SB2571

Measure Title:	RELATING TO WATER POLLUTION.
Report Title:	Environment; Sunscreen Protection Personal Care Products; Oxybenzone; Octinoxate; Sale; Prohibition
Description:	Bans 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. Takes effect 1/1/2019. (SD1)
Companion:	
Package:	None
Current Referral:	WTL/AEN, CPH
Introducer(s):	GABBARD, KIM, Galuteria, Ihara, Nishihara, L. Thielen

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. Box 3378
Honolulu, HI 96801-3378
doh.testimony@doh.hawaii.gov

WRITTEN
TESTIMONY ONLY

Testimony COMMENTING on SB 2571, SD1
RELATING TO THE ENVIRONMENT

SENATOR ROSALYN H. BAKER, CHAIR
SENATOR JILL N. TOKUDA, VICE CHAIR

SENATE COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH

Hearing Date: February 22, 2018 Room Number: 229
Time: 10:00 A.M.

Fiscal Implications: No funding is provided to implement this measure and the Department defers to the Governor's Supplemental Budget Request for appropriation priorities.

Department Testimony: S.B. 2571 seeks to prohibit the use, sale or distribution of non-prescription sunscreen protection personal care products containing oxybenzone or octinoxate. The Department supports the intent of this measure and has the following comments.

The Department of Health is concerned about the release of chemicals from personal care products into the marine environment. We support further research by the Environmental Protection Agency and United States Food and Drug Administration on the human and environmental risks of sunscreen ingredients. Research by local and national coral experts has shown that levels of oxybenzone and octinoxate in the marine environment may be high enough to pose deleterious effects on coral reef ecosystems. Oxybenzone and octinoxate may have negative effects on human health as well. However, oxybenzone and octinoxate are two of eight FDA approved active ingredients currently in use that play important roles in reducing the risk of some forms of skin cancer, so balancing public health protection here in Hawaii is a very important consideration. Oxybenzone and octinoxate are widely used in chemical sunscreen products so a key concern from the public health perspective is the availability and user acceptance of safe, affordable and effective alternatives.

S.B. 2571 seeks to amend the Water Pollution Statute (Chapter 342D) to implement this measure. Chapter 342D is not the appropriate chapter to regulate the sale and distribution of consumer products. The Department is hesitant to take on responsibility for this ban under any state statute without having a clear understanding of the safety, efficacy and user acceptance of alternative sunscreen products to protect public health. Further, enforcement of this measure by the Department would require significant staffing and take away limited resources from other critical public health priorities.

The Department is not aware of any impending federal or state regulations to remove or restrict oxybenzone or octinoxate from sunscreens, or significant voluntary reformulation of popular products by major sunscreen manufacturers to offer consumers "reef safe" alternatives.

The Department strongly supports DLNR's and the National Park Services' public education efforts and outreach strategies to reach out to inform Hawaii beachgoers about steps that they can take to reduce the unintended impacts of oxybenzone and octinoxate use while safely enjoying our tropical marine waters and sunny beaches throughout Hawaii. The Department also supports academic and applied research efforts further investigating the fate and environmental effects of oxybenzone and other sunscreen compounds in the nearshore marine environment.

Thank you for the opportunity to testify.

Offered Amendments: None.

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

JEFFREY T. PEARSON P.E.
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

Testimony of
SUZANNE D. CASE
Chairperson

Before the Senate Committee on
COMMERCE, CONSUMER PROTECTION, AND HEALTH

Thursday, February 22, 2018
9:30 AM
State Capitol, Conference Room 229

In consideration of
SENATE BILL 2571, SENATE DRAFT 1
RELATING TO WATER POLLUTION

Senate Bill 2571, Senate Draft 1 proposes to ban the sale, offer for 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. **The Department of Land and Natural Resources (Department) appreciates the intent of this measure and offers the following comments**.

The Department recognizes the concerns about the presence of oxybenzone and octinoxate in the nearshore marine environment. Peer-reviewed studies have documented the negative impact of these chemicals on corals and other marine life in a laboratory setting. Prohibiting the sale of products containing oxybenzone and octinoxate may benefit the health and resiliency of Hawai‘i’s coral reef ecosystems. The Department recommends support of increased monitoring of oxybenzone and octinoxate at high-use swimming areas and the support of further research examining the effects of these chemicals on the nearshore marine environment in Hawai‘i.

The Department also recognizes the hazards associated with UV exposure and the need for preventative measures to mitigate negative health effects, as well as the challenges of implementation and enforcement of any oxybenzone and octinoxate sale and distribution provisions. Visitors to our islands often bring their own sunscreen products with them, and a ban on sale would not address this issue.

The Department supports the use of sunscreens that do not contain oxybenzone or octinoxate when in or on the water, as well as sun protective clothing, as alternatives. The Department continues to conduct outreach efforts to help the public understand the issues regarding using oxybenzone and similar chemicals in the ocean so they can be better informed and make better

choices regarding sun protection. These efforts include information on the Department's Division of Aquatic Resources website, focused one-on-one outreach and distribution of oxybenzone-free sunscreen samples at public events, outreach at the ʻĀhihi-Kīnaʻu Natural Area Reserve, news releases, videos, interaction with partner organizations, and meetings with boat tour operators and vendors who sell sunscreen to spread the word. The Department continues to explore other ways to inform the public on this issue.

It should be noted that the primary stressors of coral reefs in Hawai‘i are related to land-based source pollution, over-fishing, invasive species, and climate change. Continued legislative support of efforts to reduce these stressors will have the largest impact on coral reef resilience and recovery.

Thank you for the opportunity to comment on this measure.

OFFICE OF HAWAIIAN AFFAIRS
Legislative Testimony

SB2571 SD1
RELATING TO WATER POLLUTION
Senate Committee on Commerce, Consumer Protection, and Health

February 22, 2018 10:00 a.m. Room 229

The Office of Hawaiian Affairs (OHA) **SUPPORTS** SB2571 SD1, which would mitigate the impacts of oxybenzone and related chemicals on our coral reefs.

Hawai'i's marine environment and nearshore resources serve as a cultural, socioeconomic, and scientific foundation for our islands. OHA notes that economic studies in 2002 and 2003 found an overall contribution of $800 million in revenue generated from our coral reefs and coastal resources, with an added recreational, amenity, fishery, biodiversity and educational value of $364 million per year. A more recent report released in 2011 utilizing "innovative economic survey techniques" found that across U.S. households, the economic value of protecting Hawai'i's nearshore environment could be estimated at $34 billion a year. While our ocean waters clearly hold cultural, spiritual, and biological significance beyond any monetary value, these economic analyses clearly reflect the critical nature of our marine environment to our islands.[1]

This measure represents a small step towards ensuring greater resilience in our coral reefs and nearshore waters. With the overarching threats of climate change and a growing population base, it is incumbent upon the state and its residents to ensure that our foundational nearshore resources are sufficiently resilient, to best withstand the inevitably increasing pressures that will be placed upon them. While oxybenzone- and octinoxate-based sunscreen is just one of many stressors on our coral reefs, reducing the prevalence of this known chemical threat is a small yet positive step towards ensuring such greater resilience. Notably, this measure may not only directly reduce the impacts of oxybenzone and octinoxate on our most popular nearshore areas, but its passage may also promote greater public awareness of the need to better protect the resources we so substantially rely upon.

Accordingly, OHA urges the Committee to **PASS** SB2571 SD1. Thank you for the opportunity to testify on this measure.

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[1] *See* Carlie S. Weiner, Mark D. Needham, & Paul Wilkinson, *Hawaii's real marine life park: interpretation and impacts of commercial marine tourism in the Hawaiian Islands*, 12 CURRENT ISSUES IN TOURISM 489, 489-90 (2009) *citing* P.J. van Beukering & H.S. Cesar, *Ecological economic modeling of coral reefs: Evaluating tourist overuse at Hanauma Bay and algae blooms at the Kihei Coast, Hawai'i* 58 PAC. SCIENCE 243 (2007); A.M. Friedlander et. al., *The state of coral reef ecosystems of the main Hawaiian Islands* in THE STATE OF CORAL REEF ECOSYSTEMS IN THE UNITED STATES AND PACIFIC FREELY ASSOCIATED STATES 222-269 (2005), K. DAVIDSON, M. HAMNET, & C. MINATO, ECONOMIC VALUE OF HAWAII'S NEARSHORE REEFS (2003), *available at* http://nature.forestry.oregonstate.edu/sites/default/files/2009-2%20CIT%20-%20Wiener%20Needham%20Wilkinson%20(2009).pdf; HERMAN CESAR ET. AL, ECONOMIC VALUATION OF THE CORAL REEFS OF HAWAII FINAL REPORT 74 (2002), *available at* http://www.coralreef.gov/meeting18/evhcri_samoa_2007.pdf; RICHARD C. BISHOP ET. AL., TOTAL ECONOMIC VALUE FOR PROTECTING AND RESTORING HAWAIIAN CORAL REEF ECOSYSTEMS: EXECUTIVE SUMMARY (2011), *available at* http://coralreef.noaa.gov/aboutcrcp/news/featuredstories/oct11/hi_value/resources/protecting_restoring_hawaiian_cre.pdf.

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February 21, 2018

Senator Karl Rhoads
Chair, Senate Committee on Water and Land
Hawaii State Senate

RE: Testimony in Support of Senate Bill 2571

Dear Chair Rhoads and Committee Members:

I respectfully submit this testimony in support of Senate Bill 2571, which bans 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.

I concur with OHA's testimony, "While oxybenzone and octinoxate based sunscreen is just one of many stressors on our coral reefs, reducing the prevalence of this known chemical threat is a small yet positive step toward ensuring such greater resilience." This measure may not directly reduce reef degradation, but passing this measure will promote greater public awareness and the need to protect our precious natural resources.

I also recognize the hazards associated with sun exposure and the need to protect our skin to prevent negative health effects. Alternatives to oxybenzone and octinoxate based products are available and organizations have started educating the public as to its use.

As the Councilmember of the district that represents organizations like the Friends of Hanauma Bay, I will continue to support their efforts in preserving one of our State's jewels. I appreciate the opportunity to provide testimony on this proposal and should you have any questions please don't hesitate to contact me at 768-5004.

Sincerely,

Trevor Ozawa
Councilmember, District IV

SB-2571-SD-1
Submitted on: 2/21/2018 3:49:44 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Melodie Aduja	Testifying for OCC Legislative Priorities Committee, Democratic Party of Hawai'i	Support	No

Comments:

PRESENTATION OF THE

OAHU COUNTY COMMITTEE ON LEGISLATIVE PRIORITIES

DEMOCRATIC PARTY OF HAWAI'I

TO THE COMMITTEE ON COMMERCE, CONSUMER PROTECTION AND HEALTH

THE SENATE

TWENTY-NINTH LEGISLATURE

REGULAR SESSION OF 2018

Thursday, February 22, 2018

10:00 AM

Hawaii State Capitol, Conference Room 229

RE: Testimony in Support with Comments of SB 2571 SD1 WATER POLLUTION

To the Honorable Rosalyn H. Baker, Chair; the Honorable Jill N. Tokuda, Vice-Chair, and Members of the Committee on Commerce, Consumer Protection and Health:

Good afternoon. My name is Melodie Aduja. I serve as Chair of the Oahu County Committee ("OCC") Legislative Priorities Committee of the Democratic Party of Hawaii. Thank you for the opportunity to provide written testimony on Senate Bill No. 2571 SD1, relating to the Environment; Sunscreen Protection Personal Care Products; Oxybenzone; Octinoxate; Sale; and Prohibition.

The OCC Legislative Priorities Committee is in support with comments to Senate Bill No .2571 SD1 and supports its passage with amendments.

Senate Bill No.2571 SD1 is in alignment with the Platform of the Democratic Party of Hawai'i ("DPH"), 2016, to the extent that it bans 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; however, it allows for the exception of a medically-licensed prescription.

We propose that this measure be amended to eliminate the medically-licensed prescription exception as any exception to a complete ban for these personal care products, known to cause coral reef damage and other harmful adverse effects to our fragile marine ecosystem, would be in contradiction the environmental canons of the Platform of the DPH.

Specifically, the DPH Platform provides that we "support the democratic participation of citizens and residents to protect (i) valuable coastal ecosystems and reefs from misuse and (ii) beaches for public use and recreation. The Hawai'i Coastal Zone Management (CZM) law, HRS Chapter 205A, currently provides for public participation in the management of coastal resources." (Platform of the DPH, P. 8, Lines 427-430 (2016)).

Given that Senate Bill No. 2571 SD1 prohibits the sale and usage of sunscreen protection personal care products that contain oxybenzone and octinoxate with the exception of a medically-licensed prescription, it is the position of the OCC Legislative Priorities Committee to support this measure provided it is amended to eliminate the medically-licensed prescription exception.

Thank you very much for your kind consideration.

Sincerely yours,

/s/ Melodie Aduja

Melodie Aduja, Chair, OCC Legislative Priorities Committee

Email: legislativeprorities@gmail.com, Tel.: (808) 258-8889

Eileen O'Hara
Council Member
Council District 4

Chair: *Environmental Management Committee*

Phone: *(808) 965-2712*
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Vice Chair: *Planning Committee and Agriculture, Water & Energy Sustainability Committee*

County of Hawaii

Hawaii County Council
25 Aupuni Street, Suite 1402 • Hilo, Hawai'i 96720

Senator Rosalyn H. Baker
Chair, Senate Committee on Commerce, Consumer Protection, and Health
Hawai'i State Senate

February 20, 2018

Re: In Support of Senate Bill 2571, from Hawai'i County Council District 4
To be heard by CPH on 02-22-18 10:00AM in conference room 229

Aloha Chair Baker and Committee Members:

I'm writing to express my support of Senate Bill 2571, which bands 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.

Hawai'i's coral reefs are being bleached at an unprecedented rate, and recent studies show that oxybenzone may be part of the problem. Though our economy is heavily supported by tourists coming to visit these reefs, and sunscreen is essential to ensure the health of our citizens and these visitors, protecting our reefs must be paramount. Alternatives to oxybenzone in sunscreen products are available, and banning sunscreen containing oxybenzone for sale will send a message to further research and promote other viable options.

I do not hesitate to support any measure which has such positive impacts on the ecology and environment of Hawai'i. Please contact me if you have any questions about my support or knowledge of the subject.

Sincerely,

Eileen O'Hara

Eileen O'Hara
Council Member
Council District 4

TO: Honorable Chair Baker, Vice Chair Tokuda, and Commerce, Consumer Protection and Health Committee Members, 2-22-18, 10:00 a.m.

SUBMITTED BY: Keith Dane, Hawaii Policy Advisor, State Affairs, Humane Society of the United States, kdane@humanesociety.org, Tel: 301-312-1489; and Teresa M. Telecky, Ph.D., Vice President, Wildlife, Humane Society International, ttelecky@hsi.org, Tel: 301.258.1430

RE: SUPPORT for SB 2571 SD1, Relating to Water Pollution

The Humane Society of the United States (HSUS) and Humane Society International (HSI), support HB 2264 which would, if enacted, prohibit the sale, offer for sale, or distribution for sale of non-prescription SPF sunscreen products containing octinoxate or oxybenzone, unless the product is sold or distributed to fulfill a prescription. We thank the Committee for addressing this important matter that affects Hawaii's nearshore coral reefs.

Numerous studies have shown that oxybenzone in the marine environment can be harmful to coral reefs and marine life (Kim et al. 2014; Kim & Choi 2014; Tsui et al. 2014; Downs et al. 2015). These studies clearly indicate that oxybenzone poses a risk to fishes, through endocrine disruption and reproduction performance, for example, and to hard corals through bleaching. These threats are heightened in marine recreational areas frequented by beach goers, swimmers, snorkelers and divers whose sunscreen washes off when they enter the water. Worldwide, it is estimated that 90% of snorkeling or diving tourists are concentrated on 10% of the reefs (US National Park Service). Hawaii's Marine Life Conservation Districts (MLCDs) have an abundance of fishes compared to the majority of the state's reefs which are severely depleted. This abundance of wildlife is a major draw to tourists and, Hawaii's most beautiful and popular reefs are likely exposed to the most sunscreen pollution.

It has been estimated that 4,000 – 14,000 tons of sunscreen enters coral reef areas around the world annually (U.S. National Park Service, Downs et al. 2015). Surveys around Hawaii's coral reefs found oxybenzone levels at concentrations 12 times higher than the level at which it impacts juvenile coral (Downs et al. 2015).

The unprecedented coral bleaching events of 2014 and 2015 had devastating effects on Hawaii's corals. A 2016 report by The Nature Conservancy found of 32 – 90% of bleached

coral colonies died in some West Hawaii areas. New research shows that by mid-century, coral reefs will annually experience the heat stress that causes bleaching, and the authors conclude that the future conditions of reefs depends on both the reduction of global emissions and our capacity to build resilience to bleaching through management of local stressors (Hughes et al. 2018). Though sunscreen toxins, such as oxybenzone and octinoxate, may be just one of many stressors impacting Hawaii's coral reefs, the inevitability of future ocean warming events and subsequent coral bleaching makes it imperative to reduce the stressors to corals and increase their potential to recover and survive.

HSUS and HSI have previously submitted testimony in support of HB 2264, a bill which would similarly prohibit the sale of the same products which this bill addresses, however that legislation includes a penalty of a petty misdemeanor for a violation of the section. We request that SB 2571 SD1 be amended to include the same penalty, and sincerely thank the Committee for taking up this important matter. ***We urge the Committee to amend and pass SB 2571 SD1*** which will help reduce SPF sunscreen pollution and harm to Hawaii's coral reefs and wildlife.

Thank you for this opportunity to provide testimony.

HAWAII FOOD INDUSTRY ASSOCIATION

1050 Bishop St. PMB 235 | Honolulu, HI 96813
P: 808-533-1292 | e: info@hawaiifood.com

TO:
Committee on Commerce, Consumer Protection, and Health
Senator Rosalyn H. Baker, Chair
Senator Jill N. Tokuda, Vice Chair

FROM: HAWAII FOOD INDUSTRY ASSOCIATION
Lauren Zirbel, Executive Director

DATE: Thursday, February 22, 2018
TIME: 10am
PLACE: Conference Room 229

RE: SB 2571 Relating to Water Pollution

Position: Oppose

The Hawaii Food Industry Association is comprised of two hundred member companies representing retailers, suppliers, producers, and distributors of food and beverage related products in the State of Hawaii.

The HFIA proposes that since this bill would ban many products that are used to prevent skin cancer, that a higher standards of review should be conducted to ensure that taking this action would indeed improve outcomes for reefs. The State of Hawaii recently conducted an information review from top Hawaii scientist studying our reefs. The presenters discussed, increased water temperatures, run-off, sewage and overfishing. Not one of Hawaii's top reef scientists mentioned sunscreen as an issue.

It is not known what the levels of oxybenzone and octinoxate are around most of Hawaii's reefs, and if those levels pose any threats to coral or other marine life in the open ocean. Studies on the effects of these chemicals have been conducted only in lab settings and not all studies have shown bleaching even at high levels[i].

We care about offering products individuals feel comfortable using on a daily basis to prevent skin cancer. Many products that have sun protection factor, such as lotions, tinted moisturizers, and anti-aging products are intended for daily use in small amounts. These products are not used in large quantities anywhere near the ocean. However, all of these

products would be unnecessarily banned under this bill, as would other federally approved and regulated healthcare products.

Given that this ban would not do anything to alleviate the known primary causes of coral bleaching, and that it would deprive people of products they use to prevent possibly life threatening skin cancers, we do not think the potential benefit is worth the risk and we ask that this measure be held.

Thank you for the opportunity to testify.

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[i] [i]26th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), conducted at La Cité Nantes Congress Center in Nantes, France, from 22 - 26 May 2016

Predictive laboratory methodology to assess coral bleaching: application to UV filters

J. Fel, LOréal Research & Innovation, Aulnay-sous-Bois, France / Environmental Research; M. Leonard, lOREAL SA

Increasing ocean temperature and acidification, overfishing, coastal development and pollution are well known stressors on coral reefs. They may induce coral bleaching, a process by which corals lose their symbiotic microalgae (zooxanthellae). Ultimately, corals may die when these stressful environmental conditions last too long. Weakened corals, more susceptible to infectious diseases, show poor resilience from episodic bleaching events. Some studies have reported that certain UV filters (mostly 4-methylbenzylidene-camphor, benzophenones and octylmethoxycinnamate) contained in sunscreens lotions and washed off by swimmers, could contribute to coral bleaching. Media took it for granted and suspicion has been extended to all organic UV filters present in sunscreens products. The present study was aimed at clarifying the potential effect that organic UV filters (such as Avobenzone, Octocrylene, Terephtalylidene-dicamphor sulfonic acid, Silatrizole, etc…) may have on different coral species. Two herbicides (Monuron and Diuron) were used as positive references. First a preliminary laboratory screening test was developed to assess potential adverse effect of short exposure (48h) to elevated concentrations (from 1 to 100 mg/L) of the compounds. As a sublethal endpoint predictive of coral bleaching, chlorophyll photosynthetic efficiency of the symbiotic micro-algae (zooxanthellae) was monitored with PAM (Pulse Amplitude Modulated) fluorimetry on nubbins of hard coral species *Seriatopora caliendrum* and *Styllophora pistillata* In a second step, coral nubbins of *Styllophora pistillata* (hard coral) and *Turbinaria reniformis* (soft coral) were exposed for 5 weeks at lower concentrations in 15 liters aquariums, under semi static conditions with weekly solution renewal. **A specific analytical methodology was developed, combining automated solid phase extraction with UPLC-UV detection, to monitor the compounds concentrations in sea water and analyze large number of samples.**

5 weeks of chronic exposure to these UV filters at concentrations above those reported in natural sea waters, did not induce coral bleaching nor reduce the photosynthetic efficiency of the symbiotic micro-algae.

CHPA CONSUMER HEALTHCARE PRODUCTS ASSOCIATION
founded 1881

February 21, 2018

The Honorable Rosalyn H. Baker
Chair, Committee on Commerce, Consumer Protection, and Health
Hawaii State Capitol, Room 229
415 South Beretania Street
Honolulu, HI 96813

RE: Opposition to SB 2571, SD 1 – relating to the environment

Dear Chairwoman Baker,

On behalf of the Consumer Healthcare Products Association (CHPA), the 136-year old national trade association representing the leading manufacturers of over-the-counter medication, I am writing to express opposition to SB 2571, SD 1 under consideration by the Senate Committee on Commerce, Consumer Protection, and Health (CPH) on Thursday, February 22nd. The legislation seeks to ban the sale or distribution of Food and Drug Administration (FDA) approved sunscreen containing oxybenzone or octinoxate. While we applaud attempts to limit coral decline in Hawaii, we have strong reservations of doing so by limiting access to safe ingredients which have proven benefits against deadly skin cancers.

Oxybenzone is a safe, and effective ingredient approved by the FDA in 1978 and found in nearly 2000 personal care products on the market today including some of the most popular sunscreens, lip balms, and lotions designed to guard against sun damage. In fact, oxybenzone offers broad spectrum protection against both ultraviolet A (UVA) and ultraviolet B (UVB) rays that often contribute to skin cancer.

Overwhelmingly, published research implicates global climate change as the proximate cause of coral bleaching. Secondary coral stressors include over-fishing, runoff and acidification. There are only two isolated laboratory studies which claim an association between oxybenzone exposure and coral bleaching utilizing conditions that are not indicative of a natural setting.

There is no reason to believe that these sunscreen ingredients will affect coral in the reef setting. Researchers from the Hawai`i Institute of Marine Biology at the University of Hawai`i, Kane`ohe recently suggested that localized heating and circulation patterns were primarily responsible for coral bleaching events observed across the Hawaiian Islands[1]. Studies performed by highly respected organizations such as the National Oceanic and Atmospheric Administration (NOAA), employing decades of data, have also implicated warming water as responsible for coral bleaching events.[2]

When the current state of research into the causes underlying large scale bleaching of coral reef populations throughout the world is viewed in its entirety, it is prodigiously apparent that changes in ocean temperature (warming) are responsible for the vast majority of these events. Banning the use of two sunscreen ingredients which have been shown to be safe and effective in reducing the amount of ultraviolet (UV) radiation exposure that can cause melanoma and other skin cancers would likely produce no measurable effect on coral reef populations while at the same time resulting in harm to overall public health.

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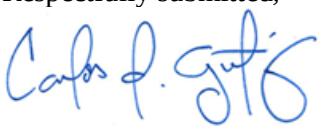
[1] Rodgers, K.S. et al., 2017 Patterns of bleaching and mortality following widespread warming events in 2014 and 2015 at the Hanauma Bay Nature Preserve, Hawai'I, *Peer J* https://doi.org/10.7717/peerj.3355)

[2] National Oceanic and Atmospheric Administration, 2017 Acoustic Characterization of Mesophotic Coral Reef Ecosystems of West Hawai'i, available at https://data.nodc.noaa.gov/coris/library/NOAA/CRCP/NMFS/PIFSC/Projects/467/Suka2017_Tech_Memo_NMFS-PIFSC-61.pdf (accessed January 29, 2018)

For this reason, we ask that the Senate CPH Committee withdraw the proposal to ban oxybenzone and octinoxate. A greater standard of evidence must be considered before such a valuable product to people's health be banned from use or sale.

Should you have any questions for CHPA, please contact me directly or our local counsel, Ms. Lauren Zirbel at 808-294-9968 or laurenzirbel@gmail.com.

Respectfully submitted,



Carlos I. Gutiérrez
Vice President, State & Local Government Affairs
Consumer Healthcare Products Association
(202) 429-3521 cgutierrez@chpa.org

Cc: Members, Committee on Commerce, Consumer Protection, and Health

February 21, 2018

Re: SB 2571 RELATING TO WATER POLLUTION

Dear Chair Baker, Vice Chair Tokuda and members of the Committee on Commerce, Consumer Protection, and Health,

The Kona-Kohala Chamber of Commerce is in support of SB 2571 RELATING TO WATER POLLUTION banning the sale, offer of sale, or distribution in the State of any SPF sunscreen protection personal care product that contains oxybenzone.

The Kona-Kohala Chamber of Commerce is a 501(c)(6) non-profit organization with over 500 member businesses that represent a wide range of industries in the private, non-profit, and public sectors in the Kona and Kohala regions on the West side of the island of Hawai'i. Member businesses range in size from single-owner entrepreneurs to large, multinational corporations. Celebrating our 50th anniversary, our organization exists to provide leadership and advocacy for a successful business environment in West Hawai'i.

The Kona-Kohala Chamber of Commerce advocates for healthy coral reefs because this precious resource is directly related to the success of our local economy. As a world-renowned tourist destination, the Kona-Kohala coast boasts a healthy coral reef. We believe safeguarding this natural resource is important in providing a prosperous business environment and important to our community.

Sincerely,

Wendy J. Laros
Executive Director, Kona-Kohala Chamber of Commerce

Kona-Kohala Chamber of Commerce
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To: Senate Committee on Commerce, Consumer Protection, and Health
Re: SB 2571 SD1 to Ban Sunscreens Containing oxybenzone and octinoxate
Hearing: Thursday, February 22, 2018, 10am, Room 229
Position: Strong Support

Ban Toxic Sunscreens is a collective of activists, businesses, students, concerned citizens, speaking out about the dangers of sunscreen ingredients that negatively impact corals, marine life, people.

Sunscreens containing chemicals oxybenzone and octinoxate have been proven to negatively impact coral reefs; whether they are the part of the cause for initial stresses, or that they inhibit restoration by killing juvenile corals. Our coral reefs are a huge part of Hawai'i's economy, and the reason many come visit (from snorkeling, diving, boating, fishing, surfing). Visitors are now commenting how the corals they used to enjoy over the decades are now gone, and that there are so few fish on the now dead reefs. They don't realize their choice of sunscreens are part of the problem. Studies showing these sunscreen chemicals are in our local fish. Now oxybenzone is even showing up in our aquifers and drinking water (tested by Dr. Craig Downs). Even if we choose to avoid these sunscreen products, our health is put at risk, by inhaling the aerosol sprays at the beach, swimming in them, eating them. This is turning into a public health issue (residents in Hawaii may want to consider a whole house water filter to protect themselves and their family). These chemicals can disrupt our hormones and contribute to higher risk of breast and prostate cancer, among other diseases.

We are attaching a public letter from Cheryl Woodley, PhD, NOAA, Coral Health & Disease Program and Coral Disease & Health Consortium. It has solid science from a coral expert.

Nothing is perfect, but there are safer choices. Choices that can make a difference. Sunscreen formulations free of these harmful chemicals are readily available across the Hawai'i islands. There is a growing store finder at sunscreensafe.com. The coral scientists we have met with seem to agree non-nano zinc is a much better option for SPF protection.

Thank you for the opportunity to testify. We appreciate your passing this important bill!

Mahalo, Wil McClaren, Ban Toxic Sunscreens

OXYBENZONE IN OAHU TAP WATER

Oxybenzone pollutes the environment from both swimmers and sewage. Of the two sources of contamination, sewage usually contains the greatest amounts of oxybenzone, as well as an abundance of other pharmaceuticals, illicit drugs, and personal care product chemicals (over 30,000 chemicals).

Volcanic islands are notorious for being permeable. Sewage discharged at sea or in well injections sites can readily contaminate the freshwater aquafers.

Unfortunately, these freshwater aquafers are the main sources of potable water for homes and municipalities. This means, potentially, whatever sewage is contaminating the aquafer is polluting the potable water supply.

Many municipalities only treat water using sediment filters, and then straight to chlorination (to kill fecal bacteria, Staphylococcus, Vibrios, etc). This process does NOT remove the sewage chemicals polluting the water.

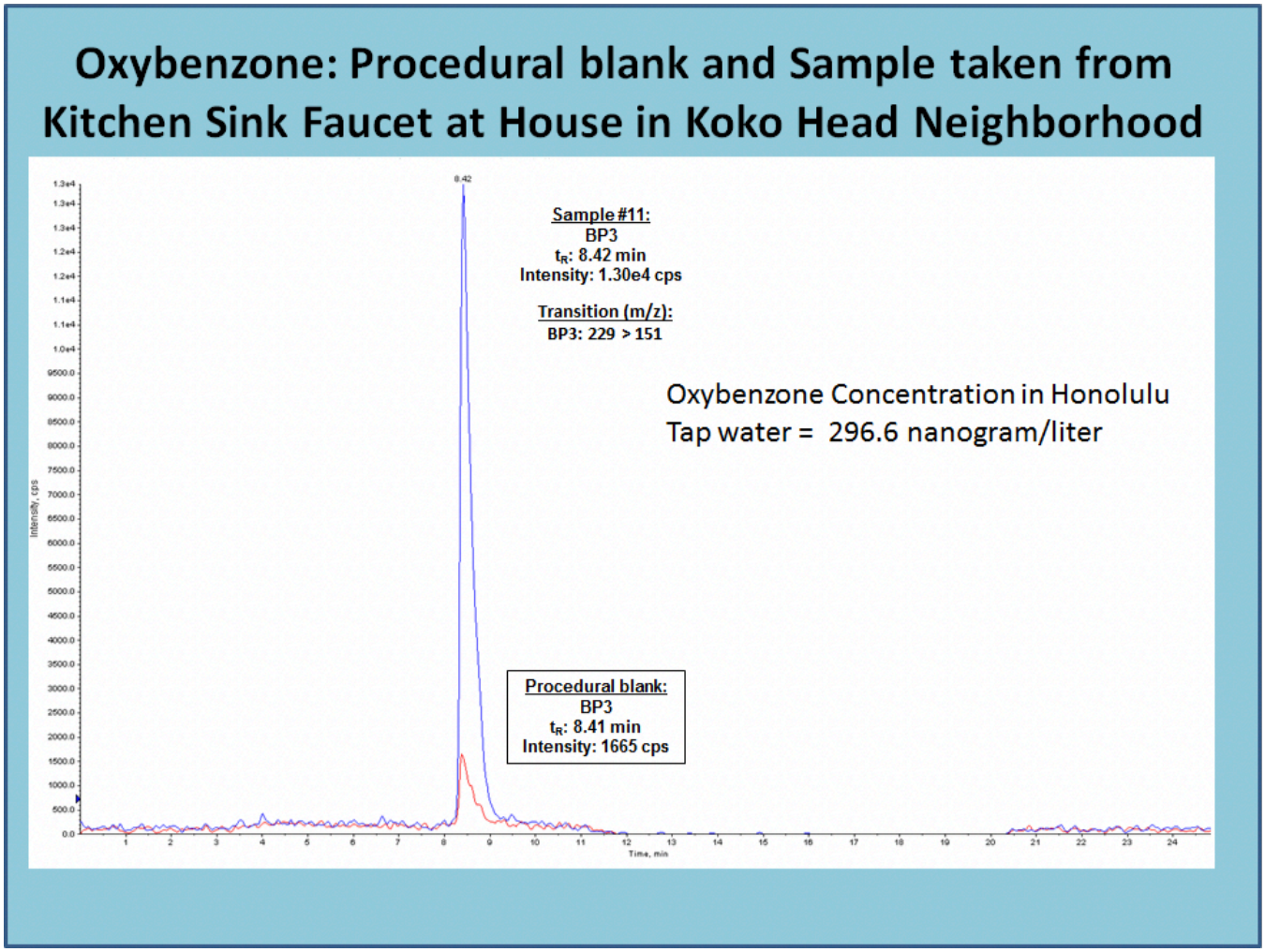
We wanted to test the hypothesis that Honolulu municipal potable water was contaminated with sewage chemicals. We only looked at one chemical: Oxybenzone.

Two hundred milliliters of water was collected from a residence in Honolulu. Specifically, from the faucet in their kitchen that is connected to the Honolulu Municipal water supply. The sample was sent to a environmental chemistry facility for the Spanish Government, and analyzed for the concentration of oxybenzone.

The result was a concentration of 296.6 nanograms/liter of oxybenzone. This means that for the average male who is sedentary all day (3.7 liters), men consume about 1.2 micrograms of oxybenzone a day from drinking water. The average woman who is sedentary all day (2.7 liters) consumes about 0.8 micrograms of oxybenzone a day[i]. This does not account for the water used to cook rice, pasta, vegetables, breads, etc.). The concentration of this chemical by itself doesn't pose an acute morbidity to adults, but that is not the case for developing fetuses, neonates, and pre-pubescent children. The threat becomes even greater when you consider the potential for adverse interactions with other chemical contaminants in the drinking water (parabens, estrogen/ estradiol, progesterone, octinoxate, octocrylene, octisalate, benzophenone-2) and with prescription drugs.

Think of this, you are ingesting the 2014 Allergen of the Year – does this vector of exposure cause inflammation in the gastrointestinal tract?

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Hollings Marine Laboratory
331 Fort Johnson Road
Charleston, South Carolina 29412



[i] https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in- depth/water/art-20044256

December 15, 2017

The Honorable Elle Cochran
and Members of the Maui County Council West Maui Seat
200 S. High Street
Wailuku, Hawaii 96793

Dear Council Member Cochran and Maui County Council Members:

I am writing in response to your request for comments on the science related to coral reefs and the impacts of sunscreens and cosmetics containing oxybenzone.

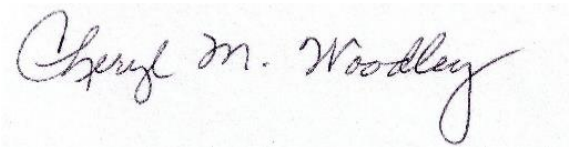
I am a NOAA scientist working within the National Ocean Service's National Centers for Coastal Ocean Science. I have over 30 years of experience in molecular and cellular biology, biochemistry and pathobiology, which I have applied to aspects of coral health and disease research for the past 20 years. I am also one of the co-authors of a 2016 peer-reviewed article in *Archives of Environmental Contamination and Toxicology* that examined the toxicological effects of oxybenzone on coral larvae, cultured primary coral cells and measured environmental concentrations in coral reef areas in the Caribbean and at multiple sites in Hawaii.

The preponderance of scientific evidence indicates that oxybenzone is toxic to coral and threatens overall coral reef health by:

- inducing coral bleaching;
- harming or killing coral larvae by inducing gross deformities, DNA damage, and bleaching;
- acting as an endocrine disruptor; and
- bioaccumulating in coral tissue.

I have provide the attached summary of the relevant peer-reviewed literature (Appendix A) in support of this conclusion. As you will see, the research documenting the toxicity of oxybenzone on corals is extensive. While additional research may incrementally add to our understanding of its impacts to other coral reef species, additional research on the impacts of oxybenzone should not be a prerequisite to management action.

Sincerely,
Cheryl M. Woodley, PhD



Appendix A: Literature Review

The weight of evidence, built over at least 20 years of research and hundreds of peer-reviewed scientific articles, demonstrates that oxybenzone is toxic to corals and other animals. Oxybenzone [aka, Benzophone-3; (2-hydroxy-4-methoxyphenyl)(phenyl) methanone] is present in aquatic[1,2,3,4], marine[5,6,7,8,9] and coral reef environments[10,11,12,13]. It can convey multiple and different lethal and sub-lethal effects in aquatic taxa as diverse as marine bacteria[14,15], microalgae[16], protozoans[17], cnideria[18], molluscs[19,20], sea urchins[21], crustaceans[22], and fish[23,24,25].

Compounding the problem, oxybenzone becomes more toxic when the exposures occur in sunlight (or artificial light containing UV). Additionally, oxybenzone is also known to act as an endocrine disruptor with non-monotonic dose responses (meaning low doses can have greater endocrine disrupting effects than at higher doses)[26,27,28]. In addition, among these studies are also those that have developed ecological risk assessments (i.e., hazard quotients)[29,30,31] for various receptor species (non-coral) exposed to oxybenzone in aquatic environments.

The first evidence showing that oxybenzone is a threat to coral reefs came in 2008, when Danovaro et al.[32] showed that oxybenzone could induce coral bleaching. Our work[33] provided evidence for more precise toxicity effects using exposure-response profiles and photo-enhanced toxicity characteristics of oxybenzone (i.e., oxybenzone is more toxic in sunlight) in corals and provided insights into the toxicopathology of corals exposed to oxybenzone. Multiple toxicity endpoints were assessed to determine toxicity for coral larvae including gross deformities, DNA damage, and bleaching. Cell mortality in primary coral cell cultures was used in an *in vitro* assay across multiple coral species to assess oxybenzone toxicity and species sensitivities to the compound. Our results showed that gross developmental deformities in coral larvae of differing degrees across all concentrations tested and after 8 h

exposure their movements ceased. These gross observations were underscored by subcellular pathologies showing catastrophic tissue lysis and cellular degradation, particularly at the surface of the larvae. The larvae also displayed reduced chlorophyll fluorescence indicative of bleaching at all concentrations tested.

The accumulation of DNA damage underscores the potential threat of oxybenzone to corals and other coral reef organisms. It has implications for potential impacts to larval development, coral recruitment and juvenile survival and on a larger scale implications for impacts to the adult coral's reproductive effort and the fitness of coral populations exposed to oxybenzone now and in the future. Our laboratory studies included concentrations levels of oxybenzone that were in the same range as actual levels measured in coral reef zones in the U.S. Virgin Islands and in the Hawaiian sites on Oahu and Maui.

A follow−on experiment conducted in our laboratory with adult coral (*Fungia* sp.) showed that when exposed to a water accommodated fraction of a popular sunscreen formulation (Fig. 1), the corals exuded large amounts of mucus and lifted epithelial layers of their surface tissues. Analytical chemistry determined that coral tissues do bioaccumulate active sunscreen ingredients (results presented in 2016 at the International Coral Reef Symposium, Honolulu HI).

A new study[34] builds on previous work to provide further information indicating a high bioaccumulative potential for oxybenzone to accumulate into coral tissues and a preliminary risk assessment for coral species exposed to oxybenzone and other sunscreen contaminants. The authors caution of an increased risk during coral spawning seasons and for corals close to aquatic recreational hotspots.

The preponderance of scientific evidence provided by our work and that of many others supports a reasonable conclusion that oxybenzone is a threat to coral and can threaten overall coral reef health. Managing the exposure of corals and other reef organisms is one essential step for reducing this threat on reef ecosystems.

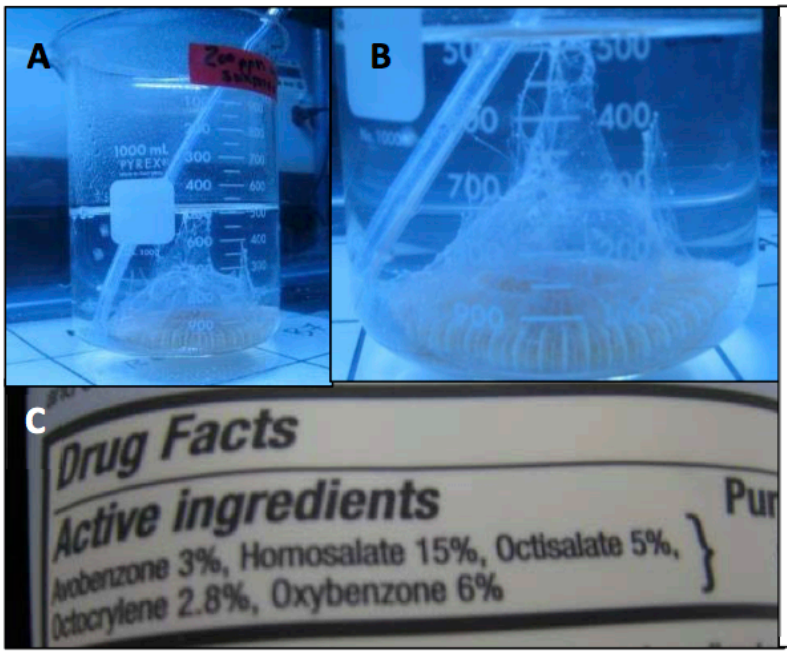


Fig. 1. Exposure-response of *Fungia* coral to commercial sunscreen lotion formulation. This experiment was to evaluate the response of coral to a water-accommodated fraction (WAF) of a commercial sunscreen formulation and to determine the amount of sunscreen components that are taken up into coral tissues. Panels A & B show response of *Fungia* sp. after 23 h exposure to WAF of a commercial sunscreen. Mucus sheets and expansion of surface epithelial tissues in response to sunscreen exposure, a reaction similar to that described by Danovaro et al (2008). Panel C is sunscreen product label of active ingredients in tested formulation. Tissue extracts of exposed corals showed oxybenzone levels could bioaccumulate to 220.7 parts per trillion (ng/L) after 48h exposure.

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of four UV filters using marine organisms from different trophic levels Isochrysis galbana, Mytilus galloprovincialis, Paracentrotus lividus, and Siriella armata. Chemosphere 104: 44–50.

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[31] Rodrigues AS, Sanz MR, Rodrigues JRB. 2015. Occurrence of eight UV filters in beaches of Gran Canaria (Canary Islands). An approach to environmental risk assessment. Chemosphere 131, 85–90.

[32] Danovaro, R., L. Bongiorni, C. Corinaldesi, D. Giovannelli, E. Damiani, P. Astolfi, L. Greci, and A. Pusceddu. 2008. Sunscreens cause coral bleaching by promoting viral infections. Environmental Health Perspectives 116(4): 441–447. [33] Downs, C.A., E. Kramarsky–Winter, R. Segal, J. Fauth, S. Knutson, O. Bronstein, F.R. Ciner, R. Jeger, Y. Lichtenfeld, C.M. Woodley, P. Pennington, K. Cadenas, A. Kushmaro, and Y. Loya. 2016. 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 70: 265–288.

[34] Tsui MMP, Lam JCW, Ng TY, Ang, PO, Murphy MB, Lam PK–S. 2017. Occurrence, distribution and fate of organic UV filters in coral communities. Environ. Sci. & Techn. On Line. DOI: 10.1021/acs.est.6b05211

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COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH

Senator Rosalyn H. Baker, Chair; Senator Jill Tokuda, Vice Chair

Thursday, February 22, 10:00 a.m., Conference Room 229

SB2571 SD1, RELATING TO WATER POLLUTION

TESTIMONY

Nancy Davlantes, Legislative Committee, League of Women Voters of Hawaii

Chair Baker, Vice-Chair Tokuda, and Committee Members:

The League of Women Voters of Hawaii supports SB2571 SD1 that would 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.

The League has long-held positions that both promote the management of natural resources as interrelated parts of life-supporting ecosystems and preserve the physical, chemical and biological integrity of the ecosystem, with maximum protection of public health and the environment.

While visitors and residents are always cautioned to apply sunscreen to protect themselves against Hawaii's vibrant sunshine, tests have shown that sunscreens containing the chemical oxybenzone have been found to harm coral reefs by leaching the coral of its nutrients and bleaching it white. It can also disrupt the development of fish and other wildlife.

A recent study by a group of international scientists and published in the *Archives of Environmental Contaminaton and Toxicology* found oxybenzone in high concentrations in the waters around the more popular coral reefs in Hawaii. The chemical not only kills the coral, it deforms the DNA in coral in the larval stage, making it unlikely they can develop properly.

It's no secret that Hawaii's coral reefs are in trouble, not only from oxybenzone but from higher ocean temperatures, overfishing, sedimentation, and nutrient pollution that all contribute to coral mortality rates.

But if one of the threats to coral reefs can be removed by the elimination of oxybenzone in sunscreen, then progress will have been made to protect this most productive marine ecosystem that supports commercial and recreational fisheries and tourism, in addition to protecting coastlines from storm surge.

There are other options to sunscreens containing oxybenzone, such as sunscreens made with titanium oxide or zinc oxide, which are natural mineral ingredients.

But there are no options to coral reefs. Once they're gone, they're gone.

Thank you for the opportunity to submit testimony.

Haereticus
Environmental Laboratory

P.O. Box 92
Clifford, Virginia 24533 U.S.A.
Email: haereticus1@hughes.net
Phone/Fax: 434-263-5740
www.haereticus-lab.org

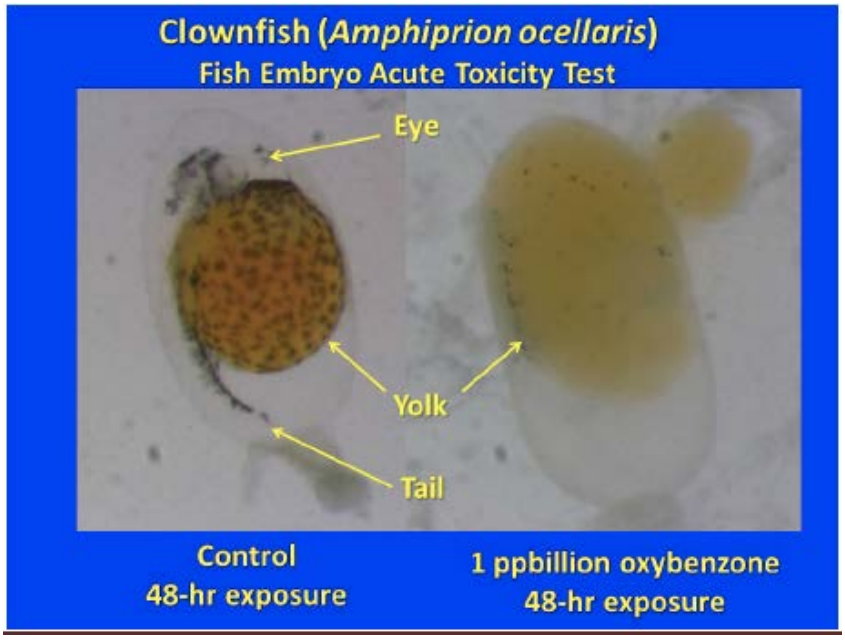
February 2, 2018

SUPPORTING Hawaii Legislative Bills That
Prohibit the Sale of SPF Sunscreen Products Containing Oxybenzone & Octinoxate

Dear Hawaii Legislative Chairperson and Committee Members,

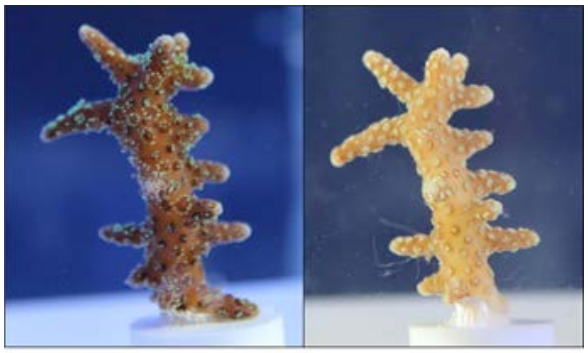
I was the lead scientist who co-authored the scientific paper in Archives of Environmental Contamination and Toxicology regarding the impact of oxybenzone on coral planula and oxybenzone contamination along the coasts of Hawai'i and the U.S. Virgin Islands. I am also a graduate of the **John A. Burns School of Medicine at the University of Hawai'i at Mānoa**.

Oxybenzone/Octinoxate in the marine environment can have detrimental effects to all marine life, including changes in fish behavior, pathological changes to fish sexual identity, damage to genomic and DNA integrity, and the developmental success of almost ALL of Hawaii's marine biodiversity. Its greatest ***DANGER*** is as a poison that can kill or maim juveniles of corals, sea urchins, and fish. This poison ***THREATENS*** the restoration of Hawaii's already degraded coral reefs by preventing juvenile marine life from recruiting into an area that is polluted by oxybenzone/octinoxate. The image below is what 1 part per billion OXYBENZONE can do to a fish embryo in 48 hours! This concentration can be seen soon after high tide in areas along Maui's West Coast and in many popular swimming areas/reefs along the coasts of Oahu and Kauai.



The SCIENCE is strong that Oxybenzone & Octinoxate poses a threat to marine life, from directly killing juveniles to inducing pathological behaviors in fish. There are at least 13 other scientific papers that have been published in peer-reviewed scientific journals since 2015 on the Ecotoxicology of Oxybenzone & Octinoxate on aquatic and marine life. There are over 25 papers in the scientific literature that demonstrate the toxic effects in aquatic and marine life, or the contamination of wildlife. We don't really understand why the U.S. Food and Drug Administration has not banned the use of this chemical already, and we hope to formally petition them in the forthcoming year. There are over 100 scientific papers describing the toxicity of Oxybenzone/Octinoxate to humans and mammalian laboratory models! A recent study has provided strong evidence of an association between prenatal exposure of human fetuses and the occurrence of Hirschsprung's Disease – a congenital intestinal disease that strikes between 1:5,000 to 1:2,000 infants (Huo et al. (2016) The relationship between prenatal exposure to oxybenzone and Hirschspring's disease. Chemosphere 144:1091-1097).

Lace coral, which is found nearshore in Hawaii, was exposed for 14 days under ~35% sunlight at a temperature of 80°F to 500 parts per trillion Oxybenzone. As you can see, the coral is bleaching.



Time 0 | 500 pptrillion Oxybenzone 14 days

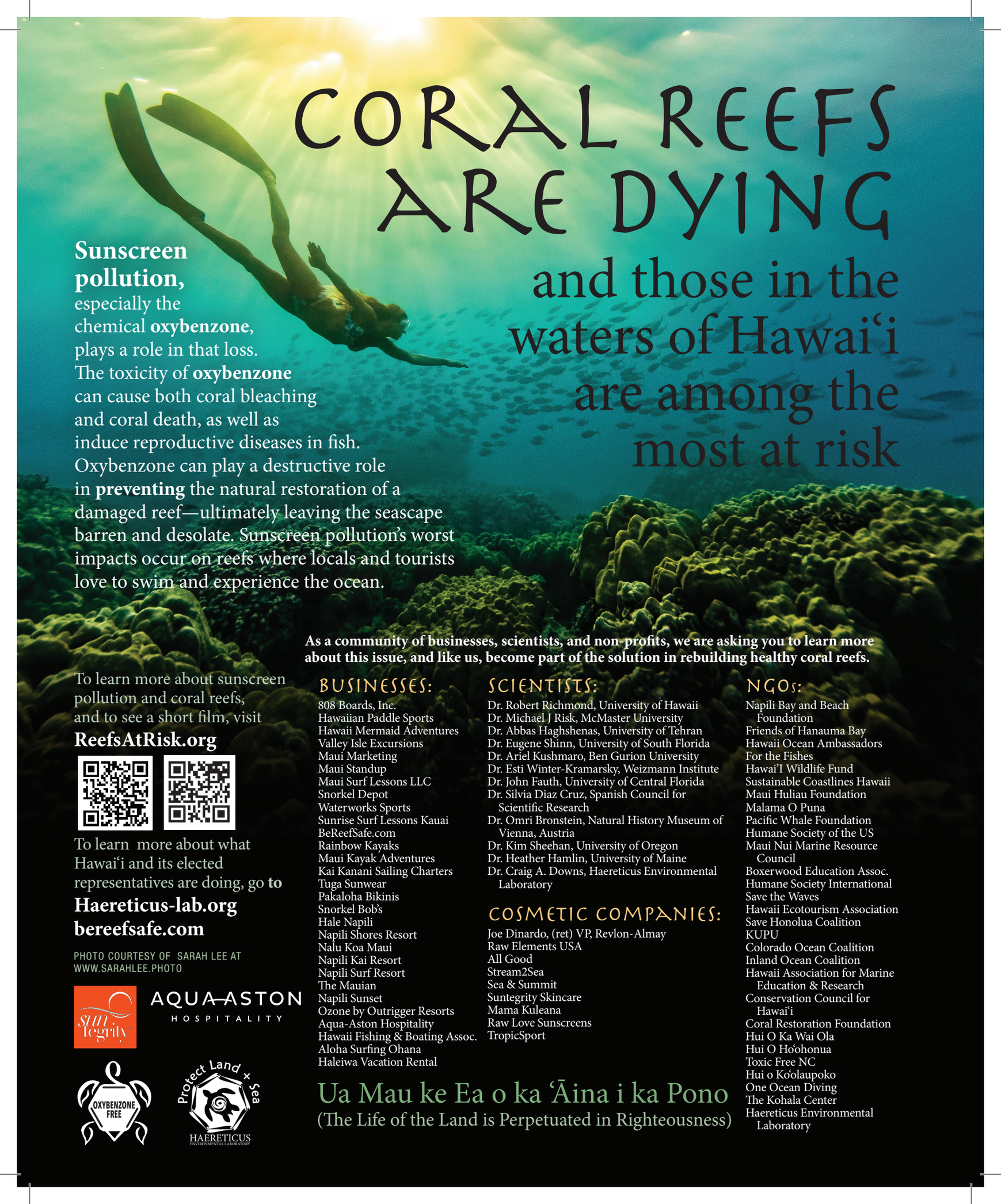
Passage of a restriction on the sale of products containing Oxybenzone & Octinoxate can be a VERY effective means in mitigating oxybenzone pollution in both coastal and inland waters.

Haereticus Environmental Laboratory and I support this effort as being an effective means in reducing oxybenzone/octinoxate pollution, preserving and restoring Hawaii's coral reefs, and protecting the resource that so many local businesses depend upon.

Respectfully submitted,

Craig A. Downs, Ph.D.
Executive Director

Many companies and NGOs in Hawaii are concerned about Sunscreen Pollution, and the impacts of oxybenzone. See following page



CORAL REEFS ARE DYING

and those in the waters of Hawai‘i are among the most at risk

Sunscreen pollution, especially the chemical **oxybenzone**, plays a role in that loss. The toxicity of **oxybenzone** can cause both coral bleaching and coral death, as well as induce reproductive diseases in fish. Oxybenzone can play a destructive role in **preventing** the natural restoration of a damaged reef—ultimately leaving the seascape barren and desolate. Sunscreen pollution's worst impacts occur on reefs where locals and tourists love to swim and experience the ocean.

As a community of businesses, scientists, and non-profits, we are asking you to learn more about this issue, and like us, become part of the solution in rebuilding healthy coral reefs.

To learn more about sunscreen pollution and coral reefs, and to see a short film, visit **ReefsAtRisk.org**

To learn more about what Hawai‘i and its elected representatives are doing, go **to Haereticus-lab.org bereefsafe.com**

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BUSINESSES:

808 Boards, Inc.
Hawaiian Paddle Sports
Hawaii Mermaid Adventures
Valley Isle Excursions
Maui Marketing
Maui Standup
Maui Surf Lessons LLC
Snorkel Depot
Waterworks Sports
Sunrise Surf Lessons Kauai
BeReefSafe.com
Rainbow Kayaks
Maui Kayak Adventures
Kai Kanani Sailing Charters
Tuga Sunwear
Pakaloha Bikinis
Snorkel Bob's
Hale Napili
Napili Shores Resort
Nalu Koa Maui
Napili Kai Resort
Napili Surf Resort
The Mauian
Napili Sunset
Ozone by Outrigger Resorts
Aqua-Aston Hospitality
Hawaii Fishing & Boating Assoc.
Aloha Surfing Ohana
Haleiwa Vacation Rental

SCIENTISTS:

Dr. Robert Richmond, University of Hawaii
Dr. Michael J Risk, McMaster University
Dr. Abbas Haghshenas, University of Tehran
Dr. Eugene Shinn, University of South Florida
Dr. Ariel Kushmaro, Ben Gurion University
Dr. Esti Winter-Kramarsky, Weizmann Institute
Dr. John Fauth, University of Central Florida
Dr. Silvia Diaz Cruz, Spanish Council for Scientific Research
Dr. Omri Bronstein, Natural History Museum of Vienna, Austria
Dr. Kim Sheehan, University of Oregon
Dr. Heather Hamlin, University of Maine
Dr. Craig A. Downs, Haereticus Environmental Laboratory

COSMETIC COMPANIES:

Joe Dinardo, (ret) VP, Revlon-Almay
Raw Elements USA
All Good
Stream2Sea
Sea & Summit
Suntegrity Skincare
Mama Kuleana
Raw Love Sunscreens
TropicSport

NGOs:

Napili Bay and Beach Foundation
Friends of Hanauma Bay
Hawaii Ocean Ambassadors
For the Fishes
Hawai'I Wildlife Fund
Sustainable Coastlines Hawaii
Maui Huliau Foundation
Malama O Puna
Pacific Whale Foundation
Humane Society of the US
Maui Nui Marine Resource Council
Boxerwood Education Assoc.
Humane Society International
Save the Waves
Hawaii Ecotourism Association
Save Honolua Coalition
KUPU
Colorado Ocean Coalition
Inland Ocean Coalition
Hawaii Association for Marine Education & Research
Conservation Council for Hawai‘i
Coral Restoration Foundation
Hui O Ka Wai Ola
Hui O Hoʻohonua
Toxic Free NC
Hui o Koʻolaupoko
One Ocean Diving
The Kohala Center
Haereticus Environmental Laboratory

Ua Mau ke Ea o ka ʻĀina i ka Pono
(The Life of the Land is Perpetuated in Righteousness)

Institute of Geophysics
University of Tehran

No. .....
Date. .....

In The Name of God

Date: For the 2018 Hawaii Legislative Season

To: The State of Hawaii Legislature, its Committees and Chairpersons, and Governor Ige

Re: Restriction of the Sale of Oxybenzone & Octinoxate SPF products
DANGER of UV chemicals to climate change and its carbon footprint.

I am an environmental scientist and oceanographer at the Institute of Geophysics within the University of Tehran, Tehran, Iran. I am one of the foremost experts in my country that studies the impact of human activities on the marine environment.

To the point, I want to express my support for HB2264 and SB2571. These bills were written with the broad input of a number of independent scientists that strikes a wise and effective balance to diminish Oxybenzone/Octinoxate environmental pollution to coral reefs and other marine habitats, while NOT impacting tourism.

I am sure there will be a number of scientists worldwide who will provide scientific testimony to the toxicology and pollution of these two dangerous chemical that impacts all matter of marine life, but also the integrity of human health.

Carbon footprint - I would like to point out something that my other scientific colleagues may not. The CARBON FOOTPRINT of hydrocarbon-based sunscreens is considerable. If Hawaii DLNR is correct, that over 55 gallons of sunscreen pollutes the coast line of Maui per day, then we can calculate that the input of oxybenzone alone is contributing to 3,174lbs (1.44 metric tons) of CO_2 per year. If you include Octinoxate into the calculation, that is almost 3 metric tons of CO_2 per year. For Hanauma Bay, assuming that 4,515 pounds of oxybenzone pollutes the bay per year, that is equivalent to more than 5.5. metric tons of CO_2 per year. That is over 11 metric tons of CO_2 per year for oxybenzone/octinoxate.

Sunscreen pollution is not just the direct toxic impact it has to nearshore and mesophotic reef habitats, and migrating cetaceans. The use of these chemicals in Hawaii has a direct contribution of the CO2 load to atmospheric and oceanic condition. The State of Hawaii government has made a promise to recognize and mitigate the overall size of their carbon footprint. Sunscreen pollution and its impact to climate change is an issue that Hawaii can show leadership and responsibility.

Your efforts in legislative conservation have been noted around the world, and we applaud your effort and leadership.

Respectfully submitted,

S. A. Haghshenas

S. Abbas Haghshenas, PhD
Assistant Professor in Physical Oceanography
Institute of Geophysics –University of Tehran
Tehran, Iran
Tel: +98 21 6111 8318
Email: sahaghshenas@ut.ac.ir

SPANISH MINISTRY
OF ECONOMY AND
COMPETITIVENESS

CSIC

Institute of Environmental Assessment and Water Research (IDAEA)
SPANISH NATIONAL RESEARCH COUNCIL (CSIC)

From: Silvia Díaz-Cruz, Ph.D.
Spanish National Research Council (CSIC)
Institute of Environmental Assessment and Water Research (IDAEA)
Barcelona, Spain

Barcelona, 2nd February 2018

TO WHOM IT MAY CONCERN

Hereby I, Dr. Silvia Diaz Cruz, from the Spanish National Research Council CSIC, (Spain) want to support the prohibition of the use or application of products containing

Oxybenzone, 2-Hydroxy-4-methoxyphenyl)-phenylmethanone under the International Union of Pure and Applied Chemistry (IUPAC) chemical nomenclature registry, has a chemical abstract service registry number 131-57-7, and whose synonyms include benzophenone-3, Escalol 567, Eusolex 4360, KAHSCREEN BZ-3, 4-methoxy-2-hydroxybenzophenone, and Milestab 9,

and/or

Octinoxate (RS)-2-Ethylhexyl (2E)-3-(4-methoxyphenyl)prop-2-enoate under the IUPAC nomenclature registry, has a chemical abstract service registry number 5466-77-3, and whose synonyms include ethylhexyl methoxycinnamate, octyl methoxycinnamate, Eusolex 2292, and Uvinul MC80,

in areas close to marine ecosystems to help marine life preservation. So far there are many evidences supported by reliable scientific studies published in prestigious scientific journals, showing the risk this sunscreen agent pose for marine environments, and especially relevant for coral reefs ecosystems.

Based on my own scientific research experience of more than a decade studying the impact of UV filters and blockers in the environment, I support **SB2985** and **HB2264**.

My institution, the CSIC, is the largest public institution dedicated to research in Spain and the third largest in Europe. Belonging to the Spanish Ministry of Economy and Competitiveness through the Secretary of State for Research, Development and Innovation, its main objective is to develop and promote research that will help bring about scientific and technological progress, and it is prepared to collaborate with Spanish and foreign entities in order to achieve this aim.

Silvia Díaz-Cruz, PhD
Researcher at the Department of Environmental Chemistry. IDAEA-CSIC
E-mail address: sdcqam@cid.csic.es

idaea
C/ Jordi Girona, 18
08034 Barcelona. Spain
Tel. 93 400 61 00
Fax.: 93 204 59 04

EKW
RESEARCH
DEVELOPMENT

Feb 2 2018

Dear Honorable Members of the Hawaiian Legislature;

As a co-author of a number of studies regarding the effects of oxybenzone and their derivatives on corals and sea urchins I strongly suggest banning these chemicals from use from use in products that may enter the marine environment. Our studies have shown that without a shadow of a doubt these chemicals even at very low concentrations (parts per thousand and parts per million) have deleterious effects on larvae and adult form of these organisms. These studies were carried out in the US, in the Caribbean and in the Red Sea, and all revealed their deleterious effect on marine organisms causing numerous types of cellular damage. In addition, these chemicals were also found to affect human health as they penetrate the skin and can be found in human milk and urine of those who use these products (references are available upon demand). I urge you to take into consideration all these studies when making your decisions regarding this important issue. I personally have been using alternative sunscreens, as well as hats and long sleeved sun (or rash)-guards, there are good alternatives out there.

Sincerely

Esti Kramarsky-Winter

DR. Esther Kramarsky-Winter

Dr E. Kramarsky-Winter
Dept. of Biotechnology Engineering
Ben Gurion University, Beer Sheva Israel
EKW Research Development Rehovot, Israel
esti.winter@gmail.com
972-544881227

McMaster University

School of Geography
and Earth Sciences

1280 Main Street West
Hamilton, Ontario, Canada
L8S 4K1

`To: Interested parties.

From: Dr. Michael J Risk
Durham, Ontario Canada

Date: Feb. 2, 2018

Re: Oxybenzone

I am a coral reef ecologist, with many decades of experience with coral reefs of the Pacific. To date, my work has been cited more than 8000 times in the scientific literature. I have been to Hawaii several times, usually as a guest of your federal government. I have been greatly impressed by the beauty of the coral reefs in the state. It seems to me to be sensible to preserve what you have.

I try to keep up with recent science, and to those of us who know the literature is no secret that oxybenzone is a coral killer. The damaging effect on coral larvae can be seen at unbelievable low concentrations. Not only that: oxybenzone is incorporated into the food chain.

The use of this compound in sunscreen can no longer be defended. There are many companies producing more reef-friendly products at competitive prices.

The news of your struggle in Hawaii has spread around the globe. Coral reefs are in terrible shape now, under many threats. Removing this one would be easy to do, and would send a message to the rest of the world that Hawaii cares.

Dr. Michael J. Risk
MJRiskEnvironmental Ltd.
PO Box 1195, Durham ON
Canada

Milano, February 8th, 2018

To: Interested parties

From: **Dr. Davide Seveso, Dr. Simone Montano, Dr. Davide Maggioni**

Dept. of Earth and Environmental Sciences (DISAT)
University of Milano-Bicocca
P.zza della Scienza 2, 20126, Milano, Italy
MaRHE Center (Marine Research and High Education Center), Maghodhoo, Faafu, Maldives

Date: Feb. 8, 2018

We are coral reef biologists and ecologists, with several years of experience with coral reef around the world and in particular in the Indian Ocean and Maldives. In the Republic of Maldives we also manage an international Marine Research Station that hosts every year about 200 students and 30 researchers from over the world, performing both teaching and research activities on all aspects of the reefs.

Our research projects are mainly focused on coral bleaching, coral diseases, the effects of several abiotic and biotic stress on the cellular integrity of corals and on the biodiversity and the symbioses involving corals and other invertebrates such as hydrozoans. To date we published many scientific papers cited hundreds of time in the scientific literature and we discovered and described a dozen of new species.

We participated in the International Coral Reef Symposium (ICRS) in June 2016 in Honolulu, Hawaii and we had the opportunity to do some dives and observe the beauty of the coral reef in the state. Also considering the great importance of coral reef from a biological, ecological but also economical and sociological point of view, it seems to us to be sensible to preserve what you and we have.

We all try to keep us always updated about the biology of the reefs and the different impacts and stressors that can affect the health of the corals, and for this reason, after reading many scientific papers written by our expert colleagues, we realized the very harmful effect of

oxybenzone on corals. Oxybenzone is a coral killer and we should avoid its dispersion in marine habitat.

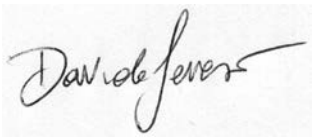
The damaging effect on coral larvae can be seen at unbelievable low concentrations in the water, and, in addition, oxybenzone can be also incorporated into the food chain spreading the toxic effects to other marine invertebrates and vertebrates.

For these reasons, the use of this compound in sunscreen can no longer be defended. To our knowledge, there are many companies producing more reef-friendly products at competitive prices.

The news of your struggle in Hawaii has spread around the globe and it can contribute to send an important message to the rest of the world, trying to improve the protection of fundamental ecosystems as the coral reefs.

Your Sincerely,

Davide Seveso **Simone Montano** **Davide Maggioni**



Department of Earth and Environmental Sciences (DISAT)
University of Milan - Bicocca
P.zza della Scienza 1, 20126, Milan, Italy
Marine Research and High Education Centre
Maghodhoo Island, Faafu Atoll, Republic of Maldives

UNIVERSITY OF CENTRAL FLORIDA

Dr. John E. Fauth | John.Fauth@ucf.edu

February 8, 2018

Dear Honorable Members of the Hawai'i Legislature:

I am a co-author of the scientific paper that demonstrated the damaging effects of oxybenzone on corals[i] and I urge you to ban the nonprescription sale and use of sunscreens and cosmetic products containing this ingredient.

Oxybenzone damages corals in five different ways. Oxybenzone causes

1. DNA damage

2. cell death

3. deformities in coral larvae

4. coral bleaching, which is a disease

5. increased susceptibility to viral infections.[ii]

Significant negative effects occur when corals are exposed to minute concentrations of oxybenzone (in the part per billion to part per trillion range), including concentrations lower than those observed on popular Hawaiian beaches. **All published scientific evidence agrees: oxybenzone damages corals and other marine life.** In addition, dermatologists have known for decades that oxybenzone can cause allergic reactions[iiiiv], and recent scientific studies implicate oxybenzone as a causative agent of Hirschsprung's disease[v], which causes intestinal blockages in newborns.

I personally do not use sunscreens that contain oxybenzone and I urge my family, friends and colleagues not to use them, either. Fortunately, almost every major sunscreen manufacturer has a product that uses safe and effective ingredients such as zinc oxide and titanium dioxide instead of oxybenzone. Lightweight beach clothing such as hats, rash guards, fishing shirts and sundresses

Department of Biology, 4000 Central Florida Boulevard, Orlando, Florida 32816 USA

Office: 407-823-2141 | http://biology.cos.ucf.edu/faculty/john-fauth/

also provide protection against UV radiation. When Dr. Craig A. Downs and I did our initial field work in the US Virgin Islands[vi], to ensure we were clean, we showered with a harsh laboratory soap and were not allowed to use any personal care products: no sunscreen, no deodorant, no lotion – nothing. We expected to endure a smelly and sunburned week lugging our SCUBA gear and scientific equipment all over St. John, but that did not happen. Instead, wearing hats and loose-fitting clothing while on land (and working in the shade whenever possible) and lightweight dive skins in the water was sufficient protection. This is an especially good combination for tourists from higher latitudes visiting the tropical shores of Hawai'i.

As a scientist who believes in solving problems, I urge you to ban both the sale and use of sunscreens, sun block and cosmetic products containing oxybenzone. All waters in Hawai'i eventually drain to the ocean, so even sunscreens applied and washed off at home eventually will reach the ocean. A sales ban will be more effective and easier to enforce, and **clever vendors actually could increase sunscreen, sun block and cosmetic sales by offering a discount to any customer who turns in a product containing oxybenzone.**

I spent my honeymoon on O'ahu and Kaua'i, and returned with warm memories of beautiful islands, vibrant marine life and welcoming people. Passing legislation to ban the nonprescription sale and use of sunscreens and other products containing oxybenzone will help ensure that future generations of honeymooners and tourists return with similar memories . . . and perhaps with a new bottle of sunscreen containing safer active ingredients! I urge you to enact comprehensive legislation that bans the nonprescription sale and use of sunscreens, sun block and other cosmetics containing oxybenzone. Acting now is vital to protect Hawai'i's coral reefs, its people and visitors.

Sincerely,

John E. Fauth

John E. Fauth, Ph.D.

Associate Professor of Biology

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[i] Downs, C.A., E. Kramarsky-Winter, R. Segal, J. Fauth, S. Knutson, O. Bronstein, F. R. Ciner, R. Jeger, Y. Lichtenfeld, C.M. Woodley and P. Pennington. 2016. 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 US Virgin Islands. Archives of Environmental Contamination and Toxicology 70(2):265-288.

[ii] Danovaro, R., L. Bongiorni, C. Corinaldesi, D. Giovannelli, E. Damiani, P. Astolfi, L. Greci, and A. Pusceddu. 2008. Sunscreens cause coral bleaching by promoting viral infections. Environmental Health Perspectives 116(4):441-447.

[iii] Szczurko, C., A. Dompmartin, M. Michel, A. Moreau, and D. Leroy. 1994. Photocontact allergy to oxybenzone: ten years of experience. Photodermatology, Photoimmunology & Photomedicine 10:144-147.

[iv] Heurung, A.R, S. I Raju, and E. M. Warshaw. 2014. Contact allergen of the year - Benzophenones. Dermatitis 25:3-10.

[v] Huo W., P. Cai, M. Chen, H. Li, H, J. Tang, C. Xu, D. Zhu, W. Tang, and Y. Xia. 2016. The relationship between prenatal exposure to BP-3 and Hirschsprung's disease. Chemosphere 144:1091-1097.

[vi] Downs, C.A., C. M. Woodley, J. E. Fauth, S. Knutson, M.M. Burtscher, L.A. May, A.R. Avadanei, J.L. Higgins, and G.K. Ostrander. 2011. A survey of environmental pollutants and cellular-stress markers of *Porites astreoides* at six sites in St. John, US Virgin Islands. Ecotoxicology 20:1914-1931.

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Personal Care Products Council
Committed to Safety, Quality & Innovation

February 21, 2018

The Honorable Rosalyn Baker
Chair, Committee on Commerce, Consumer Protection, and Health
State Capitol, Room 229
415 South Beretania Street
Honolulu, HI 96813

RE: Opposition to Senate Bill 2571 SD1

Chair Baker:

On behalf of the Personal Care Products Council (the Council), I am writing to express opposition to Senate Bill 2571 SD1, which prohibits the sale of nonprescription sunscreen products containing oxybenzone or octinoxate.

The Council is the leading national trade association representing the cosmetic and personal care products industry. The Council's approximately 600 member companies manufacture, distribute, and supply the vast majority of products marketed in the U.S. As the makers of a diverse range of products that consumers rely on daily, from sunscreen, shampoo, and toothpaste to antiperspirant, moisturizer and lipstick, personal care products companies are global leaders committed to safety, quality and innovation.

Coral reef degradation is an important environmental issue that we all take very seriously. However, Senate Bill 2571 SD1 does not address the main causes of coral bleaching, which NOAA (National Oceanic and Atmospheric Administration) states as being from pollution, climate change and overfishing. In fact, a recent publication in the scientific journal *Nature* implicates climate change as the main cause of coral bleaching. The authors also state that coral reefs continue to be impacted even when human activities are prohibited in areas near coral habitats, indicating that climate change alone can drive reef degradation. Additionally, in January 2017, scientists from the University of Hawaii published a study showing that climate change has resulted in coral bleaching and subsequent reef decline in Hawaiian coastal waters. Professor Terry Hughes, Director of the Australian Research Council Centre of Excellence for Coral Reef Studies at James Cook University, reaffirmed these conclusions in a January 2018 article in *The New York Times*, stating that "coral bleaching is caused by global warming full stop." In a separate article published by *Mashable* in 2015, Professor Hughes suggested that extrapolations asserting sunscreen is damaging the world's coral

"are a bit of a stretch', and "the conclusion from the media is sunscreen is killing the world's coral, and that's laughable."

Unfortunately, advocates have seized upon the work of a single, unreplicated scientific study (Downs *et al.*, 2015) showing the potential adverse impacts of oxybenzone to corals in laboratory conditions. They've then extrapolated this to an assessment of risk based on a cursory monitoring of oxybenzone in marine waters to justify a state-wide product ban that may have no positive effects on slowing or preventing coral bleaching. Further, the potential ban ignores the vast amount of historical data found within the Pacific Islands Ocean Observation System, managed by the University of Hawaii (details can be found at http://www.pacioos.hawaii.edu/projects/coral/). In this system, it is clear that coral presence, density, and ecological status are based on habitat type and quality. Relating coral ecological status is dependent upon these factors first, and then the potential presence and intensity of other factors, including temperature, currents and changes in water quality. For example, Maui County's Wastewater Treatment Facility conducted a study to understand the potential adverse impacts of ground-water injection. The study concluded that injection wells were likely causing some enhanced algal growth and increased sediment load in the coastal areas studied. Without taking these factors into account, bans of any chemical may have no positive ecological changes, especially given that other coral stressors appear to be more important than the presence of sunscreens, whether they come through the wastewater treatment plant or otherwise. Hence, we encourage an assessment to be conducted that takes into account other factors outside of the presence of sunscreens to ensure that any regulatory action will lead to the preservation of coral communities that surround Hawaii's many islands. The principles of such an approach are outlined by Burton *et al.* in a 2012 publication in *Environmental Toxicology and Chemistry.*

While the coral bleaching events are of great importance, of similar great concern is the prevalence of skin cancer diagnoses and deaths. In fact, more than 10,000 people die of melanoma every year and there are more new cases of skin cancer each year than breast, prostate, lung and colon cancers combined. The U.S. Food and Drug Administration (FDA), the Centers for Disease Control and Prevention (CDC), the U.S. Surgeon General, the American Academy of Dermatology (AAD), the Skin Cancer Foundation and health care professionals worldwide emphasize that using sunscreens is a critical part of a safe sun regimen. The dangers of sun exposure are clear and universally recognized by public health professionals and dermatologists. The National Institutes of Health Report on Carcinogens identifies solar UV radiation as a 'known human carcinogen.' A single bad burn in childhood greatly increases the risk of developing skin cancer later in life. In Hawaii alone, 2-out-of-3 adults report using sunscreens, and 4-out-of-5 parents report using sunscreen on their children. The risk of skin cancer without sunscreen is proven, and a ban on sunscreen would create a serious public health problem. Additionally, oxybenzone and octinoxate are FDA approved critical ingredients in the U.S. sunscreen market.

Senate Bill 2571 SD1, although well intended, lacks the necessary scientific evidence to demonstrate that these sunscreen ingredients are responsible for Hawaii's coral bleaching. Skin cancer is the most commonly diagnosed cancer in the United States. We fear that Senate Bill 2571 SD1 will create confusion, put consumers' health at risk and potentially discourage the use of sunscreens – an

important part of a safe sun regimen. Sunscreens containing oxybenzone or octinoxate are affordable daily use products that have excellent skin cancer prevention properties that cannot be easily attained using alternative ingredients.

Since this legislation is based on premature scientific conclusions and will restrict the use of important FDA approved sunscreen ingredients, it would seem appropriate to support further research, and not rush to judgment. Please oppose Senate Bill 2571 SD1.

Thank you for your consideration.

Sincerely,

Iain Davies

Iain Davies, Ph.D.
Senior Environmental Scientist
Personal Care Products Council

COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH
Thursday February 22nd 2018
Support of SB 2571 SD1 Relating to Water Pollution

Aloha Chair Baker and members of the Senate CPH Committee,

The Surfrider Foundation's Oahu Chapter is writing to support the intent of SB 2571 to protect both our coral reef ecosystems and human health from adverse effects of the chemical oxybenzone often found in sunscreens. Our members are greatly concerned about these effects and encourage the State to exercise the precautionary principle in dealing with oxybenzone based sunscreens.

Oxybenzone damages coral DNA and inhibits its ability to reproduce, causes deformities on the coral, makes coral more susceptible to bleaching, and initiates endocrine disruption. These negative 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 , a major concern when our reef system annually generates about $800 million in gross revenues.

Surfrider spent time during 2016 at both the International Coral Reef Symposium and the International Union on Conservation of Nature World Conservation Congress (both held in Honolulu) in focus groups on the issues associated with oxybenzone based sunscreens. Top scientists on coral reef health indicated in localized studies that this chemical was not only detrimental to reef health but also to humans, exhibiting endocrine disrupting effects. In September 2016, Governor Ige made a World Conservation Congress Legacy Commitment to have 30 percent of Hawaii's nearshore waters effectively managed by 2030. Taking steps to reduce harmful chemicals that are damaging our reefs is a step toward effective management.

In addition to scientific studies, Surfrider is continuously alerted by recreational users of the nearshore environment of slicks of sunscreen creating a sheen across ocean water in highly used regions. There are also reports of a smell of sunscreen emanating from beaches in Waikiki and other tourist locations. Alternatives to oxybenzone exist and education and outreach will need to accompany a ban so that ocean users understand that they have other options to protect themselves from UV sun rays.

Surfrider advocates for a precautionary principle in which we take measures to protect both environmental and human health when possible harmful agents exist. Given that Hawaii's economy relies almost exclusively on our ocean resources, it is imperative that we take necessary steps to protect these areas. Banning the use of oxybenzone based products is a step towards limiting the damage we are doing to our reefs.

Mahalo for Considering this bill.

Rafael Bergstrom
Oahu Chapter Coordinator, Surfrider Foundation.

February 20, 2018

To: The Honorable Rosalyn Baker, Chair
Senate Committee on Commerce, Consumer Protection, and Health

From: Tim Shestek
American Chemistry Council

Re: **SB 2571 SD 1 – OPPOSE**
Scheduled for hearing on 2/22/18

On behalf of the American Chemistry Council (ACC), I am writing to express our opposition to SB 2571 SD 1, legislation that would ban non-prescription sunscreens containing octinoxate or oxybenzone.

Oxybenzone and octinoxate are effective active ingredients in over-the-counter sunscreens approved by the U.S. Food and Drug Administration (FDA). These products are designed to protect skin against the damaging effects of ultraviolet light.

The FDA, the Centers for Disease Control and Prevention (CDC), the U.S. Surgeon General, the American Academy of Dermatology (AAD), the Skin Cancer Foundation and health care professionals worldwide emphasize that using sunscreens is a critical part of a safe sun regimen. The dangers of sun exposure are clear and universally recognized by public health professionals and dermatologists. The National Institutes of Health Report on Carcinogens identifies solar UV radiation as a "known human carcinogen." A single bad burn in childhood doubles the risk of developing skin cancer later in life.

ACC shares the concerns regarding the threat to the world's coral reefs. Climate change and ocean warming are the most notable culprits for reef bleaching. According to the U.S. National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Conservation Program, coral reefs are impacted by an increasing array of hazards, primarily from global climate change, ocean acidification, and unsustainable fishing practices.

This legislation, although well intended, lacks sufficient scientific evidence demonstrating that this sunscreen ingredient is responsible for coral bleaching. Moreover, this legislation could create consumer confusion and unnecessarily put consumers at risk by discouraging the use of sunscreen.

Thank you for the opportunity to share these comments. Should you have any questions, please do not hesitate to contact me or ACC's Hawaii based representative Ross Yamasaki at 808-531-4551.

SB-2571-SD-1
Submitted on: 2/19/2018 4:43:17 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Dee Fulton	Testifying for Oxybenzone-Free Hawaii Island	Support	No

Comments:

Ample research exists which spotlights the toxic impacts of the chemical sunscreen agents oxybenzone and octinoxate to humans as well as to the coral reefs. Octinoxate, an endocrine disruptor, has been linked to breast cancer, lowered testosterone levels in growing boys, impaired fertility of sperm, and mutagenic effects. It is passed in the breast milk to infants after being absorbed transdermally and/or ingested.

These chemical agents also are washed off when we shower/bathe and are ending up in our drinking water. There are already anecdotal reports of drinking water contamination in Oahu and Maui.

"Juan Guerreiro, deputy director of wastewater treatment and disposal for the city of San Diego says when someone showers and sunscreen washes off their body, the water goes to a wastewater treatment plant where it's processed and eventually deemed safe enough to dump back into streams, rivers, lakes, and oceans. Once treated and dumped, some of that wastewater eventually ends up being recaptured by drinking water treatment plants, which send it along to be consumed as tap water."

Please support SB2571_SD1 and stop the sale of these toxic chemicals in Hawaii.

Mahalo,

Dr. Deborah Fulton

Holualoa, HI

TO: Honorable Chair Baker and Members of the Senate Committee on Consumer Protection, 2-22-18, 10am

SUBMITTED BY: Inga Gibson, Policy Consultant, For the Fishes
ponoadvocacy@gmail.com, 808.922.9910

RE: SUPPORT for SB2571, Relating to Water Pollution

For the Fishes supports SB2571 which, if enacted, would prohibit the sale, offer for sale, or distribution for sale of non-prescription SPF sunscreen products containing octinoxate or oxybenzone, unless the product is sold or distributed to fulfill a prescription. *We respectfully recommend an amendment to add "(c)any person who violates this section shall be guilty of a petty misdemeanor.*

Numerous studies have shown that oxybenzone in the marine environment can be harmful to coral reefs and marine life (Kim et al. 2014; Kim & Choi 2014; Tsui et al. 2014; Downs et al. 2015). These studies clearly indicate that oxybenzone poses a risk to fishes, through endocrine disruption and reproduction performance, for example, and to hard corals through bleaching. These threats are heightened in marine recreational areas frequented by beach goers, swimmers, snorkelers and divers whose sunscreen washes off when they enter the water. Worldwide, it is estimated that 90% of snorkeling or diving tourists are concentrated on 10% of the reefs (US National Park Service). Hawaii's MLCDs have an abundance of fishes compared to the majority of the state's reefs which are severely depleted. This abundance of wildlife is a major draw to tourists and, Hawaii's most beautiful and popular reefs are likely exposed to the most sunscreen pollution.

It has been estimated that 4,000 – 14,000 tons of sunscreen enters coral reef areas around the world annually (U.S. National Park Service, Downs et al. 2015). Surveys around Hawaii's coral reefs found oxybenzone levels at concentrations 12 times higher than the level at which it impacts juvenile coral (Downs et al. 2015).

The unprecedented coral bleaching events of 2014 and 2015 had devastating effects on Hawaii's corals. A 2016 report by The Nature Conservancy found of 32 – 90% of bleached coral colonies died in some West Hawaii areas. New research shows that by mid-century, coral reefs will annually experience the heat stress that causes bleaching, and the authors conclude that the future conditions of reefs depends on both the reduction of global emissions and our capacity to build resilience to bleaching through management of local stressors

(Hughes et al. 2018). Though oxybenzone may be just one of many stressors impacting Hawaii's coral reefs, the inevitability of future ocean warming events and subsequent coral bleaching makes it imperative to reduce the stressors to corals and increase their potential to recover and survive.

We respectfully urge the Committee's support of this measure which will help reduce oxybenzone pollution and harm to Hawaii's coral reefs and wildlife.

Thank you for this opportunity to provide testimony.

SIERRA CLUB OF HAWAIʻI
MĀLAMA I KA HONUA. Cherish the Earth.

SENATE COMMITTEE ON COMMERCE, CONSUMER PROTECTION AND HEALTH

Thursday, February 22, 2018 10:00AM Room 229

In SUPPORT of SB 2571 SD1 Relating to water pollution

Aloha Chair Baker, Vice Chair Tokuda, and members of the Committees,

On behalf of our 20,000 members and supporters, the Sierra Club of Hawaiʻi, a member of the Common Good Coalition, **strongly supports SB 2571 SD1**, 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 is a chemical UV filter that is added to nearly 70% of non-mineral sunscreens.[1] It commonly washes into our oceans when applied at the beach, effectively harming our coral reef ecosystems. The chemical ingredient oxybenzone damages coral DNA and inhibits their ability to reproduce, causes deformities on the coral, makes them more susceptible to bleaching, and initiates endocrine disruption.[2,3] These pathologies can occur at concentrations as low as 62 parts per trillion, but some beaches in Hawaiʻi have oxybenzone levels higher than 700 parts per trillion[4], a major concern when our reef system annually generates about $800 million in gross revenues.[5]

In addition to the deleterious harm oxybenzone inflicts on our fragile reef systems, it is also a known endocrine disruptor and the science is becoming ever more conclusive in its link to illnesses ranging from skin allergies, to thyroid problems, to cancer.[6,7,8,9,10]

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[1] http://www.ewg.org/sunscreen/report/the-trouble-with-sunscreen-chemicals/
[2] 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
[3] DiNardo, JC and Downs, CA. Dermatological and environmental toxicologcial impact of the sunscreen ingredient oxybenzone/benzophenone-3. *J Cosmet Dermatol* 2017; 00:1–5. https://doi.org/10.1111/jocd.12449
[4] http://www.marinesafe.org/blog/2016/05/12/how-sunscreen-is-putting-coral-reefs-at-risk/
[5] http://www.hawaii.edu/ssri/cron/files/econ_brochure.pdf
[6] http://www.haereticus-lab.org/oxybenzone/

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.[11,12] 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.[13]

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 SD1 and prohibit the sale of sunscreens containing oxybenzone. 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 SD1 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 protects our vulnerable reef ecosystems from toxic products and promotes the usage of reef-safe sunscreens that are mineral, not chemical based.

We strongly support SB 2571 SD1 and urge the Committee to pass this measure.

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

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[7] Alamar , M. (2017). Effects of exposure to six chemical ultraviolet filters commonly used in personal care products on motility of MCF-7 and MDA-MB-231 human breast cancer cells in vitro. *Wiley Journal of Applied Toxicology*.

[8] Huo, W. (2015). The relationship between prenatal exposure to BP-3 and Hirschsprung's disease. *Chemosphere,144*.

[9] Kunisue, T., Chen, Z., Louis, G. M., Sundaram, R., Hediger, M. L., Sun, L., & Kannan, K. (2012). Urinary Concentrations of Benzophenone-type UV Filters in U.S. Women and Their Association with Endometriosis. *Environmental Science & Technology, 46*(8), 4624-4632. doi:10.1021/es204415a

[10] Molins-Delgado, D., Olmo-Campos, M. D., Valeta-Juan, G., Pleguezuelos-Hernández, V., Barceló, D., & Díaz-Cruz, M. S. (2018). Determination of UV filters in human breast milk using turbulent flow chromatography and babies' daily intake estimation. *Environmental Research, 161*, 532-539. doi:10.1016/j.envres.2017.11.033

[11] http://www.civilbeat.org/2016/09/drop-the-oxybenzone-or-stop-swimming-in-hawaiian-waters/

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

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

We provide the following photos as evidence that alternatives to oxybenzone-containing sunscreen are readily available on the consumer market, including in high-tourist zones, at this time.

PHOTO 1. Taken at an ABC Store on Lewers Street in Waikiki 2/11/2018.

PHOTO 2. Taken at the Surfjack Hotel in Waikiki 2/11/2018.

SB-2571-SD-1
Submitted on: 2/17/2018 6:06:01 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Larry Stevens	Individual	Support	No

Comments:

Ocean water users put some 55 gallons of sunscreen into Maui's ocean daily. Sunscreens that contain oxybenzone and/or octinoxate inhibit reproduction of the coral that is in steady decline and is treasured by those users. Although there are other stressors that damage our reefs, this is one that can be lessened without otherwise impacting our economy. Many safer alternatives exist and are already available.

SB-2571-SD-1
Submitted on: 2/17/2018 12:30:10 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Tina Owens	Individual	Support	No

Comments:

I very much support this bill and want it to pass and be implemented as soon as possible. I don't want to monkey around for years while the chemical industries drag their feet and our coral keeps dying and our health deteriorates. Please pass this bill.

SB-2571-SD-1
Submitted on: 2/17/2018 1:43:06 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Dale Sarver	Individual	Support	No

Comments:

This stuff is killing our coral reefs. How can we not ban it?!

SB-2571-SD-1
Submitted on: 2/18/2018 4:26:09 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Joe DiNardo	Individual	Support	No

Comments:

Aloha Representatives, thank you for taking the time to hear SB2571 relating to banning Oxybenzone and Octinoxate use in all SPF products - these chemicals are toxic to both the environment and to human life. Based on the data, they have little to no value in protecting anyone from skin cancer and have a wide range of toxic adverse reactions associated with them ... the toxicological risks associated with these chemicals out ways any benefit. In fact FDA approved both of these chemicals in 1978, ABOUT 15 YEARS BEFORE WE EVEN UNDERSTOOD THE ROLE OF UVA IN SKIN CANCER and was based on a few studies (submitted by industry) that were inaccurately summarized to be safe for human use.

Please support the banning of these chemicals from all SPF products sold in Hawaii ... the more time they are allowed to be used in any product, the more contaminated our bodies and our environment become ... Mahalo, Joe DiNardo Hawaiian Tourist & Toxicologist.

SB-2571-SD-1
Submitted on: 2/18/2018 8:54:56 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Douglas Perrine	Individual	Support	No

Comments:

The scientific evidence is clear and incontrovertible that oxybenzone is damaging to corals, even in minute amounts. There are many effective sun-protective products that do not contain this toxic ingredient. Hawaii's coral reefs have suffered massive damage due to the coral bleaching events of recent years. Please act immediately to reduce further stressors and allow some chance of recovery to this natural resource which is so vital to our economy and lifestyles in Hawaii.

SB-2571-SD-1
Submitted on: 2/18/2018 9:43:07 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Lisa Diaz	Individual	Support	No

Comments:

Aloha to members of the Hawaii State Senate CPH Committee:

I **strongly support SB SD and urge all CPH Committee members to work hard to pass this important bill to protect Hawaii's coral reefs & human health.**

I am a Hawaii Public Schools Science Teacher who teaches our keiki about the importance of protecting coral reefs and our natural environment.

A 2015 bleaching event caused by climate change has already killed 50% of our reef building corals statewide per DAR/NOAA scientific study results announced this year. We need to do everything possible to protect the coral we have left so the reefs can recover. Hawaii's coral reefs are the essential nurseries for our food fish populations and protect our cities, resorts, homes & businesses from storm damage. Our most important business, TOURISM, will seriously decline if our reefs die.

The chemical & cosmetic industries are lobbying against regulating sunscreen chemicals such as oxybenzene, because changing their formulations will cut into their profits. These industries could easily re-formulate sunblocks without chemicals that are toxic to corals & humans. There is strong scientific evidence that Oxybenzene harms reef building corals plus is a danger to human health. The chemical & cosmetic industries are weighing their profits over the cost of decline in Hawaii's tourism, food, and human health. It's simple - no healthy corals- no healthy oceans- no tourists- no need for sun block ! **Corporate profiteers often cannot think long term, but legislators can. Please, CPH Committee members, do not put the health of our coral reefs & the health of our Keiki in jeopardy, to help mainland companies profit!**

For Hawaii the choice is clear! Please do right- listen to marine scientists and medical studies indicating Oxybenzene is dangerous to human health and protect our coral reefs for the future of our economy and the future of our keiki! Please pass SB SD for Hawaii and our planet!

Mahalo,

Lisa Diaz, Science Teacher, Kealakehe Intermediate School

75-223 Haoa St.

Kailua-Kona, HI 96740

scidiaz@gmail.com 808-938-1389

SB-2571-SD-1
Submitted on: 2/18/2018 10:51:20 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
cynthia Walsh	Individual	Support	No

Comments:

SB-2571-SD-1
Submitted on: 2/18/2018 11:06:16 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Michael ko	Testifying for Littlehandshawaii	Support	No

Comments:

Aloha,

On behalf of the health and life of our coral and our bodies, especially our keiki, we support this bill and hope you take it into consideration as well. There have been more than enough studies done. Bottom line is Hawaii depends on tourism and if we continue to not malama our reef and ecosystem, we feel drastic things will change. Tourist come here to snorkel and if there are dying coral with no fish, no color and no life, they will chose to go elsewhere.

What about our keiki. We continue to lather them with toxic chemicals. Don't you think we should end this already?

Me and my family have been making a reef safe and human safe sunscreen here in Hawaii for 7 years now, and have seen a huge change. People are actually reading ingredients and trying to find a better, cleaner product. Well guess what, they came to the right place. There are a handful of companies here in Hawaii that have been doing our best to educate, spread awareness and provide something better not only for Hawaii's people, but for Hawaii's biggest resource, our ocean. Our ocean provides us with so much. Businesses make a living, puts food on our tables, provides healing, I can go on and on. Coming form a local family, please let this happen for Hawaii. Let's give back to what has given us and our ancestors for generations.

Mahalo.

SB-2571-SD-1
Submitted on: 2/19/2018 6:02:34 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Maureen Datta	Testifying for Kona Chapter Hawaii Farmers Union United	Support	No

Comments:

SB-2571-SD-1
Submitted on: 2/19/2018 8:06:31 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Rick Gaffney	Testifying for Hawaii Fishing & Boating Association	Support	No

Comments:

Our members in the fishing and boatig communities in Hawaii would like to urge the passage of SB2571 SD1 because it is essential to the protection of our coral reefs, which are the basis of our marine environment. Oxybenzone and octinoxate have been proven in peer reviewed scientific studies to be detrimental to coral, limu and fish, and the banning of sunscreens containing these noxious chemicals will remove a significant contributor to the decline of our essential coral reefs.

There are plenty of alternative sunblock fomulations that are equally effective, and the increasing availability of sun blocking clothing is an additional alternative, also proven to be very effective in preventing skin cancers.

We can't stop global warming locally, but we can go a long way toward removing these chemicals from our waters, by banning the sale of sunscreens containing oxybenzone and octinoxate in Hawaii.

Please move this bill forward, today.

Mahalo,

Rick Gaffney, President

SB-2571-SD-1
Submitted on: 2/19/2018 11:57:35 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Kelli Lundgren	Individual	Support	No

Comments:

I support SB2571 SD1 as a resident of Hawaii.

Please consider passing this bill. It is vital to Hawaii's well being; its reefs, its overall environment, for the people and tourism.

Outside of protecting and extending the life of Hawaii's reefs - I offer two additional arguments for you to respectfully consider:

One: passing this bill will significantly reduce frustration for Hawaii's visitors. I am a volunteer at The State of Hawaii's Ä€hihi-KÄ«na'u Natural Area Reserve. I talk with up to one hundred visitors each time I help; around one thousand total visitors come to this beautiful reef daily. Conversing about where to get in the ocean and describing the magnificent place they are about to see, I also mention to visitors the danger to the reef of these patented sunscreen chemicals.

Visitors understand the concern. People want to help. A family pulls out their tube of sunscreen for me to help check the ingredients. Most sunscreen sprays and many lotions have coral killing chemicals, but they are listed in only fine print on the back. Some lotions and sprays list "reef safe" on the bottle's front. Yet "reef safe" does not have any government guidelines or a definition of where and when you can say this. It's marketing. Yet a visitor finding out that his or her sunscreen brought to the reef is harmful becomes such a disappointment. Visitors do not want to hurt the reef. Sometimes they end up returning to their hotels without snorkeling.

The process of checking ingredients is so very complicated, something that can be eliminated by passing this bill. Otherwise, people sometimes need to don reading glasses and are confused when trying to examine for themselves.

Ä€hihi-KÄ«na'u Natural Area Reserve has been recently measured at 14 plus times the toxic level of Oxybenzone. People care. An excellent solution is out there, agreed to by most visitors in discussions: we all wish the store shelves would display and offer only reef safe personal care products. If the shelves offered only safe products, visitors can choose safely. They will have a much better experience than feeling obligated to turn away from the reef or beach because they had sprayed on harmful chemicals.

The second argument: a ban of Oxybenzone and Octicilate is a neutral proposition for the personal care product manufacturers. These manufacturers sell non-reef-harming sunblock and care products already. Safe sunblock and personal care in their product mixes I'm guessing is presently maybe 15 to 20% of their offerings. They can completely replace the banned chemical products with the good, including sunblocks consisting of zinc oxide and titanium dioxide… products they already sell. It's a win/win once the turnover takes place. They sell much more of the good stuff.

Think about Hawaii's ban on lightweight plastic bags on the islands and how it was possible to adapt. It can be done and we move in a positive direction.

This ban could prolong Hawaii’s reef health. Visitors like to know they are helping individually. It makes them feel good.

Kelli Lundgren

Kihei, Hawaii

SB-2571-SD-1
Submitted on: 2/19/2018 2:05:49 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Jeff	Individual	Support	No

Comments:

I support SB2571. We need to reverse the trend of damaging our reef systems.

SB-2571-SD-1
Submitted on: 2/20/2018 11:18:36 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
susan chouljian	Individual	Support	No

Comments:

SB-2571-SD-1
Submitted on: 2/20/2018 9:54:27 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Radha Ku'ulani Martin	Individual	Support	No

Comments:

SB-2571-SD-1
Submitted on: 2/20/2018 10:32:18 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Donna L. Ching	Individual	Support	No

Comments:

Our nearshore waters are stressed by factors both outside local control (climate change) and within our kuleana (curtailing pollutants). Banning the retail sale of products containing chemicals known to harm reefs is an obvious no cost measure that needs to be enacted immediately! In addition to helping our marine environment, the proposed ban would also have a significant public health benefit as it steers consumers away from endorcine disrupting chemicals and toward less toxic physical-type "baby-safe" suncreens that are already readily available.

Thank you for your full support of SB 2571 SD1. Aloha, Donna L. Ching

SB-2571-SD-1
Submitted on: 2/20/2018 9:10:03 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Dyson Chee	Individual	Support	Yes

Comments:

I support SB 2571 because I believe that it is a bill which is easy to comply with, yet it could have far-reaching impacts. There is concrete evidence that oxybenzone and octinoxate harm reef building corals significantly. And there are already companies that do not include oxybenzone and octinoxate in their sunscreens. This bill is not asking for a huge change but the consequences of it are enormous. This bill is a step in the right direction to save coral reefs in a world of ever-growing anthropogenic threats.

SB-2571-SD-1
Submitted on: 2/20/2018 8:56:59 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
autumn ness	Individual	Support	No

Comments:

SB-2571-SD-1
Submitted on: 2/20/2018 8:56:11 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Elle Cochran	Individual	Support	No

Comments:

SB-2571-SD-1
Submitted on: 2/20/2018 7:21:02 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Anke Roberts	Individual	Support	No

Comments:

We need to protect our reefs and the multitude of wonderful and unique marine organisms for future generations. We also need to protect the health of people who use sun screens, since most people are not aware that some of the chemicals contained in sun screens are harmful to people, as well as marine organisms. Since most people won't take the time to educate themselves on what is in their sun screen, we need to make sure that products sold in Hawaii DO NOT CONTAIN harmful chemicals.

SB-2571-SD-1
Submitted on: 2/20/2018 7:20:10 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Mio Chee	Individual	Support	No

Comments:

I strongly support this bill. We need healthy corals for our tourisim, medical purposes and to minimize the impact of tsunamis. We cannot afford to lose any more corals.

SB-2571-SD-1
Submitted on: 2/20/2018 6:20:27 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Rene Umberger	Individual	Support	No

Comments:

SB-2571-SD-1
Submitted on: 2/19/2018 5:10:46 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Joan Gannon	Individual	Support	No

Comments:

To: Commerce, Consumer Protection and Health Committee

Re: SB 2571 hearing Thursday 2/22/18 at 10:00 am in room 229

I Support SB 2571. This is an important bill for the health and safety of the people here in Hawaii and for our great resource the Coral Reef. To ban oxybenzone and octinoxate from sun screen and other SPF products is a big step to help protect our Coral Reef. Please pass SB 2571 for a healthy Hawaii. Thank you for your consideration.

Joan Gannon Chair precinct 6 district 5 Hawaii Island

SB-2571-SD-1
Submitted on: 2/20/2018 1:35:59 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
ryan christopher	Individual	Support	No

Comments:

Aloha, I wanted to voice my overwhelming support for SB 2571. This ban on toxic substances in sunscreen is way overdue. The coral and our reef is extremely vital in so many ways to the state. The loss of the reef would be a huge loss financially for the state in addition to the food source it provides and a loss for the next generation to see and appreciate the reef. Please support this bill.

Mahalo

From:	j.mauiw102@everyactioncustom.com on behalf of Joan Moore
To:	CPH Testimony
Subject:	Testimony: Please Support SB 2571, which Bans the sale of any SPF sunscreen product that contains oxybenzone or octinoxate
Date:	Sunday, February 18, 2018 12:57:15 PM

Dear Chair Baker and Members of the Committee on Commerce, Consumer Protection, and Health,

I strongly support SB 2571, which would ban the sale, offer of sale, or distribution in the State of any SPF sunscreen protection personal care product that contains oxybenzone or octinoxate. These chemicals are not only known reef killers; numerous peer reviewed scientific studies have linked these chemicals to dire health effects as well. Oxybenzone is a known endocrine disruptor and the science is becoming ever more conclusive in its link to illnesses ranging from skin allergies to thyroid problems to cancer. In addition, oxybenzone has been found in breast milk, meaning infants are exposed to this harmful chemical.

People from all over the world flock to Hawai'i every year because of this island's pristine beauty, but more and more locals and visitors alike are leaving the water disappointed because our reefs are dead or dying. Hawai'i's economic future will also be much less bright without a thriving coral reef.

Please support SB2571. Mahalo for your leadership on this issue.

Sincerely,
Joan Moore
3950 Kalai Waa St Apt W102 Kihei, HI 96753-7795
j.mauiw102@gmail.com

SB-2571-SD-1
Submitted on: 2/20/2018 4:32:43 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Elizabeth Bishop	Individual	Support	No

Comments:

Aloha Chair Baker and CPH Committee members, thank you for the opportunity to testify in SUPPORT of SB2571 SD1. Sunscreens containing oxybenzone and octinoxate are toxic to our reefs and marine environment in general, and are linked to serious human health issues. There are numerous readily available and effective sunscreen products that do not contain oxybenzone or octinoxate. Please pass bill SB2571 SD1.

Mahalo,

Elizabeth Bishop

Hawaii Resident, Tax payer and Voter

SB-2571-SD-1
Submitted on: 2/20/2018 5:00:29 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
sylvia litchfield	Individual	Support	No

Comments:

There are no good reasons not to support this sunscreen legislation.

We do have the science, we do have plenty of safer and effective alternative products, and we do have the economic incentives to save our reefs. The only reason for legislators not to support this legislation, is because they are taking money from mainland industry lobbyists. So do the pono thing! Save our environment and our economy.

(And did you know that since chemical sunscreens have been in use, that skin cancer has increased? They block the rays that cause sunburn, but they do not block the rays that cause cancer - that's right, chemical sunscreens are not even effective against skin cancer! They are also endocrine disruptors, and encourage the growth of breast cancer and cause birth defects in humans. So please do not listen to the industry lobbyists who say it is for our health.)

Mahalo!

SB-2571-SD-1
Submitted on: 2/20/2018 5:40:58 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Glenn Roberts	Individual	Support	No

Comments:

I passionately support this ban of sunscreens containing oxybenzone. I am in the ocean quite a lot (snorkeling, diving) and I see the coral reef destruction first hand. I have learned that these sunscreens are a primary cause of the death of so much of our coral which is critical habitat for tropical marine life. As these resources disappear so too does the natural beauty of our state and the tourist dollars we rely on. The fact is that most people know nothing about the hazards of their sunscreen. They simply buy what's cheapest. This is where government MUST step in to protect the marine environment.

SB-2571-SD-1
Submitted on: 2/20/2018 6:17:49 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Deborah Wallace	Individual	Support	No

Comments:

please support sb2571. our reefs are so important to Hawaii, and damaged coral reefs have negative impact on areas known for their coral reefs snorkeling and diving. damage to our reefs will negatively impact our tourism and economic health.

SB-2571-SD-1
Submitted on: 2/20/2018 6:20:33 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
tom wallace	Individual	Support	No

Comments:

Please support this bill. It is a small thing to change sunscreen to one that does not harm the reefs. The reefs are so important to the health of our oceans and we should be doing everything we can to keep them healthy. The oceans thank you and I thank you for passing this bill.

Charessa Fryc

954 Akepo Ln

Honolulu, HI 96817

In SUPPORT of SB2571 Relating to Water Pollution

Aloha Chairs Rhoads and Gabbard, and members of the committees,

My name is Charessa Fryc and I am the Chair of the Environmental Committee for the Young Progressives Demanding action, as well as a student at the University of Hawai'i at Manoa. As a young environmentalist and student, I am deeply concerned about the effects of oxybenzone and octinoxate on our oceans, and sea life.

Oxybenzone and octinoxate have chemical properties, and have been known to be endocrine disrupters, and damage the DNA of coral reefs. The science concludes that these chemicals are toxic to our reefs, and they need to be banned from sale, so that we do not harm our oceans anymore. Many environmental organizations such as the International Union for the Conservation of Nature (IUCN) and the International Coral Reef symposium (ICRS) have already concluded the danger of the use of Oxybenzone and Octinoxate.

While it's important to educate people about these issues, and ask them to buy other sunscreens instead, it is not nearly as effective as as banning them, so that we can use alternative sunscreens, so we can protect our oceans for future generations to enjoy, and enjoy the prosperous sea life which we try so hard to protect. So please, for our keiki and for the ocean pass SB2571.

For these reasons I am in STRONG support of SB2571

Mahalo for the opporitunity to testify

SB-2571-SD-1
Submitted on: 2/20/2018 8:54:52 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Paul S Montague	Individual	Support	No

Comments:

No need for chemical sunscreens. Please protect our fragile coral reefs.

SB-2571-SD-1
Submitted on: 2/20/2018 10:06:33 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Amy Fonarow	Individual	Support	No

Comments:

Aloha,

Please pass SB2571 SD1. Simply put, our reefs pay our rent. We cannot afford to keep trashing them.

Thank you.

Sincerely,

Amy Fonarow

SB-2571-SD-1
Submitted on: 2/20/2018 11:06:44 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Samantha Steenhuis	Testifying for Kaiser High School Student	Support	No

Comments:

SB-2571-SD-1
Submitted on: 2/21/2018 12:12:45 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
C. Daniel	Individual	Support	No

Comments:

Aloha, We went to a beach clean-up put on by the Waikiki Aquarium/UH. We were shocked as we learned: hormone disruptors, toxins, carcinogens, additives, preservatives in the majority of popular sunscreens can negatively affect corals, marine life & humans. We & our islands need help to change this and stop the toxic sunscreens sold in most stores in Hawaii that harm corals, marine life & humans. Aqua Astin Hotels have their commercials on TV to get the word out. Companies that make the majority of sunscreens need to re-think & reformulate. Our islands will have little or no coral, sick marine life, sick humans with little or no vsitors coming due to the devastation of sunscreens with toxic chemicals & the general public kids & adults not knowing, not being informed & inadvertiently doing harm to themselves, coral and marine life by using sunscreens with toxic chemicals, the majority of them being sold in stores across the islands. There is no hope for the near future if you do not ban toxic chemicals in sunscreens. We were shocked to learn some of the toxic chemicals cause cancer which no one child, teen or adult ever needs. Mahalo

SB-2571-SD-1
Submitted on: 2/21/2018 7:45:52 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Bob Kern	Individual	Support	No

Comments:

SB2571 SD1; CPH; Room 229; 2/22 10am

I STRONGLY SUPPORT SB2571 SD1 - Sale of sunscreen products containing oxybenzone or octinoxate. Sunscreen products containing oxybenzone and octinoxate damage precious coral reefs on which Hawaii's shoreline, beaches, recreation and tourist economy all depend. The toxic chemicals deform coral DNA and kill coral larvae as well as disrupt our hormones and contribute to higher risk of breast and prostate cancer, among other diseases. Even if we personally choose not to use these products we are being exposed when we stand near someone spraying them and we go in the water. Sunscreen formulations free of these harmful chemicals are already readily available throughout Hawai'i" and provide a very effective and safe means of protection. I urge you for the health and well being of all your constituents and our very important coral reefs to vote in favor of SB 2571.

Micki Stash

SB-2571-SD-1
Submitted on: 2/21/2018 9:12:46 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Nicole Bear	Individual	Support	No

Comments:

As a resident of Hawai'i I am deeply concerned about the health of our coral reefs, which are very important to our islands. One of the things affecting them, and one we can most immediately do something about, is their exposure to the chemicals oxybenzone and octinoxate, commonly found in many chemical sunscreens. These compounds have been shown to be toxic to corals, and negatively affect their growth, development, and ability to respond to and recover from stress events that cause bleaching, events that are becoming more and more common. Additionally, these chemicals also pose a threat to human health, with the potential to cause cancer and other diseases. We want people to be able to our enjoy our ocean and reefs, but not at the detriment to the reef environment, or to their own or other's health. There are many alternatives to sunscreens containing these compounds that are readily available, so banning products with these ingredients will cause no hardship to the public. Thank you for considering my comments.

SB-2571-SD-1
Submitted on: 2/21/2018 8:36:00 AM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Andrea Nandoskar	Individual	Support	No

Comments:

Please support this bill! Sunscreens containing oxybenzone and octinoxate damage precious coral reefs on which Hawaii's shoreline, beaches, recreation and tourist economy all depend. They toxic chemicals deform coral DNA and kill coral larvae so we are seeing less restoration after bleaching events. These chemicals can disrupt our hormones and contribute to higher risk of breast and prostate cancer, among other diseases. Even if we personally choose not to use these products we are being exposed. Sunscreen formulations free of these harmful chemicals are already available throughout Hawai'i. It's up to us to steward and protect our precious and irreplaceable natural resources for today and future generations. What will you tell your grandchildren when they ask what actions you took to ensure the protection of our aina and moana?

SB-2571-SD-1
Submitted on: 2/21/2018 3:44:45 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Jennifer Milholen	Individual	Support	No

Comments:

AMERICAN ACADEMY of DERMATOLOGY | ASSOCIATION

HDS
Hawai`i Dermatological Society

February 21, 2018

The Honorable Rosalyn H. Baker
Chair, Committee on Commerce, Consumer Protection, and Health
Hawaii Senate
Hawaii State Capitol, Room 230
Honolulu, HI 96813

Dear Chairperson Baker:

On behalf of the Hawaii Dermatological Society and the more than 13,500 U.S. members of the American Academy of Dermatology Association, we write to share our thoughts on SB 2571 SD1, which would prohibit the sale and distribution in Hawaii of ultraviolet sun protection factor sunscreen personal care products containing oxybenzone and octinoxate without a medically licensed prescription. As dermatologists, we dedicate our lives to promoting habits in our patients that ensure healthy skin. Ultraviolet radiation damages the skin's DNA, which is the beginning stage of skin cancer. We are concerned about policies that would remove access to sunscreens containing oxybenzone, a necessary ingredient for broad-spectrum sunscreens, thereby putting the public at increased risk of developing skin cancer. We urge you and your colleagues to strongly consider the broad implications of banning oxybenzone sunscreens, and bear in mind the dangers of sun exposure without adequate protection that Hawaii residents and visitors would face.

While multiple factors are contributing to the damage of our beautiful planet, the current scientific evidence on the effects of oxybenzone on coral reefs is not sufficient to establish a link. The only study claiming oxybenzone could be harmful to coral is based upon laboratory research, which does not accurately simulate the complex natural

marine environment.[1] According to a recent review of the ecological risks of oxybenzone, systematic monitoring and thorough toxicological studies are needed to better understand the risks of this ingredient in the aquatic environment.[2] The National Oceanic and Atmospheric Administration (NOAA) cites increased ocean temperatures, storm-generated runoff, overexposure to sunlight, and extremely low tides as contributors to the problem of coral bleaching.[3] The Great Barrier Reef Marine Park Authority of Australia conducted a study in 2016 that not only reported coral bleaching in remote areas unfrequented by human contact, but also points to rising ocean temperatures as the main suspected cause.[4]

Oxybenzone is one of the few FDA-approved sunscreen ingredients that provides broad-spectrum protection from the sun's harmful UVA and UVB rays. UVA damages deeper layers of the skin and contributes to the development of melanoma, the deadliest form of skin cancer. UVB is the primary cause of sunburn and plays a key role in the development of skin cancer in the skin's more superficial layers. In addition, both types of rays can cause suppression of the immune system.[5]

Unprotected sun exposure is the most preventable risk factor for skin cancer. According to current estimates, at least one in five Americans will develop skin cancer in their lifetime.[6] [7] Melanoma, the deadliest form of skin cancer, is now the second most common form of cancer for females aged 15-29 years old, and Caucasian men over 50 years of age are at a higher risk of developing melanoma than the general population.[8] [9] [10] [11] In Hawaii alone, 490 new cases of melanoma will be diagnosed in 2018.[12] Further, Hawaii has the highest rate of new melanoma diagnoses in the United States among Caucasians and the rate of new melanoma diagnoses among Caucasians is nearly triple the national average. Melanoma has the third fastest rising death rate among

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[1] Downs CA, Kramarsky-Winter E, Segal R, Fauth J, Knutson S, Bronstein O, Ciner FR, Jeger R, Lichtenfeld Y, Woodley CM, Pennington P. 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 US Virgin Islands. Archives of environmental contamination and toxicology. 2016 Feb 1;70(2):265-88.

[2] Kim S, Choi K. Occurrences, toxicities, and ecological risks of benzophenone-3, a common component of organic sunscreen products: a mini-review. Environment international. 2014 Sep 30;70:143-57.

[3] National Oceanic and Atmospheric Administration. What is Coral Bleaching?. http://oceanservice.noaa.gov/facts/coral_bleach.html

[4] Great Barrier Reef Marine Park Authority 2016, Interim report: 2016 coral bleaching event on the Great Barrier Reef, GBRMPA, Townsville.

[5] Lim HW, James WD, Rigel DS, Maloney ME, Spencer JM, Bhushan R. Adverse effects of ultraviolet radiation from the use of indoor tanning equipment: time to ban the tan. Journal of the American Academy of Dermatology. 2011 Apr 30;64(4):e51-60.

[6] Stern RS. Prevalence of a history of skin cancer in 2007: results of an incidence-based model. Arch Dermatol. 2010 Mar;146(3):279-82.

[7] Robinson JK. Sun Exposure, Sun Protection, and Vitamin D. JAMA 2005; 294: 1541-43.

[8] American Cancer Society. Cancer Facts & Figures 2017. Atlanta: American Cancer Society; 2017.

[9] Siegel RL, Miller KD, Jemal A. Cancer statistics, 2017. CA Cancer J Clin. 2017; 67:7-30.

[10] Little EG, Eide MJ. Update on the current state of melanoma incidence. Dermatol Clin. 2012:30(3):355-61.

[11] NAACCR Fast Stats: An interactive quick tool for quick access to key NAACCR cancer statistics. North American Association of Central Cancer Registries. http://www.naaccr.org/. (Accessed on 3-10-2016).

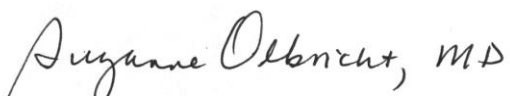
[12] American Cancer Society. Cancer Facts and Figures 2018. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2018/cancer-facts-and-figures-2018.pdf

cancers in Hawaii, and the death rate from melanoma in Hawaii is more than 30% higher than the national average.[13]

Dermatologists have an interest in patient and public access to safe and effective sunscreen ingredients. The U.S. Food and Drug Administration (FDA) is currently considering eight time-and-extent applications (TEAs) for new sunscreen ingredients to be added to the FDA over-the-counter (OTC) monograph. This issue highlights the need for new safe and effective ingredients to be introduced in the United States. With the approval of ingredients that utilize alternative UV filters available to sunscreen manufacturers, the public's health will be protected. Should scientific evidence on the effects of oxybenzone on coral reefs demonstrate a stronger link, concerns about preserving the environment can be allayed.

If Hawaii removes access or attaches stigma to sunscreens containing oxybenzone, an ingredient necessary for broad spectrum protection, the public will be placed at an even greater risk for skin cancer. We urge you and your colleagues to strongly consider this as you deliberate SB 2571 SD1. We appreciate the opportunity to provide written comments on this important public health issue. For further information, please contact Lisa Albany, director of state policy for the AADA, at LAlbany@aad.org or (202) 712-2615.

Sincerely,



Suzanne M. Olbricht, MD, FAAD
President
American Academy of Dermatology Association

Rodd H. Takiguchi, MD, FAAD
President
Hawaii Dermatological Society

cc: Members of the Committees on Commerce, Consumer Protection, and Health

[13] Environmental Protection Agency Office of Air and Radiation. Just the facts: Skin cancer in Hawaii. 2014. https://www.epa.gov/sites/production/files/2014-05/documents/sunsafety_fs_hawaii_v18_release_print.pdf

SB-2571-SD-1
Submitted on: 2/21/2018 11:33:25 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Harvy King	Testifying for High Crown	Support	No

Comments:

I am Harvy King, a trained environmental protection specialist.

There will soon be no visitors to welcome and be a witness to this majestic beauty. Who is going to spend money on, lodging, food, beverage, shopping, and transportation when Hawaii has lost her main attraction.

How many people around the world save up their hard earned dollars to come to Hawaii to see paradise? 8.9 million. The reason Hawaii receives these visitors is because of our well known exotic and pristine ecosystems. Our natural environment has already suffered and will continue to suffer if we don't mitigate the risk of these toxic substances being introducing into our waters. Tourism is the greatest economic benefit, but all of that revenue will come to a halt when the reefs are mere empty skeletons.

Please SUPPORT what is left of our reefs by supporting SB2571.

Mahalo Nui

Harvy

SB-2571-SD-1
Submitted on: 2/21/2018 11:36:11 PM
Testimony for CPH on 2/22/2018 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Maisa Thayer	Individual	Support	No

Comments:

To: State Senator Roz Baker

From: Maisa Thayer

Subject: Testimony is Support of SB2571

I am Maisa Thayer. As a graduate of Mid-Pacific Institute and California Maritime Academy, I've been a water woman my whole life. My humble family have all been residents of Kaneohe for three generations. How many people around the world save up their hard earned dollars to come to Hawaii to see paradise? 8.9 million. The reason Hawaii receives these visitors is because of our well known exotic and pristine ecosystems. Our natural environment has already suffered and will continue to suffer if we don't mitigate the risk of these toxic substances being introducing into our waters. Tourism is the greatest economic benefit, but all of that revenue will come to a halt when the reefs are mere empty skeletons. I've captained snorkel tours in Waikiki and witnessed the amount of sunscreen use along side the decline of our reef. My industry as boat captain on snorkel tours is at risk, because if we loose our reefs I will loose my entire product and service. Outside of Waikiki is constantly murky and we already battle other boats with limited locations that have live coral and marine life.

There will be no visitors to welcome and be a witness to this majestic beauty. Who is going to spend money on, lodging, food, beverage, shopping, and transportation when Hawaii has lost her main attraction.

Please SUPPORT what is left of our reefs by supporting SB2571.

Mahalo Nui