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WARNING

Why expensive spray-on sun lotion can leave you exposed

By CLAIRE COLEMAN

SHOPPING for sunscreen? Alongside the conventional cream varieties, you'll increasingly find sprays. Take Boots, which currently has more than 70 for sale — from £3.50 for 75ml of its Soltan own-brand spray, through to £38 for 150ml Shiseido Sports Invisible Protective Mist SPF50+ aerosol.

There's no doubt that spray formulations are convenient, but when it comes to protection are they really the best choice?

'I like to give practical advice, and if someone is more likely to use a spray or aerosol sunscreen because of ease of use, over not using a sunscreen at all, then I'll be all for it.

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because something is better than nothing,' says Dr Cristina Psomadakis, an NHS consultant dermatologist based in London.

However, like many dermatologists, she has concerns about them.

'All sunscreens, including sprays, have to undergo testing to validate the amount of sun protection that they give in order to get the SPF rating,' she says.

'The issue with sprays is people often don't know if they're using the required amount in order to achieve the SPF rating on the bottle, because you don't have a good perception of the quantity that's being used.'

The SPF rating indicates the number by which you can multiply your skin's natural resistance to going red in the sun.

So if, without any protection, you'd go red after ten minutes, applying an SPF30 means you won't go red for 300 minutes, or five hours. If without protection you go red after 20 minutes, using SPF30 means you won't go red for 600 minutes, or ten hours.

But that only stands if you reapply it every two hours or after getting wet, and apply the correct amount — 2mg/cm² of skin, the amount used when testing sunscreens.

'The rule of thumb is that two fingers — or two finger-length lines of a cream — on your middle and index finger will provide enough product to cover your face and neck,' says Dr Sina Ghadiri, an NHS dermatology registrar based in Leeds.

'And it's the same amount for one arm, half a leg, or half of your back or torso. But with a spray it's almost impossible to gauge what an adequate amount would be,' he says.

Research in 2019 by the University of Colorado found that when people applied a spray SPF to their forearms, they didn't apply enough to get the protection printed on the bottle. Most people applied only around 60 per cent of the amount needed, reported the Journal of the Academy of American Dermatology.

But that's not the only issue with spray SPFs: if you're using your spray outside, the likelihood is that a lot of the product isn't actually landing on your skin, instead it gets lost into the atmosphere.

In fact a study by Griffith University in Australia in 2021 found that you could be wasting as much as 93 per cent of your sun protection if you apply a spray in windy conditions (around 12mph, a breeze that might shake a small tree and not unusual when you're at the beach).

Using a calibrated fan and a device to measure wind speed, the researchers tested five different aerosol sunscreens and discovered that in windy conditions an adult would need more than one bottle for a single full-body application in the vast majority of cases. When conditions were completely still, a single bottle provided around two-and-a-half full-body applications. Following the report, the Australian Cancer Council strongly urged against the use of aerosol sunscreens.

But even if you're applying your sunscreen indoors, where the air is still, the chances are you aren't applying enough.

'Some people spray the product into their hands and then distribute it on their body to give them a better idea of how much they're using and where they're distributing it,' says Dr Psomadakis.

'But some of the liquid in your hand will include propellant [added to help push out product in a fine mist], which doesn't have SPF coverage — so you're not getting as much sunscreen as you think you are.'

It's difficult to know how much propellant is in your sunscreen, but typically it will be around half of the liquid that you get out, so you'll need to use twice as much product as you think. One study, by Queensland University of Technology in Australia in 2020, found that the amount of propellant in aerosol sunscreen ranged from 27 per cent to 83 per cent, meaning as little as 17 per cent of what you're spraying is actually protecting you — and that's if you're applying the right amount.

THE SPF you get is proportional to the amount you put on, so if you're spraying on an SPF50 but only getting about one sixth of the amount you should, you're effectively only applying SPF8.

Finally, there are concerns about the potential health implications of aerosols.

'In the U.S., several brands [including Banana Boat, Neutrogena and Aveeno] have recalled aerosol sunscreens over the past few years after concerns they may contain benzene,' says Dr Alexis Granite, a consultant dermatologist based in London.

'Benzene is a carcinogen [i.e. cancer-causing]— it's a chemical in cigarette smoke and produced in a number of industrial processes, but it shouldn't be in sunscreen.' The source of the contaminant isn't clear, but it's thought that butane, a propellant often used in aerosols, could contain benzene from the refinement process.

None of the products identified in the U.S. as containing benzene is sold in the UK.

But there may be other concerns. 'Some of the mineral sunscreens contain titanium dioxide and, when you use that in aerosol form, it can be inhaled and can irritate the nose, throat and lungs,' says Dr Granite.

Some animal studies suggest it could, in large doses, be carcinogenic if inhaled.

The case against spray sunscreen seems pretty clear cut. 'For me, their only place is if the alternative is nothing at all,' says Dr Ghadiri.

Dr Granite says if you do want to use a spray, look for a pump spray — these don't use propellants, so you can pump them into your hands to get an idea of how much you're using, and, as the droplets aren't as fine, they're less subject to being blown by the wind.

Even then, Dr Psomadakis adds: 'Use a cream as your base and if you want to use a spray, use it as a top-up.' There's also the fact that you're probably paying over the odds for the convenience.

For example, Soltan Clear & Cool Protect Suncare Mist SPF30 is £7 for 200ml, while Soltan Protect & Moisturise Lotion SPF30 is £3.89 for the same amount; and Nivea Protect & Dry Touch Mist SPF30 is £9.50 for 200ml, while Nivea SPF30 Protect & Moisture Lotion is £6 for the same amount.