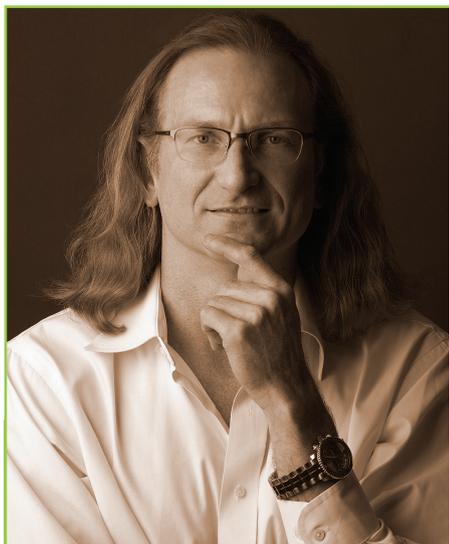


THE SCI-FILES



DOUG SCHOON

Doug Schoon is an internationally recognised scientist, author and educator with over 30 years' experience in the cosmetic, beauty and personal care industry. He is a leading industry authority known for his technical and regulatory work and is co-chair of the *Nail Manufacturers Council (NMC)*.

Doug was CND™'s chief scientist and head of the R&D laboratory, QA, and field testing/evaluation departments for almost 20 years and has authored several books, video and audio training programmes, as well as magazine articles about salon products, safety, and practices for salon professionals.

In 1986, Schoon founded *Chemical Awareness Training Service (CATS)* – the beauty industry's first safety training company. This was followed by his book, *Nail Structure & Product Chemistry*, 1st and 2nd Edition, which has become essential reading for nail professionals. More recently, he has launched *Face-to-Face with Doug Schoon*, an internet learning series that focuses on nails, nail products and services.

www.schoonscientific.com

[f /DougSchoonsBrain](https://www.facebook.com/DougSchoonsBrain)

[t @DougSchoon](https://twitter.com/DougSchoon)

Watch Doug's internet series on nails, nail products and services at www.faceofacewithdougshoon.com

Globally renowned scientist and nail expert, **DOUG SCHOON**, explores the ideas and concerns surrounding nails, techniques and products

CURING: THE TERMINOLOGY AND THE FACTS

It's a common myth that UV gels cure from the bottom up and that's why a sticky layer can form on the surface. This is false. When a UV nail coating is curing, UV is present at all layers - from top to bottom - at the same time. Therefore, all layers cure simultaneously.

The facts are; this sticky layer is actually due to oxygen in the air. Oxygen can block the curing process near the surface to prevent the uppermost layers from properly curing. As oxygen is responsible for blocking the curing process, the correct term for the sticky layer which forms is 'oxygen inhibition layer' or 'inhibition layer', for short. Some call this a dispersion layer, but that doesn't make sense. An example of a dispersion layer is a thin film of oil floating and dispersed on top of water, so that term only vaguely applies to nail products.

Whatever you call it, this 'sticky layer' is important to understand, and it is sticky because the layer is less than 50% cured. It is also critical to understand that a UV gel nail coating is hard enough to file once it is at least 50% cured. Clearly, 'hardening' of the nail coating does not mean it is properly cured and may be only 55-60% cured.

Under-cured nail coatings have an increased chance of causing skin irritation and/or permanent skin allergies. This is true for prolonged and/or repeated contact with this sticky layer and explains why skin contact should always be avoided with uncured or partially cured UV gels, including dusts and roll off from the filing process. Always avoid laying your arms in these to prevent skin sensitivity at the site of contact.

Once an allergy develops, this is a permanent condition that can worsen over time with continued exposure. Adverse skin reactions like this can occur with any UV nail gel product, without exception, when they are under-cured. For these reasons, minimise contact with all UV gels that are not properly cured. After proper curing, these same nail coatings are not likely to cause skin sensitivities.

It is possible to formulate a UV gel that doesn't have a sticky layer, but there are disadvantages to this. These nail coating products have a much higher tendency to overheat and burn the nail bed, which can lead to onycholysis and then possibly a nail bed infection.

"Failing to properly apply and cure UV nail coatings is a major reason for skin irritation and allergy."

Also, UV cure top coats that do not cure with a sticky layer do so by using ingredients with a higher tendency to cause skin irritation or allergy, so be especially cautious to avoid skin contact and properly cure when using these. Be cautious when removing any sticky inhibition layer. Using cotton pads to remove this layer can lead to excessive skin contact, which is why I recommend using a plastic-back cotton pad or wearing disposable nitrile or vinyl gloves to help avoid skin contact with this uncured layer or any potential allergy-causing substance that dissolves into the acetone.

When properly applied and cured according to manufacturer's directions, all UV gel products can be used safely, however this requires proper use and taking care to avoid excessive skin contact with the uncured UV gel, dusts and filings. Failing to properly apply and cure UV nail coatings is a major reason for skin irritation and allergy. Fortunately, it is easy to avoid these problems when nail coatings are properly applied and correctly cured. **5**