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
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Testimony COMMENTING on H.B. 2723, HD1

RELATING TO PRESERVING CORAL REEFS

REPRESENTATIVE ROY TAKUMI, CHAIR
REPRESENTATIVE LINDA ICHIYAMA, VICE CHAIR

COMMITTEE ON CONSUMER PROTECTION AND COMMERCE

Hearing Date: February 13, 2018 Room Number: 329
Time: 2:00 P.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: H.B. 2723 seeks to prohibit the sale of non-prescription sunscreen protection personal care products containing oxybenzone beginning in 2023. 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 in the marine environment may be high enough to pose deleterious effects on coral reef ecosystems. Oxybenzone may have negative effects on human health as well. However, oxybenzone is one of eight FDA approved ingredients currently in use that play an important role in reducing the risk of some forms of skin cancer, so balancing public health protection here in Hawaii is a very important consideration. Oxybenzone is 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.

This measure seeks to amend Chapter 328 to implement the ban. The Department is hesitant to take on responsibility for this ban without having a clear understanding of the safety, efficacy and user acceptance of alternative sunscreen products to protect public health. Further, implementation of this measure by the Department would 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 related chemicals 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 use while safely enjoying our tropical marine waters and sunny beaches throughout Hawaii. The Department also supports academic and applied research 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.

OFFICE OF HAWAIIAN AFFAIRS
Legislative Testimony

HB2723 HD1
RELATING TO PRESERVING CORAL REEFS
House Committee on Consumer Protection & Commerce

February 13, 2018 2:00 p.m. Room 329

The Office of Hawaiian Affairs (OHA) **SUPPORTS** HB2723 HD1, which would mitigate the impacts of oxybenzone 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 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

[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.

may not only directly reduce the impacts of oxybenzone 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.

OHA notes that HB2264, a similar measure to this bill, would prohibit the sale or distribution of skin care products containing a broader range of chemicals believed to harm coral reefs, including both oxybenzone and octinoxate, and would do so without restricting further regulation by the counties. **OHA therefore respectfully recommends the consideration of provisions of HB2264 that may more comprehensively address the chemical threat posed by certain sunscreen products to our coral reefs.**

Accordingly, OHA urges the Committee to **PASS** HB2723 HD1. Thank you for the opportunity to testify on this measure.

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 House Committee on
CONSUMER PROTECTION & COMMERCE

Tuesday, February 13, 2018
2:00 PM
State Capitol, Conference Room 329

In consideration of
HOUSE BILL 2723, HOUSE DRAFT 1
RELATING TO PRESERVING CORAL REEFS

House Bill 2723, House Draft 1, prohibits the sale of sunscreen containing oxybenzone, unless the sunscreen is a prescription drug, effective 1/1/2023. It also prohibits the counties from further banning or otherwise regulating sunscreens containing oxybenzone or other ingredients approved by the United States Food and Drug Administration. **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 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 may benefit the health and resiliency of Hawai‘i’s coral reef ecosystems. The Department recommends support of increased monitoring of sunscreen related chemicals 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 human health 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 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 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.

Eileen O'Hara
Council Member
Council District 4

Chair: *Environmental Management Committee*

Phone: *(808) 965-2712*
Fax: *(808) 961-8912*
Email: eileen.ohara@hawaiicounty.gov

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

Representative Chris Lee
Chair, House Committee on Energy and Environmental Protection
Hawai'i State House of Representatives

February 1, 2018

Re: In Support of House Bill 2723, from Hawai'i County Council District 4.
To be heard by EEP on 02-06-18 8:30AM in House conference room 325

Aloha Chair Lee and Committee Members:

I'm writing to express my support for House Bill 2723, which prohibits the sale of sunscreen containing oxybenzone, unless the sunscreen is a prescription drug.

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: House CPC Committee Roy Takumi Chair
Linda Ichiyama, Vice Chair
Re: HB 2723 HD1 to Ban Sunscreens Containing oxybenzone after 2023; Preempts County Regulations
Hearing: Tuesday, February 13, 2018, 2pm, Room 329
Position: Comments Only

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 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). Studies showing these sunscreen chemicals are in our local fish is frightening. Even if we choose to avoid these sunscreen products, our health is put at risk, by inhaling them at the beach, swimming in them, eating them. Now oxybenzone is even showing up in our aquifers and drinking water. It seems 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 – attached are recent findings of drinking water Dr. Craig Downs took on Oahu). These chemicals can disrupt our hormones and contribute to higher risk of breast and prostate cancer, among other diseases.

We are also 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. The coral scientists we have met with seem to agree non-nano zinc is a much better option.

This bill should be amended: 1. remove the anti-democratic county preemption; 2. implement ban by 7/1/20 rather than 1/1/23, sufficient time to eliminate inventories and update formulations; 3. Include a ban on octinoxate; 4. Substitute precise chemical definitions of oxybenzone & octinoxate from HB2264 for the less precise definitions in this bill."

Mahalo, Wil McClaren, Ban Toxic Sunscreen

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.

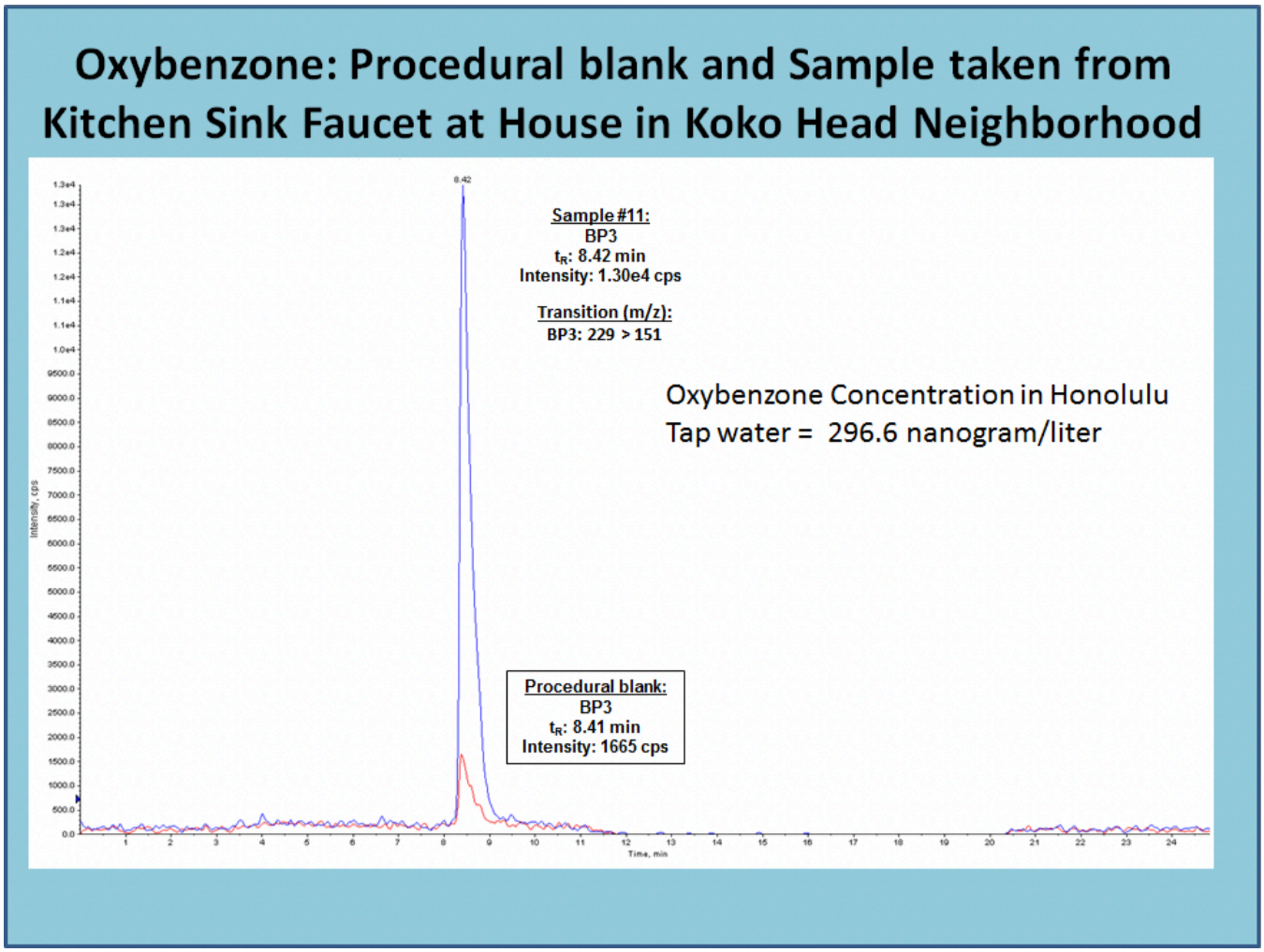
We wanted to test the hypothesis that Honolulu municipal potable water was contaminated with sewage chemicals. We only looked at one chemical: Oxybenzone.

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?



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

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

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.

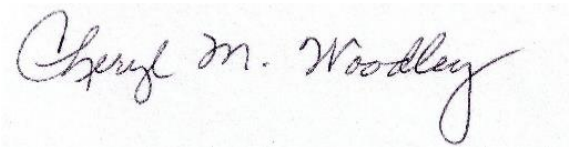
I am a NOAA scientist working within the National Ocean Service's National Centers for Coastal Ocean Science. I have over 30 years of experience in molecular and cellular biology, biochemistry and pathobiology, which I have applied to aspects of coral health and disease research for the past 20 years. 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.

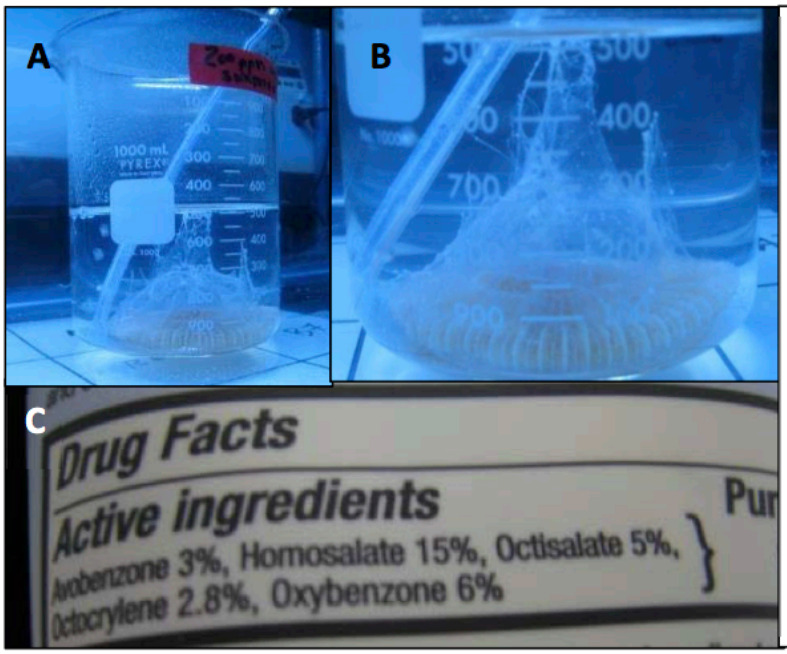


Fig. 1. Exposure-response of *Fungia* coral to commercial sunscreen lotion formulation. This experiment was to evaluate the response of coral to a water-accommodated fraction (WAF) of a commercial sunscreen formulation and to determine the amount of sunscreen components that are taken up into coral tissues. 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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G.K. Ostrander. 2011. A survey of environmental pollutants and cellular−stress markers of Porites astreoides at six sites in St. John, U.S. Virgin Islands. Ecotoxicology 20: 1914−1931.
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[22] Paredes, E., Perez, S., Rodil, R., Quintana, JB, Beiras, R. 2014. Ecotoxicological evaluation

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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[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

February 9, 2018

Representative Roy Takumi, Chair
Representative Linda Ichiyama, Vice Chair

Members of the House Committee on Consumer Protection and Commerce
Twenty-Ninth Legislature
Regular Session 2018

RE: SUPPORT for House Bill 2723, HD1 – RELATING TO PRESERVING CORAL REEFS
Hearing Date – Tuesday, February 13, 2016

Dear Chair Takumi, Vice Chair Ichiyama and members of the Committee on Consumer Protection and Commerce:

On behalf of Bayer, I write to express support for House Bill 2723, HD1 which would establish a timeline for the removal of oxybenzone from sunscreen products sold and used in the State of Hawaii. Bayer is one of the world's leading, innovative, life science companies. Bayer's aim is to discover, develop, manufacture, and market products that will improve human, plant, and animal health worldwide.

As the manufacturer of Coppertone sunscreens, Bayer is committed to providing a wide variety of safe and effective sun protection products to consumers. To ensure that these products provide broad spectrum protection from the sun, Bayer – like most sunscreen manufacturers in the United States – depends on a limited number of Food and Drug Administration (FDA) approved ingredients, including oxybenzone. Despite the fact that scientific evidence does not demonstrate that banning sunscreens containing oxybenzone is likely to have any measurable impact on the health of Hawaii's coral reefs – which are threatened primarily from causes associated with global warming, sewage discharge, and over fishing – we are sensitive to the concerns Hawaii residents have related to the decline in coral health and commend the Legislature's efforts to protect this natural treasure.

Unfortunately, Bayer's ability to provide consumers a full range of oxybenzone free sun protection products has been hampered by the lack of U.S. market introduction of new sunscreen ingredients. Currently, there are limited active ingredients available within the U.S. that have the same proven effectiveness as oxybenzone for sunscreens over SPF 50 and no new sunscreen ingredients have been introduced into the U.S. market in over 15 years.

1201 K Street, Suite 1030 / Sacramento, CA 95814 / (916) 208-4761

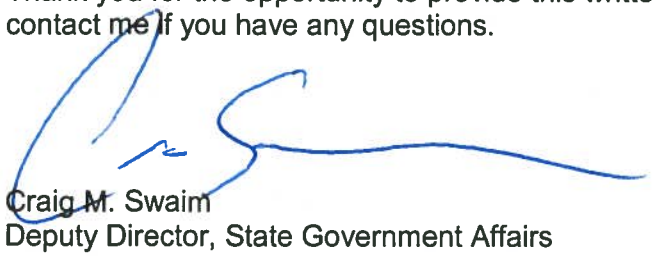
There are currently eight sunscreen ingredients pending review and approval from the FDA, several of which have been pending for over a decade. Bayer is committed to working with the FDA and other stakeholders to expedite the approval process and to bring more innovative sunscreen products to the U.S.

As such, Bayer has serious concerns with efforts to ban oxybenzone before the FDA has approved alternative ingredients and without allowing adequate time for manufacturers to reformulate their products with these ingredients. Proposals to ban oxybenzone threaten the health and safety of Hawaii residents and visitors by limiting consumer choice to lower SPF and less effective sunscreen products.

By delaying implementation until 2023, Bayer believes that HB 2723, HD1 takes a more measured approach and balances the State's desire to reduce the level of oxybenzone found in the marine environment with its obligation to protect the health and safety of its residents and visitors. Further, by ensuring a uniform statewide standard for the regulation of sun protection products containing FDA approved ingredients, the legislation will give manufacturers the certainty necessary to invest the time and resources needed to reformulate their products.

For these reasons, Bayer supports HB 2723, HD1.

Thank you for the opportunity to provide this written testimony and please do not hesitate to contact me if you have any questions.



Craig M. Swaim
Deputy Director, State Government Affairs
West Region

CHPA CONSUMER HEALTHCARE PRODUCTS ASSOCIATION
founded 1881

February 13, 2018

The Honorable Roy M. Takumi
Chairman, Committee on Consumer Protection & Commerce
Hawaii State Capitol, Room 329
415 South Beretania Street
Honolulu, HI 96813

RE: Opposition to HB 2723, HD 1 – relating to preserving coral reefs

Dear Chairman Takumi:

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 HB 2723, HD 1 under consideration by the House Committee on Consumer Protection & Commerce (CPC) on Tuesday, February 13th. HB 2723, HD 1 seeks to regulate the Food and Drug Administration (FDA) approved ingredient oxybenzone in sunscreen. 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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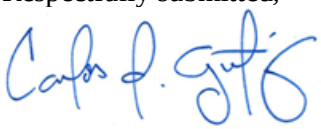
[1] Rodgers, K.S. et al., 2017 Patterns of bleaching and mortality following widespread warming events in 2014 and 2015 at the Hanauma Bay Nature Preserve, Hawai'I, *Peer J* https://doi.org/10.7717/peerj.3355)

[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 House CPC Committee withdraw the proposal to ban oxybenzone. 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 Consumer Protection and Commerce

Environmental Caucus
of the Democratic Party of Hawai'i

February 12, 2018

To: House Committee on Consumer Protection and Commerce
Rep. Roy M. Takumi, Chair
Rep. Linda Ichiyama, Vice Chair

Re: HB 2723 - Sunscreens
Hearing: Tuesday, February 13, 2018, 2:00 p.m. Room 329

Position: Conditional **OPPOSITION**

The Environmental Caucus of the Democratic Party of Hawai'i supports bills to ban or limit sunscreens that contain oxybenzone and octinoxate. These two toxins are endocrine disruptors that scientific evidence already shows damage corals, fishes, marine invertebrates, and indeed mammals, such as humans, and the potential damage is **cancer**. They threaten human health, and they must be removed.

For these reasons, the Environmental Caucus strongly urges that HB 2723 be amended to (1) include octinoxate as a banned chemical; (2) the effective date of the bans be advanced to January 1, 2020 – the industry is able to handle this; and (3) remove the pre-emption provision that prevents county bans. **Unless these changes are made, the Environmental Caucus opposes this bill**.

Another Committee of the House had a golden opportunity to advance an excellent bill on this subject, HB 2264, but that bill has been left on the shelf in favor of this much weaker bill. We are very disappointed.

Here are some of the scientific references relating to oxybenzone and octinoxate as endocrine disruptors in **humans**: (1) Gray et al (2017) State of the evidence 2017: an update on the connection between breast cancer and the environment. Environ Health. https://doi.org/10.1186/s12940-017- 0287-4; (2) Phiboonchaiyanan et al (2016) Benzophenone-3 increases metastasis potential in lung cancer cells via epithelial to mesenchymal transition. Cell Biol Toxicol DOI: 10.1007/s10565-016-9368-3. (3) Kerdivel et al (2013) Estrogenic potency of benzophenone UV filters in breast cancer cells: proliferative and transcriptional activity substantiated by docking analysis. PLoS One 8:e60567; (4) Harvey & Darbre (2004) Endocrine disruptors and human health: could estrogenic chemicals in body care cosmetics adversely affect breast cancer incidence in women? J Applied Toxicology 24:167-176.

Environmental Caucus of the Democratic Party of Hawai'i
627 South Street Honolulu, HI 96813
ecodemhi@gmail.com

We also believe that this bill should be anchored to Hawai‘i Revised Statutes Chapter 342D, water pollution, rather than HRS Chapter 328, cosmetics. We note that, under Chapter 342D, the Department of Health has a responsibility to prevent, control and abate water pollution and to implement standards under the federal Clean Water Act. DOH has indeed long ago already issued Water Quality Standards rules under Hawai‘i Administrative Rules Chapter 11-54.

Under these regulations, the Department of Health should **already** be regulating sunscreens containing oxybenzone and octinoxate and barring them from our marine waters. However, we note with much disappointment that the Department of Health has already testified **against** taking up this (already existing!) responsibility in a negative response to SB 2571, another sunscreen bill closely similar to HB 2264.

Thank you for this opportunity to testify.

Alan B. Burdick, Chair
Environmental Caucus
Burdick808@gmail.com/ 486-1018

Dedicated to the conservation of coastal and marine environments, emphasizing stewardship of the natural resources of Hanauma Bay

To: House Committee on Consumer, Protection and Commerce

Roy Takumi, Chair
Linda Ichiyama, Vice Chair

Re: HB2723, Relating to Preserving Coral Reefs

Hearing: Tuesday, February 13, 2018, 2 p.m., Room 329

Position: SUPPORT WITH AMENDMENTS

Aloha Chair Takumi, Vice Chair Ichiyama, and other Committee members, thank you for the opportunity to testify in SUPPORT of HB2723 WITH AMENDMENTS.

TESTIMONY IN GENERAL SUPPORT OF THE BILL

Chapter 11-54 of the Department of Health (DOH), Hawaii Administrative Rules (HAR) effective May 20, 2015 states the water quality standards in effect for **Federal Clean Water Act** (CWA) purposes for the State of Hawaii.

In accordance with DOH HAR Chapter 11-54-4 stating basic water quality criteria applicable to all waters,

(a) **All waters shall be free of substances attributable to domestic, industrial, or other controllable sources of pollutants**, including:

> (2) Floating debris, oil, grease, scum, or other floating materials;
>
> (3) Substances in amounts sufficient to produce **taste in the water** or detectable off-flavor in the **flesh of fish**, or in amounts sufficient to produce objectionable color, turbidity or other conditions in the receiving waters."

Sunscreens are a controllable source of pollutant and introduce a layer of oily scum that can be seen floating on the surface of the water. This scum can also be smelled and tasted in the water and fish.

Notable scientific evidence from years of research shows that two chemicals found in sunscreen, oxybenzone and octinoxate, are toxic to coral and threaten the health of reefs. These chemicals bioaccumulate in corals and cause developmental deformities, cellular degradation, and tissue lysis in coral larvae, which makes them unable to swim and settle out to form new coral colonies. In addition, exposure to oxybenzone and octinoxate makes coral more

susceptible to bleaching at lower temperatures, and reduces the resiliency of a reef and its ability to recover from the impacts of other environmental hazards.

Attached testimony:

Dr. Cheryl Woodley, PhD, Coral Health and Disease Program and Coral Disease and Health Consortium, NOAA

Oxybenzone and octinoxate also have negative effects on human health. These chemicals are readily absorbed in the body and have been linked to many adverse health problems including:
- disruptive reproductive effects like reduce sperm viability;
- metastasis of breast cancer and lung cancer;
- Hirschsprung's Disease;
- endometriosis; and
- low birth weights.

http://dx.doi.org/10.1016/j.chemosphere.2015.09.019

http://doi.org/10.1002/jat.3525

Since sunscreen products are by far the largest source of oxybenzone and octinoxate products in our ocean, it is imperative that we ban the over-the-counter sale of sunscreen products that contain these two ingredients.

The Department of Health has the authority to institute "best management practices" (BMPs) to prevent or reduce the pollution of State waters. These BMPs include methods, measures or practices to meet non-point source pollution control needs. (HAR Chapter 11-54-1)

DOH HAR Chapter 11-54 further classifies the marine waters around our State as Class AA or Class A Waters and embayments. Of note, Appendix B lists **12 areas of Class AA marine water in the State of Hawaii - including Hanauma Bay**:

Hawaii - Puako Bay, Waiulua Bay, Anaehoomalu Bay, Kiholo Bay, Kailua Harbor, Kealakekua Bay, Honaunau Bay

Oahu - Waialua Bay, Kahana Bay, Kaneohe Bay, Hanauma Bay

Kauai - Hanalei Bay

In accordance with DOH HAR Chapter 11-54-3 (c)(1):

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"It is the objective of class AA waters that **these waters remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions**. To the extent possible, the wilderness character of these areas **shall be protected**."

"The uses to be protected in this class of waters are oceanographic research, the support and propagation of shellfish and other marine life, conservation of coral reefs and wilderness areas, compatible recreation, and aesthetic enjoyment."

Sunscreen pollution of our Class AA marine waters is a human-caused alteration of the water quality of our Class AA marine waters. Continuing to allow this controllable human-caused point-source pollution in the form of sunscreen containing oxybenzone and/or octinoxate that are known reef-toxins and pose human health hazards violates Hawaii's compliance with the Clean Water Act governing Class AA marine waters.

In accordance with DOH HAR Chapter 11-54-1.1 stating the general policy of water quality anti-degradation,

> (a) Existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected"; and
>
> (c) **Where existing high quality waters constitute an outstanding resource**, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, **that water quality shall be maintained and protected**."

Allowing the continued use of sunscreen containing oxybenzone and/or octinoxate which are known reef-toxins and pose threats to human health violates the Clean Water Act mandate to maintain the high quality of waters the State of Hawaii designates an outstanding resource, like our Class AA marine waters.

SUMMARY: Hawaii residents expect and demand that our fresh and marine waters meet the requirements for Hawaii's compliance with the Federal Clean Water Act (DOH HAR Chapter 11-54). DOH has the responsibility, authority and obligation to ensure those requirements are met. Passing legislation like this, with our amendments, is **a critical tool** in DOH's arsenal to ensure that all waters shall be free of substances attributable to domestic, industrial, or other controllable sources of pollutants - especially Class AA marine waters like Hanauma Bay.

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Friends of Hanauma Bay is a Section 501(c)(3) not-for-profit charitable organization
Federal Tax Identification Number 99-0285649

Dedicated to the conservation of coastal and marine environments, emphasizing stewardship of the natural resources of Hanauma Bay

RECOMMENDED AMENDMENTS TO HB2723

SECTION 1 - recommend amending the wording of this section to include oxybenzone and/or octinoxate instead of only oxybenzone as bracketed in the following paragraph:

SECTION 1. The legislature finds that coral decline poses a significant threat worldwide. While scientists from around the world agree that the primary causes of coral decline are related to global warming, agricultural runoff, sewage, and overfishing, recent studies have shown that oxybenzone [and octinoxate], two common sunscreen ingredients, may also have detrimental effects on coral reefs. The threat is particularly acute in Hawaiian ocean waters where coral bleaching is occurring at a historic rate never previously recorded.

The legislature further finds that skin cancer poses a significant threat to the health of Americans and that 3,500,000 skin cancer cases, including seventy-five thousand new cases of invasive melanoma, are diagnosed in the United States annually. Sunscreens play a vital role in protecting Hawaii residents and visitors from dangerous ultraviolet rays and in preventing skin cancers. The State must balance its need to protect Hawaiian ocean waters and coral reefs with the need to protect the public's health and safety. Therefore, any action taken to ban sunscreen ingredients approved by the United States Food and Drug Administration must be done in a manner that does not jeopardize the health of Hawaii's residents and visitors while providing access to a wide range of safe and reliable sun protection products for all skin types.

The legislature further finds that although reasonable alternatives to oxybenzone [and/or octinoxate] currently exist for low sun protection factor sunscreens, and a new generation of photostable, broad spectrum sunscreens offering both ultraviolet A and ultraviolet B protection is available outside the United States, the development of oxybenzone [and octinoxate] -free alternatives for higher sun protection factor products has been substantially delayed in the United States due to the United States Food and Drug Administration delay in approving new sunscreen ingredients. In fact, the United States Food and Drug Administration has not approved a new sunscreen ingredient since the 1990s.

The legislature believes that given a reasonable timeframe for reformulation and United States Food and Drug Administration approval of new ingredients, it is possible for sunscreen manufacturers to provide a full range of oxybenzone[/octinoxate] -free sunscreen products that will allow beach users to enjoy the outdoors without compromising sun protection.

The purpose of this Act is to protect Hawaii's coral reefs by prohibiting the sale of sunscreens containing oxybenzone [and/or octinoxate] without compromising Hawaii residents' and visitors' ability to protect themselves from sunburns and the damage caused by harmful ultraviolet A and ultraviolet B rays.

SECTION 2 (a) - Sunscreens are subject to 24 hour recall by the FDA, so allowing manufacturers 2 years is more than sufficient time for them to clear the shelves of sunscreens containing oxybenzone and/or octinoxate. Recommend amending the following paragraph to an

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effective date of July 1, 2020 instead of January 1, 2023 and adding octinoxate, as follows:

Beginning [July 1, 2020], no person shall sell a sunscreen containing oxybenzone [and/or octinoxate] in Hawaii, unless the sunscreen is a prescription drug as defined in section 328-112.

SECTION 2 (b) - recommend the deletion of this paragraph. Prohibiting Counties from enacting ordinances banning the sale of sunscreens that introduce scientifically proven reefs toxins like oxybenzone and/or octinoxate into their near-shore environments is undemocratic and does not reflect the will of neighbor island residents

SECTION 2 (c) - Replace Section 2(c) with the following underlined paragraphs which provide a more specific scientific definition of oxybenzone and octinoxate:

For purposes of this section:

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

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

"Sun protection factor sunscreen/product " means any sunscreen, sunblock, or suntan product that is subject to regulation under title 21 Code of Federal Regulations part 352; provided that "sun protection factor sunscreen/product" does not include any cosmetic as defined in section 328-1.

Mahalo for the opportunity to testify today.

Lisa Bishop
Friends of Hanauma Bay

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HB-2723-HD-1
Submitted on: 2/12/2018 4:22:09 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Benton Kealii Pang, Ph.D.	Hawaiian Civic Club of Honolulu	Support	No

Comments:

HB-2723-HD-1
Submitted on: 2/12/2018 1:50:35 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Melodie Aduja	OCC Legislative Priorities Committee	Oppose	No

Comments:

Personal Care Products Council
Committed to Safety, Quality & Innovation

February 13, 2018

The Honorable Roy Takumi
Chair, Committee on Consumer Protection and Commerce
State Capitol, Room 329
415 South Beretania Street
Honolulu, HI 96813

RE: Opposition to House Bill 2723

Chair Takumi:

On behalf of the Personal Care Products Council (the Council), I am writing to express opposition to House Bill 2723, which prohibits the sale of nonprescription sunscreen products containing oxybenzone.

The Council is the leading national trade association representing the cosmetic and personal care products industry. The Council's approximately 600 member companies manufacture and distribute 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 seriously. However, House Bill 2723 does not address the main causes of coral bleaching, which NOAA (National Oceanic and Atmospheric Administration) states as being 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 point out 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."

A single study (published by Downs et al. in 2015) linking sunscreens to coral bleaching has been used as a justification for the bill. However, it is not common practice to base regulation or legislation on a single ecotoxicological study. More commonly, these decisions are based on a body of evidence that leads the scientific community to draw solid conclusions and form a scientific consensus. As things stand, the Council has a number of concerns over the experimental design and conclusions that were drawn based on the data presented in this study. In particular, the conclusions were based on the results of tests conducted on coral species that are not native to Hawaii. It is also questionable whether results of *in vitro* cell line assays can be used as a proxy for coral bleaching. Other questionable experimental aspects include the use of a non-validated test system, inappropriate use of carrier solvents, lack of chemical analysis throughout the experiment and questions over how EC_{50} values were derived. In addition, the high levels of oxybenzone detected by Downs et al. compared to those that have been detected by several other studies raise questions over the validity of these data. Overall, the available data do not support the conclusion that oxybenzone and other sunscreens pose an unacceptable environmental risk.

While the coral bleaching events are of great importance, of similar great concern is the prevalence of skin cancer diagnoses and deaths. Skin cancer is the most common cancer in the U.S. 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.

Oxybenzone is an FDA approved critical ingredient to the U.S. sunscreen market. It is a broad spectrum sunscreen, absorbing both UVA and UVB rays, that also photostabilizes other sunscreens to provide long lasting protection. The cost of oxybenzone containing sunscreens is substantially less than other alternative ingredients. Consumer costs for effective sunscreen products that have the same or similar high SPF levels will increase significantly with no measurable environmental impact.

House Bill 2723, although well intended, lacks the necessary scientific evidence to demonstrate that this sunscreen ingredient is responsible for Hawaii's coral bleaching. Moreover, skin cancer is the most commonly diagnosed cancer in the United States. We fear this legislation 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 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 one, selectively chosen, laboratory experiment, it would seem appropriate to support further research, and not rush to judgment. Please oppose House Bill 2723.

Thank you for your consideration.

Sincerely,

Iain Davies

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

TESTIMONY OF TINA YAMAKI
PRESIDENT
RETAIL MERCHANTS OF HAWAII
February 6, 2018

HB 2723 RELATING TO PRESERVING CORAL REEFS
HB 2264 RELATING TO THE ENVIRONMENT

Good morning Chairman Lee and members of the Committee on Energy & Environmental Protection. I am Tina Yamaki, President of the Retail Merchants of Hawaii and I appreciate this opportunity to testify.

The Retail Merchants of Hawaii (RMH) is a statewide not-for-profit trade organization is committed to support the retail industry and business in general in Hawaii. The retail industry is one of the largest employers in the state, employing 25% of the labor force.

The Retail Merchants of Hawaii opposes HB 2723 Relating to Preserving Coral Reefs and HB 2264 Relating to the Environment. Retailers continue to be concerned about our land and ocean, and have supported many initiatives that preserve and protect our environment. However, we need to maintain a fair balance regarding the environment, sunscreen, sunblock and other sun products.

Banning the use and sale of sunscreen and other products is not the one-shot solution that will solve the issues surrounding the coral reefs. Consumers, both visitors and kama`aina may have very limited choices on sunscreen and products that are often less effective at blocking the sun and may cost a lot more. This would especially be true if many octinoxate and oxybenzone free alternatives are not available, are price sensitive or if the US Food and Drug Administration does not approve new sun screen alternative ingredients by the effective date of this measure.

We may also run the risk of people no longer wearing sunscreen and thus increasing their chances of skin cancer. This ban would also penalize those who do not go to the beach but use sunscreen on a regular basis like hikers, golfers, tennis players and joggers to name a few.

Hawaii's retailers unquestionably support initiatives to preserve and protect our environment. However, the solution to the issue of oxybenzone and octinoxate type based products is not in a total ban. More education and comprehensive studies of the coral reefs in their natural environment are needed. And we must be sure that there are truly a large variety of effective non-oxybenzone and non-octinoxate type based products that are easily available and are not cost prohibitive.

Mahalo for this opportunity to testify.

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

HOUSE COMMITTEE ON CONSUMER PROTECTION AND COMMERCE

Tuesday, February 13, 2018 2:00PM Conference Room 329

In SUPPORT of HB 2723 HD1 Relating to preserving coral reefs

Aloha Chair Takumi, Vice Chair Ichiyama and members of the Committee,

On behalf of our 20,000 members and supporters, the Sierra Club of Hawaiʻi, a member of the Common Good Coalition, **supports the intent of HB 2723 HD1**, which seeks to prohibit the sale of sunscreen containing oxybenzone, unless the sunscreen is a prescription drug beginning January 1, 2023. The Sierra Club of Hawaiʻi supports the *intent* of this measure, and offers the following two amendments:

- ***The ban should take place immediately*, or, at the very latest, effectuate on January 1, 2019.**
- **The language prohibiting counties from enacting any ordinance or regulatory restriction *should be removed*.**

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

[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

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].

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 HB 2723 HD1 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, HB 2723 HD1 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.

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[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/
[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 support the intent of HB 2723 HD1 and urge the committee to consider the amendments we have provided.

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

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.

HB2723 HD1

Sunscreen; Oxybenzone; Beaches; Ocean

February 13, 2018, 2:00p.m.

Relating to Preserving Coral Reefs

EEP; CPC; FIN

Aloha Chair Takumi, Vice Chair Ichiyama, and members of the committee. My name is Charessa Fryc and I am speaking on behalf of the Sierra Club Student Coalition. We stand in support of HB2723 HD1 Relating to Preserving Coral Reefs. HB2723 HD1 is Crucial to saving our ocean life and coral reefs. HB2723 bans the sale of Oxybenzone, which is used in popular sunscreens is a harmful chemical that damages our coral reefs and harms sea life.

Most people in Hawai'i, whether they are tourists or locals, sunscreen is used daily, and it's affecting our ocean life. An October 2015 Study examines the effects of oxybenzone on coral larvae, and found that it induces coral bleaching by lowering the temperature, and from prolonged heat stress will then bleach. The study also concluded that oxybenzone was found to be genotoxic, meaning thatis damages the coral's DNA and induces severe lethal deformities. In Hawaii alone the oxybenzone levels are higher than the rest of the nation. HB2723 Bans the sale of Oxybenzone, unless it is used for a prescription. Banning the sale of Oxybenzone sunscreens will greatly reduce the risk our oceans face, by replacing them with more sustainable sunscreen options, and reducing the use of oxybenzone on our beaches. I implore you to pass HB2723 to preserve our coral reefs for our keiki, and many generations to come. 54

For these reasons, we are in Strong support of HB2723 HD1 due to the harmful effects that oxybenzone has on coral reefs, and our responsibility to stop the sales of oxybenzone.

Mahalo for allowing the Sierra Student Coalition to testify.

Citation for study mentioned above:
Craig Downs, Ph.D *A Serious and Increasingly clear Threat to Coral* 18 March 2016
Marinesafe.org

HB-2723-HD-1
Submitted on: 2/9/2018 2:38:16 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Margaret Maupin		Support	No

Comments:

HB-2723-HD-1
Submitted on: 2/10/2018 9:44:44 AM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Shyla Moon		Comments	No

Comments:

I would suggest listening to the state health department and their concerns.

In Opposition to HB2723 HD1

Aloha Representatives and Mahalo for all the work you are doing to keep Hawaii's environment and people safe. Unfortunately, I am opposed to HB2723 HD1 for the reasons noted below. I am in defense of banning Oxybenzone and Octinoxate in products sold in Hawaii, however, HB2264, SB2571 or similar are a better representation of the dangers associated with these chemicals and, therefore, I respectfully request that these bills be given a higher priority with respect to your approval.

Mahalo, Joe DiNardo – Hawaiian Tourist and Toxicologist.

1) **"Sunscreens play a vital role in protecting Hawaii residents and visitors from dangerous ultraviolet rays and in preventing skin cancers." – This is an unsubstantiated claim based on personal opinion – not data!**
Based on scientific data there is no evidence that sunscreens do anything to prevent skin cancer, in fact, skin cancer rates around the world have dramatically increased over the last 40 years. The term **"Sunscreen Abuse"** has been given to the overuse of high SPF products (above SPF 30) that yield a false sense of security from UV exposure causing people to stay in the sun longer which increases the chances of developing skin cancer.

2) "**More effective EU sunscreen actives available"** and the **"delay"** in approval by FDA … [FDA summary of the Sunscreen Innovation Act (SIA) can be found at https://www.gao.gov/products/GAO-18-61]. FDA, as of August 2017, "required industry to provide more data to determine that the ingredients are safe and effective." Industry has not provided any additional data to FDA. Additionally, many of the EU actives appear to be more toxic than either Oxybenzone or Octinoxate with respect to bioaccumulation, biomagnifications and toxicity concerns.

3) **"Reasonable alternatives to oxybenzone currently exist for lower sun protection factor sunscreens."** According to the FDA database for Over-the-Counter drugs, there are currently 3,417 sunscreen products that do not contain either Oxybenzone or Octinoxate with SPF values between 15 and 50. There is no reason to believe that banning these 2 chemicals will have any negative impact to consumers (https://www.fda.gov/drugs/informationondrugs/ucm142438.htm).

4) **"This Act shall take effect on January 1, 2023"** … Oxybenzone and Octinoxate have at least doubled in concentration in the Hawaiian waters from 2015 to 2017. Simply waiting for either the personal care industry or FDA to do something to remove these chemicals from products "by 2023" will only increase the concentration of these chemicals in Hawaii's water, wildlife and humans.

HB-2723-HD-1
Submitted on: 2/11/2018 12:57:15 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Stephany Cecil	Individual	Support	No

Comments:

I support ocean and reef protection initiatives in Hawaii.

HB-2723-HD-1
Submitted on: 2/11/2018 4:17:39 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

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

Comments:

Please DO pass oxybenzone legislation - but NOT at the expense of limiting county rights.

This is a dangerous bill, because it limits the rights of counties to regulate oxybenzone and all other harmful sunscreen chemicals at the county level.

Mahalo.

HB-2723-HD-1
Submitted on: 2/11/2018 4:00:18 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Carlton York	Individual	Support	No

Comments:

There are many safer ways to obtain sunscreen , Natural coconut oil works well and obtainable locally , Strong for support this Bill !

HB-2723-HD-1
Submitted on: 2/11/2018 7:43:12 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

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

Comments:

The research is in and this stuff is killing the reefs. That kills our economy and our foods source. We need to protect our air, land, and water for the next generation. Please consider the future and what our children will have to deal with if we continue to ignore these issues.

HB-2723-HD-1
Submitted on: 2/11/2018 9:48:31 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
djemila tassin	Individual	Support	No

Comments:

Dear House members,

My name is Djemila Tassin, I am a senior student at HPU in Marine Sciences,

I just bought today a reef safe with no oxybenzone and only made with natural products (they were selling it at the Ukulele picnic festival...) !! It was 25 Dollars for a body cream + a face stick. As a consummer I think we always have a choice because we will probably spend this money anyway, we just choose where to put it. And in Case this Bill goes into Law (which will be one of the best news from the year) I am sure the skilled and smart companies will be able to produce sunscreen with alternative producs that do not harm our childrens and our corals exactly as this one has already done !! And Hawaii will be THE new example to follow for the rest of the world concerned about their own corals!!

Please, make this change happen for our futur generations and ourselves!

Respectfully,

Djemila

HB-2723-HD-1
Submitted on: 2/11/2018 9:56:01 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
laura Ramirez	Individual	Support	No

Comments:

HB-2723-HD-1
Submitted on: 2/12/2018 1:28:35 AM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Shannon Rudolph	Individual	Support	No

Comments:

Support

HB-2723-HD-1
Submitted on: 2/12/2018 11:28:36 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Don Aweau	Individual	Support	No

Comments:

HB-2723-HD-1
Submitted on: 2/12/2018 2:25:28 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Aria Juliet Castillo	Individual	Support	No

Comments:

HB-2723-HD-1
Submitted on: 2/12/2018 12:42:05 PM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Kallie Barnes	Individual	Oppose	No

Comments:

I am a biologist working on Hawai‘i Island saying no to this testimony not because Oxybenzone isn‘t a issue, but because of the additional clause that takes away citizens power to ban substances known to be harmful, but that the EPA has not caught up with. Sunscreens containing chemicals oxybenzone and octinoxate damage precious coral reefs on which Hawaii’s shoreline, beaches, recreation and tourist economy all depend. These chemicals can disrupt our hormones and contribute to higher risk of breast and prostate cancer, among other diseases. Sunscreen formulations free of these harmful chemicals are already available throughout Hawai'i. THE BILL SHOULD BE AMENDED: 1. remove the anti-democratic county preemption; 2. implement ban by 7/1/20 rather than 1/1/23, sufficient time to eliminate inventories and update formulations; 3. Include a ban on octinoxate; 4. Substitute precise chemical definitions of oxybenzone & octinoxate from HB2264 for the less precise definitions in this bill."

HB-2723-HD-1
Submitted on: 2/12/2018 9:07:54 AM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Angela Huntemer	Individual	Support	No

Comments:

Aloha Chair and Members, Please support this bill to ban the use of chemical suncreens. Not only are they bad for our reefs, they are not as safe and effective as mineral suncreens such as titanium oxide and zinc oxide. If you check our many reputable european cosmetic companies for example Clinique - they use mineral suncreens. Thank you.

HB-2723-HD-1
Submitted on: 2/12/2018 8:25:53 AM
Testimony for CPC on 2/13/2018 2:00:00 PM

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

Comments:

Please support this bill with amendments: effective date of ban 2019 and removal of restrictions on counties to pass their own bans. Adequate research has established that these chemicals are harmful to coral, marine life and humans. It's our moral duty to take action now and ban them.

Mahalo for your consideration.

HB-2723-HD-1
Submitted on: 2/12/2018 7:28:49 AM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Chandra Bertsch	Individual	Support	No

Comments:

This is an urgent problem that needs quick action to implement solutions and encourage the major sunscreen manufacturers to implement ingredient changes to avoid further poisioning our reefs, oceans, and bodies. There are many safe sunscreen options available that are better for you and the environment, there is no reason NOT to ban these known toxic chemicals immediately.

Sunscreens containing chemicals oxybenzone and octinoxate damage precious coral reefs on which Hawaii's shoreline, beaches, recreation and tourist economy all depend. These chemicals can disrupt our hormones and contribute to higher risk of breast and prostate cancer, among other diseases. Sunscreen formulations free of these harmful chemicals are already available throughout Hawai'i. **THE BILL SHOULD BE AMENDED:** 1. remove the anti-democratic county preemption; 2. implement ban by 7/1/20 rather than 1/1/23, sufficient time to eliminate inventories and update formulations; 3. Include a ban on octinoxate; 4. Substitute precise chemical definitions of oxybenzone & octinoxate from HB2264 for the less precise definitions in this bill."

HB-2723-HD-1
Submitted on: 2/13/2018 9:04:09 AM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Councilmember Yuki Lei Sugimura	Individual	Support	No

Comments:

I submit testimony in support of this bill which prohibits the sale of sunscreen containing oxybenzone, unless the sunscreen is a prescription drug, effective 1/1/23; prohibits the counties from further banning or otherwise regulating sunscreens containing oxybezone or other ingredients approved by the United States Food and Drug Administration. Please help to protect Hawaii's coral reefs by prohibiting the sale of sunscreens containing oxybenzone without compromising Hawaii residents' and visitors' ability to protect themselves from sunburns and the damage caused by harmful ultraviolet A and ultraviolet B rays.

LATE

TO: Honorable Chair Takumi, Vice-Chair Ichiyama, and Consumer Protection and Commerce Committee Members, 2-13-18, 2:00 p.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: COMMENTS ON HB 2723 HD1, Relating to Preserving Coral Reefs

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The Humane Society of the United States (HSUS) and Humane Society International (HSI), supports the general intent of HB 2723 HD1, but has serious concerns with the current language which would, if enacted, prohibit the sale of sunscreen containing oxybenzone, unless the sunscreen is a prescription drug, effective 1/1/2023 and prohibit counties from further banning or otherwise regulating sunscreens containing oxybenzone or other ingredients approved by the United States Food and Drug Administration.

Our main concerns are as follows:

- The delayed effective date of 1/1/2023 combined with the language preempting the counties from enacting ordinances to address this issue more quickly fails to factor in the urgency of the matter given the science and declining health of Hawaii's reefs. We suggest removing the preemption language and changing the effective date to 1/1/2021.
- In addition to oxybenzone, the chemical octinoxate is also toxic to corals. We suggest prohibiting the sale of sunscreens containing oxybenzone or octinoxate.

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 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 sincerely thank the Committee for taking up this important matter. ***We urge the Committee to amend HB 2723*** so that it expeditiously helps reduce oxybenzone and octinoxate pollution and harm to Hawaii's coral reefs and wildlife.

Thank you for this opportunity to provide testimony.

HB-2723-HD-1
Submitted on: 2/13/2018 11:19:15 AM
Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Dave Kisor	Individual	Oppose	No

Comments:

I don't like the part that prohibits counties from doing their job protecting their citizens and the 'aina.