

# Sunscreen Science: Your Burning Questions Answered

The UK Cosmetic, Toiletry and Perfumery Association (CTPA) receives lots of enquiries about sunscreens. We've collected together and answered the most common ones.

## Protecting myself...

### What's the difference between UVA, B and C?!

- Ultraviolet (UV) A, B and C rays form part of sunlight. They are all related, but are all slightly different and so have different effects on the skin.
- Most of the damage to our skin from the sun comes from UVA and B rays.
- UVC rays are blocked by the ozone layer so they don't reach us.
- UVB rays penetrate the outer skin layer. They can damage the cells, causing the skin to become inflamed or sunburnt.
- UVA rays penetrate more deeply causing direct damage to the skin's supporting tissues, contributing to visible skin ageing.



### How much sunscreen should I apply?

- Make sure you follow the instructions on how much and when to apply your sunscreen and to reapply.
- The recommended amount means about half a teaspoon for the face and for each arm, and a full teaspoon for each leg, the front of our bodies and the back.
- This is based on 2mg per square centimetre of skin which is the amount used in the tests performed to determine the product's protection levels.
- If you are using a spray sunscreen, spray generously in short bursts focusing on a small area of skin at a time, to leave a thick and even layer. Always rub it in!

### Which protection level should I use?

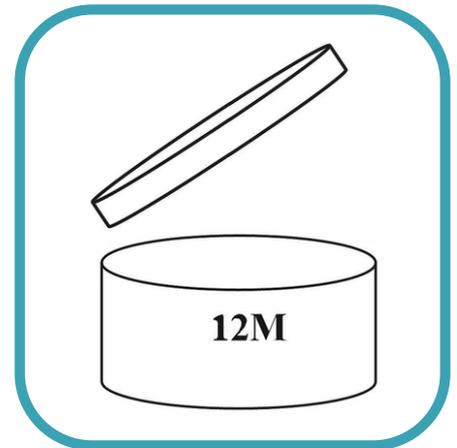
- 'Low', 'Medium', 'High' or 'Very High' ratings can be found on the product, so you can choose the level of protection most suitable for your skin type.
- Aim for a sunscreen with at least SPF (Sun Protection Factor) 15, and remember to apply the correct amount.
- Ensure your sunscreen has UVA protection.
- Aim for a sunscreen which is water-resistant.
- Choose a sunscreen that you find comfortable to wear, as this will help you use it regularly.



**Remember that sunscreen should never be used to stay in the sun for longer.**

## How long will my sunscreen last for?

- Look for the symbol on the label showing an open jar containing a number.
- The number indicates the number of months that you can use the product after it has been opened. This is usually 12 months for sunscreens.
- You may find it helpful to write the date that you opened the product on the packaging in permanent marker, to help you remember when to stop using it.
- In the rare case that the manufacturer knows that its sunscreen has a shelf life of less than 30 months, it will be labelled with a 'best before' date. This can be shown using the 'egg timer' symbol followed by the date, or the words, which can be abbreviated to BBE or Exp, followed by the date.



## Can I just use a moisturiser with SPF?

- Some moisturisers and foundations contain added protection from UV rays and this helps combat the ageing effects of UV when out and about doing normal daily activities.
- These products are not intended to be used first and foremost as sun protection: their main function is as a moisturiser or make-up and should be used in the same way you would use any other product of that type, with the added benefit that they help protect against incidental sun exposure.
- If you're wearing a moisturiser or make-up with SPF and you're going to spend time in the sun, you still need to apply sunscreen.



## I have a darker skin tone, do I still need to use sunscreen?

- Even if you have a skin type which is less prone to burning in the sun, the purpose of sunscreen is so much more than reducing the risk of sunburn.
- UV damage from sun exposure occurs in all skin types and tones, and sunscreen helps protect against this.
- For example, skin which develops colour in the sun more easily can show dark spots as a visible sign of UV damage. Using sunscreen can reduce the risk of hyperpigmentation.
- 80% of the signs of skin ageing occur directly as a result of sunlight. Everyone can protect against the signs of premature skin ageing, such as lines and wrinkles, by using sunscreen.



## Will wearing sunscreen stop my body making vitamin D?

- Scientific studies\* have found that wearing sunscreen does not prevent vitamin D production.
- Most people have sufficient exposure to the sun in their day-to-day lives to produce enough vitamin D without needing to be exposed to the sun without sunscreen.
- The [NHS](#) advises that most people can make enough vitamin D by spending short periods of time outside during the summer months, with some skin exposed to the sun, and not allowing the skin to burn.
- The NHS says it is difficult to know exactly how much time is needed in the sun. We also believe it is difficult for each person to judge what a safe short period of time in the sun is for them. For example, before the skin burns visibly, invisible changes can be taking place such as DNA damage.
- Therefore, CTPA recommends to always wear sunscreen when in the sun during the summer months.



## Protecting the planet...

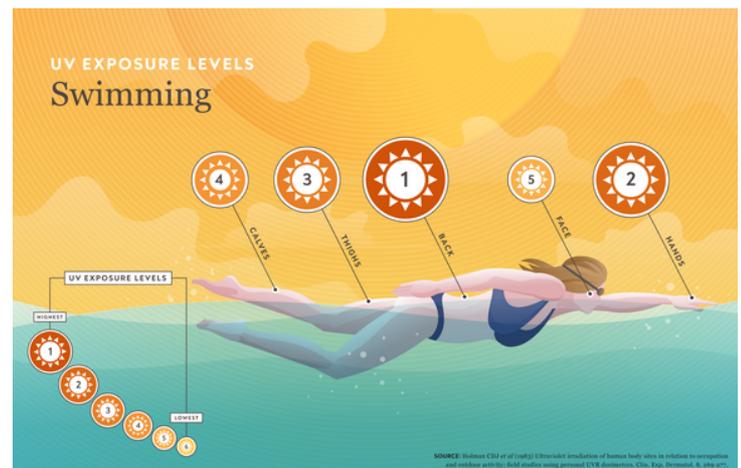
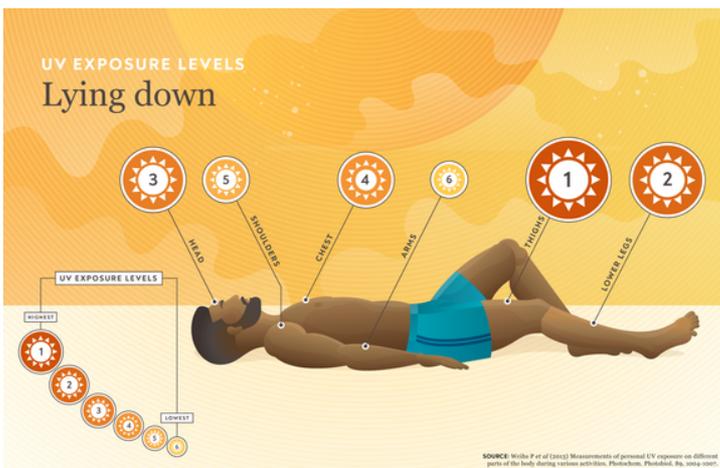
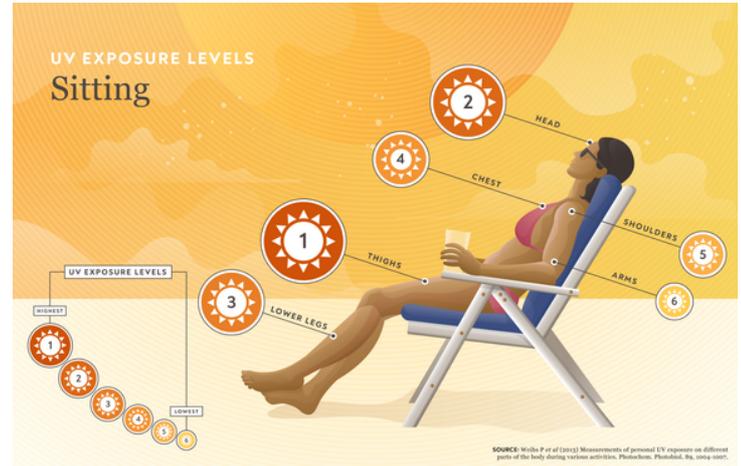
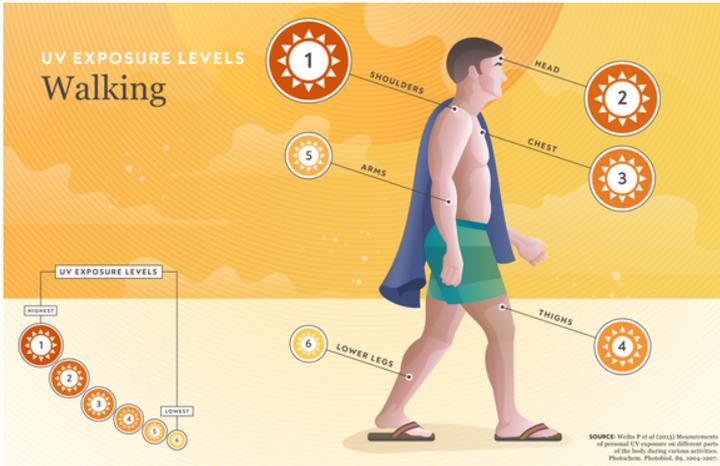
### Can sunscreen harm coral?

- The cosmetics industry takes both its human health and environmental responsibilities very seriously. In the UK and EU, sunscreen ingredients must comply with laws regulating their safety for health and the environment.
- Coral deterioration by climate change and other factors is rightly an urgent focus for scientists.
- UV filters are some of the most studied of all cosmetic ingredients and there are no reliable studies showing UV filters harm the marine environment.
- The cosmetics industry is passionate in ensuring that ingredients are safe for both our health and the environment and actively contributes to global science studies around coral reef exposure to UV filters through numerous published scientific papers.



\* Neale, R. E., et al, [Br J Dermatol](#). 2019 Nov;181(5):907-915. <https://doi.org/10.1111/bjd.17980>  
 Young, A. R., et al, [Br J Dermatol](#). 2019 Nov;181(5):1052-1062. <https://doi.org/10.1111/bjd.17888>

# Don't forget about UV exposure levels when out in the sun...



Where can I find out more?

[www.thefactsabout.co.uk/allergiesabout.co.uk/how-sunscreens-work](http://www.thefactsabout.co.uk/allergiesabout.co.uk/how-sunscreens-work)