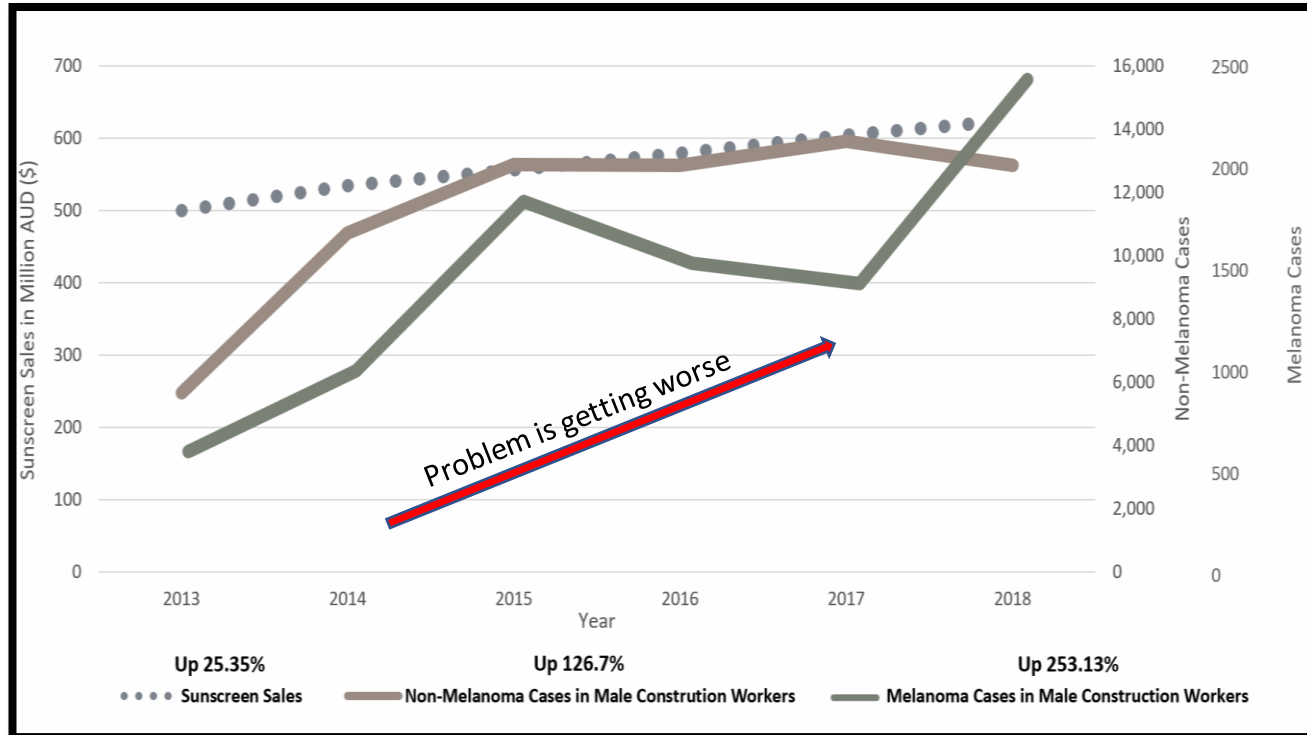


Urgent Action Needed to Save 150+ Construction Workers per Year

The FDA (US Government Watchdog) classifies only Zinc Oxide and Titanium Dioxide as Safe and Effective in Sunscreen (2019)

Skin cancers in Male Construction Workers 2013 - 2018



In 6 Years to 2018 Australians Sunscreen Spend was **up 25.35%**, \$625.2 Million p.a., Skin Cancers in Male Construction Workers were 12,855 (**up 126.7 %**), Melanomas in Male Construction Workers in 2018 were 2,366 (**up 253.13%**) & the estimated number of melanoma deaths, based on the death rate percentage, were **198** (vs 43 for general population). <https://www.safeworkaustralia.gov.au/statistics-and-research/statistics/fatalities/fatal-by-statistics>, Australian Institute of Health and Welfare (2021). Skin cancer in Australia. Retrieved from <https://www.aihw.gov.au/reports/cancer/skin-cancer-in-australia/contents/skin-cancer>, Cancer Council Australia (2021). Non-melanoma skin cancer. Retrieved from <https://www.cancer.org.au/cancerinformation/types-of-cancer/skin-cancer/non-melanoma-skin-cancer>

FACTS

- In 2018 construction worker melanoma deaths stood at 198, which were 155 above that of the general population
- Exposure to solvents, adhesives, and sealants can break down the chemical UV filters present in sunscreens, reducing their protection
- Chemical Sunscreens can have anti-inflammatory effects that hide signs of sun damage like redness or inflammation, making it harder to know when burnt and to seek shade or reapply sunscreen
- The actual effects of chemicals in sunscreens are still unknown

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Year	Construction Worker Melanoma Death Rate	All Other Construction Related Deaths
2013	82	22
2014	107	31
2015	184	33
2016	122	35
2017	95	30
2018	198	24

Deaths from Melanomas in construction workers exceeds those of all other construction related deaths and suicides.

<https://www.aihw.gov.au/reports/cancer/cancer-data-in-australia/contents/cancer-summary-data-visualisation>
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<https://www.cancer.org.au/about-cancer/types-of-cancer/skin-cancer/non-melanoma-skin-cancer-statistics.html>

SOLUTIONS

- Ban the use of Chemical Filter based sunscreens that lose effectiveness in contact with common construction site vapours
- Supply SPF50 rated protective clothing, hats & glasses
- Provide shade during construction work &/or sufficient breaks in areas sufficiently shaded
- Require the use of physical, mineral sunscreens on all construction sites, free from chemical UV filters
- ZNO is the only broad-spectrum UV filter considered as effective
- We need action now to stop the increasing deaths

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8955451/>

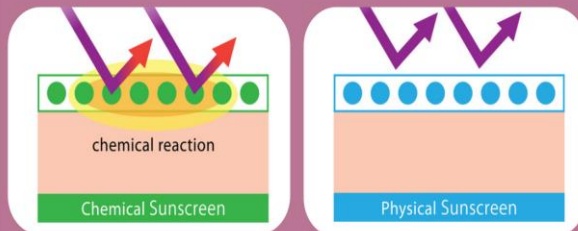
Dr Russell Hills – Sunscreen Safety Basics

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The recent contamination of some chemical sunscreens (available in Australia) with Benzene (a carcinogen) in the manufacturing process cannot occur in the production of Zinc Oxide sunscreen.

A recent study suggests that chemical sunscreens are absorbed in much higher concentrations than previously thought. This is not to suggest that they should not be used but further studies need to be undertaken in this area.

Although published studies suggest that several chemical sunscreens also interact with human sex or thyroid hormones, there is not enough information at present to determine the potential risks to humans from hormone disruption.



<https://skindrone.com/articles/seborrheic-dermatitis-sunscreen/>



Banned & Proposed to be Banned Chemical Sunscreen Filters

	Octinoxate	Avobenzene	Oxybenzone (Bp-3)	Methylbenzylidene Camphor	Homosalate	Octocrylene	Methylparabens	Phenoxyethanol	Octisalate	Ensulizole	Meradimate	Padimate O	Sulisobenzene (Bp-4)	Dioxybenzone (Bp-8)
USA				✗										
Hawaii	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗		✗	✗	✗
U.S. Virgin Islands			✗	✗		✗	✗							
Japan		✗	✗	✗	✗				✗	✗	✗	✗		✗
Sweden			✗								✗	✗		
Nature Reserves Mexico	✗	✗	✗	✗	✗	✗								✗
Aruba			✗											
Marshall Islands	✗	✗	✗	✗	✗	✗								✗
Bonaire	✗		✗								✗			
Palau	✗		✗	✗		✗	✗	✗					✗	
Australia														

- Australian Brands Currently Using One or More of These Problem Ingredients:



Reaction of Chemical Sunscreen with Swimming Pools

Public pools should take steps to reduce contaminants that can react with chlorine (e.g. Sunscreen & Cosmetics). Water quality guidelines for public aquatic facilities - State of Queensland (Queensland Health), December 2019

Chlorine in swimming pools can react with certain chemicals found in sunscreens particularly those that contain organic compounds such as avobenzone, octocrylene, and oxybenzone. These reactions can lead to the degradation of the sunscreen, reducing its effectiveness in protecting the skin from the sun's harmful UV rays [55].

The breakdown of chemical sunscreens in swimming pools can potentially affect children in several ways:

- Skin Irritation: Chemical sunscreens break down in chlorine to produce new compounds that may irritate the skin. This can cause discomfort, itching, redness and in some cases, may lead to allergic reactions [56].
- Respiratory problems: When chemical sunscreens break down in chlorine, volatile organic compounds (VOCs) can irritate the respiratory system and may cause symptoms such as coughing, wheezing, and shortness of breath[56,57].

Harmful Effects of Chemical Sunscreen UV Filters

Chemical UV Filter	Hormone Disruption	Reproductive & Developmental Toxicity	Systemic Absorption & Accumulation	Photo-Contact Allergy & Dermatitis	Nervous System Effects
Oxybenzone (Bp-3)	✗	✗	✗		
Octinoxate	✗	✗	✗	✗	
Homosalate	✗		✗		
Phenoxyethanol				✗	✗
Methylparabens	✗	✗			
Methylbenzylidene Camphor	✗	✗		✗	
Octocrylene			✗	✗	
Sulisobenzene (Bp-4)	✗	✗	✗		
Cinoxate	✗	✗			
Dioxybenzone (Bp-8)	✗	✗	✗		
Octisalate		✗	✗	✗	
Ensulizole	✗	✗			
Meradimate	✗			✗	
Padimate O				✗	

Zinc oxide is the only broad-spectrum UV Filter considered safe and effective (GRASE) by the FDA.



- **UVA/UVB/UVC & Blue Light Broad Spectrum**
 - “Of the available sunscreens only zinc oxide provides effective protection across the UV band range of 240 to 400 nm, covering UVC (240 to 280 nm), UVB (280 – 320nm), UVA 2 (320 to 340 nm), and UVA 1 (340 to 400 nm).” [9]
 - “UVA rays account for 95% of our sun exposure. They cause skin aging and contribute to skin cancer.”
 - “UVA rays penetrate deeply into the skin layers, damaging collagen and cells which leads to wrinkling, hyperpigmentation and loss of elasticity.”[10]
- **Zinc Oxide Safety**
 - Considered Safe and Effective by the FDA (US Government), Zinc Oxide is the only Sunscreen Active Ingredient with no usage limit set by the TGA.
 - “A new study led by two Australian universities has found evidence that zinc oxide nanoparticles used in sunscreen does not cause cellular toxicity even after repeated applications.” [11]
 - “Zinc Oxide is considered safe for infants by the FDA and is even present at up to 40% in nappy rash creams” FDA’s release published 24/08/2021
- **Zinc Anti-Bacterial & Wound Healing**
 - “Zinc has been used during the regime of Pharaohs, and historical records show that Zinc Oxide was used in many ointments for the treatment of injuries and oils even in 2000BC.” [12]
 - “Of all natural and synthetic wound dressing materials, the chitosan hydrogel microporous bandages laced with zinc oxide nanoparticles developed by Kumar Etal are highly effective in treating burns, wounds and diabetic foot ulcers.” [12]
- **Hypoallergenic**
 - “A study in Denmark, 56.7% of women (3,288,600 million) and 33.6% of men (1,948,800 million) in Denmark have experienced an adverse effect after using cosmetics at least once.” [13]
 - “In a study in which a 25% zinc oxide patch (2.9mg/cm²) was placed on human skin for 48 hours, there was no evidence of dermal irritation.”

UV Chemical Filter References

Plenty of information to back these facts

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