

## Technote # 5

### Avoiding Skin Allergies

It's Easy to Do!

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Allergic reactions to many types of cosmetics may occur when the skin is repeatedly exposed to small amounts of allergy causing ingredients. Dermatologists have a special name for allergy causing substances; they are called *allergens*. For example, pollen is a common allergen. In fact, most allergens are natural substances, (i.e. poison ivy, ragweed). Some ingredients used in cosmetics may also be allergens. Usually these ingredients are beneficial for the vast majority of people. However, just as there are people sensitive to pollens, some people are sensitive to cosmetic ingredients. Of course the great majority never experience any problems. But, a smaller number of people may develop skin allergies when exposed over a period of time. Allergic skin reactions usually occur after several months (or years) of exposure to the ingredient(s). It is important to understand that cosmetic related skin allergies usually don't happen right away.

Fragrance ingredients are the most common cosmetic allergens. In fact, sensitivity to preservatives (necessary for proper shelf-life) and fragrances account for most cosmetic-related skin allergies. Of course, other types of ingredients may also cause sensitive clients to develop symptoms such as redness, itching or other signs of irritation. Simple irritations usually reverse themselves when exposure is discontinued. However, symptoms may worsen with repeated exposure or could develop into skin allergies. Once skin develops an allergic sensitivity to an ingredient, the allergy will be permanent! When the skin's immune system recognizes an ingredient as an allergen, it never forgets and will always react negatively upon exposure. Clearly, all nail professionals should understand the importance of avoiding product overexposure.

Skin allergies can occur with any type of artificial nail enhancement. Often, the allergy begins as a slight itch or a reddish area, or a spot that feels "warm". If the facial area is frequently touched with contaminated fingers, the skin might become irritated near the chin or around the eyes. On the fingernails, if ignored and overexposure continues these symptoms can become an annoying itch of the nail beds or water blisters around the cuticle area, sidewalls or fingertips. If ignored still, the symptoms might spread to hand or wrist. Luckily, all of this is easy to avoid- if you understand your products and use them wisely.

Which type of enhancement products can cause skin allergies? All of them can! But "can" is different than "will"- in most cases these allergies can be avoided and the nail professional is the key! UV gels, liquid monomers, wraps and tip adhesives share several ingredients capable of causing skin allergies. What's the reason for these skin reactions? In a nutshell, the culprit is *overexposure* caused by *prolonged or repeated* skin contact and usually after many months, sometimes years of exposure.

For instance, a sticky, water-resistant product remaining on the skin for long periods may lead to overexposure via *prolonged contact*. Or, constantly touching uncured gel or liquid monomers on a brush handle may create overexposure by *repeated contact*.

Touching the brush flags to the soft tissue of the eponychium, sidewalls or under the free edge are common ways of overexposing clients. No matter which type of enhancement product is used, each shares the same general requirement- they must be used properly if they are to be used safely. In short, skin contact must be avoided with uncured gels, monomers, resins and adhesives.

Below are a few of the main reasons enhancement-related skin allergies occur and some useful tips for avoiding them.

**Cause #1:** UV gels are usually very sticky, adhering tenaciously to brush handles, tabletops and containers. This can make it more difficult to avoid prolonged and repeated contact. Also, UV light is required to harden the gel. The various types of bulbs (used in UV lights) quickly began to emit less and less UV light. After a while, they don't produce enough UV light to properly cure the product. After 3-6 month (depending your usage) these bulbs emit less than half the UV light of a new bulb- even though the bulbs continue to emit visible blue light! This often fools nail professionals. UV light is *invisible*, so you cannot see when the intensity is lower. Inexpensive UV bulbs (often with lower quality) may save a little money, but will leave uncured (unreacted) ingredients in the product. On the other hand, some gels heat up excessively causing the client to jerk their hand from the light. Shortening the time under the light produces the same affect as using old UV bulbs- incomplete and improper cure of the enhancement. What's the result of incomplete cure?

Un-reacted ingredients can be left inside the enhancement. These are ingredients that normally would react and become a permanent part of the artificial nail. Un-reacted ingredients are usually fairly mobile. In other words, they can migrate through both the artificial and natural nail, until reaching the soft, living tissues of the nail bed. Such allergies often cause clients to complain about "itchy" or "warm" nail beds.

Finally, it is very important to avoid soft tissue contact with the gooey surfaces layer. This layer of goo is caused by the affect of air on the curing of the gel. The air above the gel prevents the product from properly curing on the surface. This annoying phenomenon is made worse by weak or old UV bulbs. This gooey layer contains un-reacted ingredients and which can cause skin problems, so always avoid contact. Alcohol or other solvents used to wipe away this layer can actually carry the allergens to your fingers through the cotton or pad, increasing the potential for skin overexposure.

**Prevention:** Avoid skin contact and keep implements, containers clean. Keep table area free of UV gel and dusts. Be especially careful to avoid contact with the gooey, surface roll-off. It is best to use a plastic backed pad to prevent product ingredients from soaking through to the skin. Avoid laying your arm in the dusts or where you wipe your brush. Freshly hardened dusts still contain small amounts of unreacted ingredients.

Use only high quality UV bulbs from a reputable source and replace them often, especially if used every day. Clean the bulbs daily to prevent dusts and/or product build-up. Apply thinner layers of gel to prevent excessive heat (exotherm), which will allow the product to cure more completely. Don't shortcut the recommended time client's hands are in the UV light and make sure they are positioned correctly by following the instructions provided with the unit.

**Cause #2:** Overexposure to monomer liquids can cause skin allergy, as well. Odorless products are more likely to cause client sensitivities than the traditional, odor-based enhancement products. Odorless products must be used with a dry bead consistency, but are often used with too wet of a mix ratio. As with all liquid/powder systems, the ratio of monomer liquid to powder must be correct. A medium working consistency (slightly on the dry side) is best.

Avoid using enhancement products with a wet mix ratio. The powder carries an ingredient needed to completely cure the enhancement. Using too little powder (equals working wet) will leave unreacted ingredients inside the enhancement. Different companies use varying amounts of curing agents in their powders, so only use powders that are specifically designed for that monomer liquid. If you don't, your mix ratio may be out of balance. As with UV gels, unreacted ingredients can migrate to the nail bed and cause itching. Allergic skin reactions, i.e. "water blisters" around the nail plate area can result if brush flags touch the skin repeatedly. Skin contact can also occur while "cleaning up" around the sidewalls or under the free edge with the brush.

**Prevention:** As with UV gels, keep brush flags off the soft tissue to avoid transferring monomer liquid to the skin. Leave a tiny free margin between the product and the eponychium and sidewalls. Ensure you are always using the proper mix ratio- never wet! Don't use a brush soaked with monomer to smooth the enhancement. Always use the correct powder with the monomer liquid. Keep your table free of dusts and avoid laying your arms on the towel where you wipe your brush. No matter what you use, all nail professionals should wash their hands after each client. Also, always use a moisturizer to ensure hands are properly conditioned.

**Wraps and Glues:** These contain ingredients found in other types of systems, so they can cause skin allergies. Even so, they are much less likely to cause allergies and very few clients develop sensitivities to them. Why? Mainly, because they react almost instantly in the presence of moisture, so only trace amounts of unreacted ingredients remain. Simply avoiding repeated direct skin contact is enough to avoid overexposure. Glues are frequently the first product that is suspected when clients complain of itchy nail beds, but they are rarely to blame.

**Remember:** Avoid over-filing the nail plate. The top layers of the plate are composed of very hard cells designed to protect and seal the underlying layers. If filed away with too aggressive of a technique, the nail plate becomes more susceptible to penetration by unreacted ingredients. So, keep the plate thick and healthy! That's every nail professional's most important job.

Skin allergy is possible with many types of cosmetic products. Luckily, allergies to nail enhancement products are easy to avoid. But, you must have the correct information and understand how to properly apply your knowledge. If you understand the causes, you'll be able to avoid product related skin allergies. The *key* is to reduce product exposure to safe levels by avoiding skin contact. Client allergies to nail enhancement products usually take many months to develop, so there are many chances to prevent skin contact. Nail professionals must also take care to avoid overexposing themselves and becoming sensitive. In short, avoid prolonged and/or repeated contact to all enhancement related products, while always using them safely and wisely. That's the best way to ensure that your clients will love their nails.