

Swimming can turn your sunscreen toxic! Compound used in the protective lotions becomes deadly when it reacts with chlorine and the sun, increasing risk of cancer

- Avobenzone is widely considered to be the most popular sunscreen in the world
- The compound works by making UV rays safer so that they don't damage the skin
- But scientists say it becomes poisonous when exposed to both sun and chlorine

By [Stephen Matthews For Mailonline](#)

PUBLISHED: 09:47 BST, 29 June 2017 | **UPDATED:** 16:14 BST, 29 June 2017

Don't go swimming while wearing sunscreen - unless you want cancer.

A compound used in the protective lotions turns toxic when it reacts with chlorine and ultraviolet rays, researchers found.

Avobenzone is considered the most popular sun-blocker in the world due to its ability to absorb sunlight at different wave lengths - preventing skin damage.

But Russian scientists suggest the UV-filtering compound forms cancer-causing toxins when exposed to a mixture of sun and chlorinated water.

Aldehydes, phenols and chlorinated acetyl benzenes were created in experiments simulating swimmers wearing sunscreen.

The latter two are considered extremely toxic and are strongly linked to deadly tumours and infertility, Lomonosov Moscow State University experts say.

While a study earlier this year hinted that aldehydes can raise the risk of cancer as they interfere with the body's natural repair mechanism.

A compound used in sunscreen turns toxic when it reacts with chlorine and ultraviolet rays, researchers have discovered



'Transforms in the water'

Lead author Dr Albert Lebedev said: 'On the basis of the experiments one could make a conclusion that a generally safe compound transforms in the water and forms more dangerous products.'

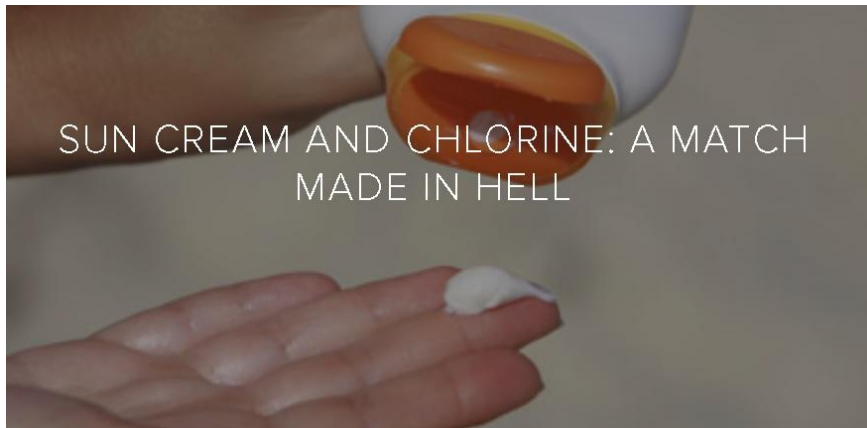
'In spite of the fact that there are no precise toxicological profiles for the most established products, it's known that acetyl benzenes and phenols, especially chlorinated ones, are quite toxic.'

Read more: <http://www.dailymail.co.uk/health/article-4649842/Don-t-swim-wearing-sunscreen.html#ixzz5HRF3QxWr>

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Shower Before You Swim!



THE EFFECTS OF MIXING SUNCREAM AND CHLORINE

The British love their family holidays – in 2016 86% of us took a break away, so with recent news that suncream may be ineffective in chlorine water it is no surprise that parents are worried. Suncream and chlorine could in fact be a damaging combination.

SO WHAT'S THE PROBLEM?

Sunscreen is used by us all to protect our skin from the damaging UV(A/B) rays put out by the sun. The creams use compounds such as titanium dioxide as a barrier to absorb and reflect those harmful rays, but to be effective those compounds need a coating like aluminium hydroxide ($Al(OH)_3$) to stabilise them. The problem found by US researchers was that chlorinated water strips the aluminium hydroxide from the titanium dioxide and renders the sun cream almost entirely useless.

In short, on a hot sunny day by a lovely resort pool – if you or your kids put sunscreen on and swim, that sun cream's make up, will determine whether or not you burn. But, alas, it gets a bit worse. Not only do chlorinated swimming pools, built by swimming pool builders the world over, apparently render some suncreams useless, chlorine also actively reacts with the sun cream compounds to create something call a 'free radical'.

It is true that free radicals are a natural by-product of biochemical reactions – such as breathing or immune system response; but not all free radicals are created equal, some can damage parts of cells, attack cell membranes and even mutate DNA.

IS CHLORINE REALLY SAFE TO SWIM IN?

It's that last one we need to worry about because it is essentially the process undergone by skin cells when they become cancerous and the last thing you want your sun screen to do is potentially promote skin cancer by creating free radicals when you go swimming in a pool!

The research was not exhaustive. So it only looked at one kind of stabilising compound and there are others such as polymers and silicone. It did seem to suggest that sunscreens will be unaffected by salt water or by water that has gone through a non-chlorine filter or the sea.

People need to exercise their own discretion.

The sun can be harmful and in no way are we suggesting you don't use sun creams. However, if you're unsure of a sun cream's make up, contact the manufacturer and ask them for their view on the research and get their advice.

