



*Skin
Irritation
101*

Sana Fela

Skin Irritation 101

A free report from Sana Fela

© 2011 Sana Fela



Botanical Skin Science
All Right Reserved

This report is available for free from
<http://www.sanafela.com/reports>

Licensing

This document is released and protected under the Creative Commons License. No commercial use, no changes. Feel free to share it, post it, print it, or copy it.

Email List

If you would like to receive more reports like this and be notified of any updates or promotions regarding Sana Fela, you can sign up to our email list at <http://www.sanafela.com/list>



Sana Fela will never spam you and will never sell or share your contact information with anybody else. It will only be used to notify you when we have something new to share regarding Sana Fela.

Disclaimer

The content of this report and any associated websites, books, or other information represents the opinion of its' authors and represents their interpretation of the scientific literature. This material has not been reviewed by the FDA or any other medical body. Always consult your doctor regarding any medical issues.

About Sana Fela

Sana Fela is a skin care company with a mission to develop botanical skin care products that are based on sound science, as well as unlock the most important skin care scientific literature for the general public. Sana Fela was founded in 2009 in Orange County, California. In 2010 we opened our Massachusetts office.

Most of our current research emphasis and product development is in the areas of oily skin and acne. A great deal of information on these skin afflictions is available on our website which can be found at <http://www.sanafela.com>



Table of Contents

Introduction	6
Skin Irritation	7
Skin Irritation at the cellular level	7
Types of Skin Irritation	7
Contributing Factors.....	8
Synergism	8
Complexity of Composition	9
Concentration of Ingredients	9
Purity	10
Cross-Sensitivity	10
Penetration Enhancers	10
Overlap with Pharmaceutical Ingredients	11
Location	11
Skin Damage	12
Contact Time	12
Frequency and Number of Applications	13
Fragrance	13
Preservatives	14
Coloring Agents	14
Excipients	15
End Notes	15

Introduction

Has this happened to you? You bought this promising new moisturizer, foundation, wrinkle remover, acne cream, or other highly touted product. You started to use it and the first couple of days everything seemed to be fine and you were happy with your new product. Then, one morning you woke up and you found that your skin no longer agreed with you. There was that hint of a rash as you looked in the mirror. Your skin felt kind of dry, it was starting to itch, or it just didn't look right. What was going on? Disappointed you stopped using the product that seemed so promising and it languished on the back of a shelf until it finally got thrown out. Time to try something new.

Unfortunately, this happens more than you think. Especially people that have the misfortune of having sensitive and fickle skin can have a hard time finding something that works for them.

This report is a primer on the general principles and causes of skin irritation. At Sana Fela we firmly believe that information is king. It is part of our job to enable people by providing them with knowledge. Because better knowledge makes for better decisions.

Here's to your healthy skin!

The Sana Fela Team



Skin Irritation and Allergy

Skin irritation can show itself in a number of different ways. The results of irritation and also of allergic reactions involving the skin are symptoms such as redness, dryness, scaling, itching, burning, tingling, chapping, cracking, fissuring. There are also a number of general principles to keep in mind regarding the topic of irritation. These general principles are discussed in this report. One major form of irritation is actually better defined as contact allergy. While irritation and contact allergy strictly speaking are not the same, the principles described below hold for both. There are two types of irritation that can be distinguished, acute irritation and cumulative irritation.

Acute Skin Irritation

As the name suggests, acute irritation shows very quickly, within as little as a few hours of using the product that contains the offending ingredient(s). The underlying cause for such a fast response often times is an allergy to one or more ingredients in the offending product. The irritated area will show a rash or feel itchy or hot. In extreme cases, the area may be painful or even blistering or bleeding. Obviously, with such extreme symptoms, you will easily realize that something is wrong and that you should stay away from that particular product. Fortunately such extreme cases are quite rare. However you should consider to immediately see your doctor when they do occur.

Cumulative Skin Irritation

Cumulative or iterative irritation is much more common. As the name suggests, it will take a number of applications before cumulative irritation starts to show. The offending ingredient(s) are not irritating enough to cause symptoms right away, but over time and after a number of applications symptoms start to occur. Cumulative irritation can be hard to distinguish from mild allergic responses.

Contributing Factors

There are a number of factors that can contribute to skin irritation and allergy. These are listed below.

Synergism

Sometimes there may be synergism between different ingredients. This means that one ingredient by itself does not have sufficient capacity to be irritating, but in combination (either at the same time or shortly after each other) with one or more other ingredients it can become sufficiently irritating or allergenic to cause problems. It is important to not just look at the ingredients of a particular skin care or cosmetic product in isolation. You need to also consider any other products that you plan to use at the same time, or have used recently.

Complexity of Composition

The more ingredients there are in a particular formulation, the more chance there is for synergy. In cosmetics and skin care products, fewer ingredients often is better. Indeed, one of the principles of creating "hypoallergenic" cosmetics and perfumes is reducing the complexity of ingredients to the lowest possible. Be suspicious of products that have a long list of herbal ingredients or things like vitamins. Many of these are often added at very small quantities and don't do anything except look good on the label. In industry-speak this is called "window dressing". However, what it means for you is that all these extra ingredients are a potential source for irritation or allergy.

When the formulation contains fewer ingredients, it is also easier to identify the culprit when problems arise. There is a different school of thought that says that rather than trying to minimize the number of ingredients it is sufficient to put a cap on the maximum allowable concentration of individual ingredients. For the average consumer this is a harder concept to work with since this requires knowledge of what the concentration limits for particular ingredients are. Simply judging the complexity of a formulation is much easier.

Concentration of Ingredients

Many ingredients are fine at low doses, but can become irritating at higher doses. More is not always better. A good example of this is salicylic acid, which is used

in a number of acne and oily skin products. At concentrations of up to about 2%, it usually does not cause a lot of problems. However, you can buy products that contain a whopping 10% salicylic acid! At such high doses many people can expect irritation and dry skin. And when you stop torturing your skin it will thank you by producing more oil than ever. More is not always better.

You should probably be wary of products that contain much more of a particular active ingredient than is typically found in this type of product. Simply compare several competing products to find out what a typical concentration for a particular ingredient is. It is usually best to stay away from products that contain much more than what is the norm.

Purity

Impure ingredients can be a major source of irritation and allergy. If possible only buy products from companies that have a good reputation for quality control of their ingredients. If a particular product is much cheaper as compared to a similar product from a different manufacturer, you might want to research the source of the ingredients. This is not necessarily the case of course, but often there is a good reason why one product is much cheaper than a competing product. A reputable company will have a strict quality control program in place to make sure that only the highest quality ingredients are used in the manufacture of their products.

Cross-Sensitivity

Chemically similar substances can augment each other's irritability and thus if they are present together in the same product, or if they are distributed over several products that you use together, they can in their totality cross the sensitivity threshold and cause problems. For example, people that are sensitive to skin care products that contain lavender essential oils, often times are also sensitive to other, similar essential oils such as rose oil. While such people may be able to handle a skin care product that has one of these ingredients, exposure to additional such ingredients may be more than their skin can handle.

Penetration Enhancers

These are substances that are intended to carry other substances across the upper layers of the skin. The skin forms a barrier against the external environment. However, as a result it also can interfere with the absorption of active ingredients. The enhancers are added to enhance the transdermal delivery of other ingredients. As a result they can cause irritation by ingredients that in and of themselves would not cause problems

Overlap with Pharmaceutical Ingredients

Pharmaceuticals, especially those that are used in topical preparations, can have ingredients in common with cosmetics and skin care products. And the

combination of the two can lead to unintentional overdosing or synergy of some of the ingredients that they have in common. This is also worsened by the fact that diseased or damaged skin is more sensitive than healthy skin. Therefore such skin can more easily become irritated and sensitized. What can happen is that for a fair amount of time after you have discontinued using the topical medication on your skin, you may still be sensitive to some of the ingredients that are in common between the past medication and the products you plan to use now. Always be aware of this as you make your evaluations of skin care products or cosmetics.

Location

Some areas of the skin are more sensitive than others. The eye lids, lips, and the neck are very sensitive areas. It is quite possible to use a product over the whole face without any sensitivity problems but then have an allergic reaction only on the eye lids, as an example. Skin that is tucked away inside a skin fold also tends to be extra sensitive because an applied product tends to persist longer there, while the potential for penetration of product into the skin is generally higher in these areas. As a result, areas that are occluded by skin folds are more prone to contact induced irritation. Another location that can cause problems frequently are the hands since they frequently come in extensive contact with irritants.

Skin Damage

Damaged skin has a breach in its' protective barrier. This breach allows increased and indiscriminate penetration of substances in the damaged area. The increased contact can lead to allergic reactions and other problems. This is particularly important for products that are designed to alleviate dry or cracked skin, since the preexisting damage will make it easier for more of the product to penetrate. This makes it more likely that application of a product will result in irritation or allergy problems.

Contact Time

The longer a substance is allowed to stay in contact with the skin, the larger the likelihood of irritation or allergy becomes. It is important to consider whether a product is intended to be left on the skin, or whether it is intended to be rinsed off. For example, using soap on your skin generally is not a problem since the contact time is only brief before it gets rinsed off. However, if you would let the soap sit on your skin for a long period of time, the aggressive chemicals in the soap would almost certainly cause severe irritation.

Frequency and Number of Applications

The more frequent and the larger the number of applications of a product, the more chance there is for cumulative effects to occur. Unless you have a good

reason don't use a product more often, or in larger quantities, as is recommended. Especially for a product that is new for you, first use it as recommended. Make changes only after you have established that there are no problems using the regimen. Even mild products may cause problems after repeated application on the same skin area. This would thus be cumulative irritation.

Fragrance

Fragrance ingredients have among the highest potential to be allergenic. Heavily perfumed items have been shown to contain allergenic substances. Sensitization happens most often with perfumed items such as toilet water, aftershave lotions and deodorants. If you have oily skin, you are most likely better off to look for lightly scented or unscented products. In the 1980's and before, perfume sales representatives used to spray every customer passing by their location in the cosmetics department with a variety of perfumes to entice them to buy. Following a number of severe allergic reactions, and high profile lawsuits, this is now no longer practiced and customers can breathe easier walking through the cosmetics departments of their favorite stores.

Preservatives

After fragrance ingredients, preservatives are the most important source of irritation. Preservatives in skincare products and cosmetics are important

allergens, although more recently those preservatives that were known to cause problems the most frequently have mostly been replaced by more benign alternatives. For example, a common preservative that was used in the 1980s, methyl(chloro) isothiazolinone, frequently was reported to cause contact allergies. It since has been replaced more recently by formaldehyde releasing agents.

Coloring Agents

Coloring agents that are in hair dyes are a frequent source of irritation, but this that are used in cosmetics only rarely cause problems. However, the use of permanent cosmetic tattoos is on the rise, and we might expect more problem reports from the colorants that are being used in these, especially when the tattoos are applied to sensitive areas such as eyelids and lips.

Excipients

Excipients are carrier substances that are used to keep active substances in solution and stabilized. They are also used to provide bulk and to reduce the concentration of active substances. Excipients usually do not have any active properties by themselves. Unfortunately, excipients that are used in pharmaceutical topical products can sensitize the skin during the treatment of

whatever affliction they have been used for. When at some point after the topical treatment a cosmetic or skin care product is used that contains the same excipient, the already sensitized skin now is irritated that much quicker.

End Notes

If you found this report useful and would like to receive more free reports like this, we can notify you of any updates and promotions from Sana Fela. You can sign up to our email list at <http://www.sanafela.com/forms/list>

We will never spam you and we will never sell or share your contact information with anybody else. It will only be used to notify you when we have something new to share regarding Sana Fela.

See our [Natural Creams for Problem Skin](#).

Nobiletin Treatment for oily Skin

Sana Fela has developed a new type of oily skin product that is based on a special abstract of tangerine that contain high concentrations of the flavenoid Nobiletin. Research has shown that Nobiletin can normalize the secretion of oil by the skin by directly reducing the activity of the oil producing cells in the sebaceous glands. To find out more about Oily Skin and Nobiletin, visit <http://www.sanafela.com/category/nobiletin/>

