenzone (Benzophenone-3), on Coral Planulae and Cultured Primary Cells and Its Environmental Contamination in Hawaii and the U.S. Virgin Islands. *Arch Environ Contam Toxicol* 2015 Oct 20. doi: 10.1007/s00244-015-0227-7

<sup>3</sup> DiNardo, JC and Downs, CA. Dermatological and environmental toxicological impact of the sunscreen ingredient oxybenzone/benzophenone-3. *J Cosmet Dermatol* 2017; 00:1–5.

<https://doi.org/10.1111/jocd.12449>

<sup>4</sup> <http://www.marinesafe.org/blog/2016/05/12/how-sunscreen-is-putting-coral-reefs-at-risk/>

<sup>5</sup> [http://www.hawaii.edu/ssri/cron/files/econ\\_brochure.pdf](http://www.hawaii.edu/ssri/cron/files/econ_brochure.pdf)



In addition to the deleterious harm oxybenzone and octinoxate inflict on our fragile reef systems, they are also known endocrine disruptors and the science is becoming ever more conclusive in their links to illnesses ranging from skin allergies, to thyroid problems, to cancer<sup>6</sup>.

Panels held at the International Union for the Conservation for Nature (IUCN) and International Coral Reef Symposium (ICRS) in Honolulu have both suggested that Oxybenzone is toxic to corals and urge that we stop using these products<sup>7, 8</sup>. The State's Department of Land and Natural Resources (DLNR) is also asking people who enter the ocean to avoid using sunscreens which contain oxybenzone.<sup>9</sup>

While these voluntary, educational efforts to curb the usage of these products are commendable, an effective way to prevent these chemicals from entering our waterways is to pass SB 2571 and ban the sale, offer for sale, and distribution of sun protectants containing oxybenzone or octinoxate. Many visitors purchase sunscreen once they arrive to the islands and this bill ensures that oxybenzone and other reef harming chemicals will not be sold in the state.

Although there are many causes of reef degradation, SB 2571 provides a sensible opportunity to help maintain the economic, ecological, cultural, and recreational value of Hawai'i's reef systems. No one likes to see a film of floating chemical-laden sunscreen on our ocean surfaces. Banning oxybenzone and octinoxate protects our vulnerable reef ecosystems from toxic products and promotes the usage of reef-safe sunscreens that are mineral, not chemical based.

We applaud the requirements SB 2571 seeks to set forth and urge the Committee to pass it.

Thank you very much for this opportunity to provide testimony on this important issue.

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<sup>6</sup> <http://www.haereticus-lab.org/octinoxate/>

<sup>7</sup> <http://www.civilbeat.org/2016/09/drop-the-oxybenzone-or-stop-swimming-in-hawaiian-waters/>

<sup>8</sup>

<http://www.honolulumagazine.com/Honolulu-Magazine/June-2016/Your-Sunscreen-Might-Be-Killing-Coral-Reefs-in-Hawaii/>

<sup>9</sup>

<http://governor.hawaii.gov/newsroom/latest-news/dlnr-news-release-ocean-users-urged-to-use-reef-safe-sunscreens/>

**SB-2571**

Submitted on: 2/6/2018 4:52:25 PM

Testimony for WTL on 2/7/2018 1:20:00 PM

**LATE**

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
anita wintner	Snorkel bobs	Support	No

Comments:

The reefs in Hawaii are dying. We can help the health of the reefs by banning sunscreen that are damaging the reef. I support this bill. We need to do what ever we can to protectour valuable reefs.

**SB-2571**

Submitted on: 2/7/2018 9:14:39 AM

Testimony for WTL on 2/7/2018 1:20:00 PM

**LATE**

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Jennifer Miller		Support	No

Comments:

Sunscreens containing the chemicals oxybenzone and octinoxate can damage the precious coral reefs on which Hawai'i's shoreline, beaches, recreation and tourist economy all depend. These two chemicals also appear to disrupt our hormones and contribute to higher risks for breast and prostate cancer and endometriosis, among other diseases. Sunscreens that don't contain these harmful chemicals are readily available on the market across the Hawai'i islands. Please vote in favor of SB2571. Thank you.

**LATE**

**SB-2571**

Submitted on: 2/7/2018 11:40:59 AM

Testimony for WTL on 2/7/2018 1:20:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Cathy Goeggel	Animal Rights Hawai'i	Support	No

Comments: