



STUCCO & MASONRY

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Stucco and pH – Lime Burn

We all know that the lime in fresh plaster, concrete and masonry can cause what we know as Lime burn. This condition results as an allergic reaction to chromium, which is naturally occurring in the limestone used to produce cement. Therefore, lime burn is actually a form of contact dermatitis. It can be extremely painful and may cause horrific sores on the skin. Contact your medical professional in such cases.

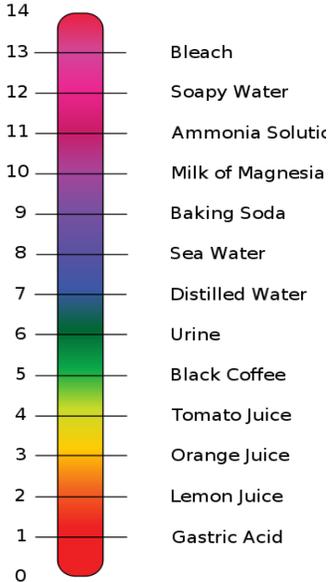
Prevention:
As is usually the case, “an ounce of prevention is worth a pound of cure.” The industry has long advocated wearing rubber gloves or boots and long sleeves to keep the cement away from your skin. Of course, that is not always possible or practicable. So, here’s a look at the best secondary prevention.

Fresh plaster or concrete has a pH level of around 12-13. Remember from you high school chemistry that the pH scale goes from 0-14 in magnitudes of 10 in tenths. 14 is basic or alkaline and 0 is acidic with 7.0 being neutral. Below is a diagram of the pH factors of some common items. Acids and bases cancel each other out or neutralize each other when they come in contact. Knowing that, it follows logically that if you are exposed to an alkaline you can neutralize it by exposure to a mild acid. This is the basis for the best secondary lime burn prevention.

The industry common recommendation is to rinse exposed areas with **cool** water often during the work day. Never use warm or hot water. When the work day is done, mix 2tsp of common vinegar into 1qt cool water and rinse with it. This will help to neutralize the alkalinity of the cement. Then wash well with cool water and a mild soap.

Recently, there have been some commercial pH neutralizers marketed to the industry. They are expensive in comparison to the vinegar solution above and may not be anything other than a pre-mixed vinegar solution themselves. A comparison of Manufacturers Safety Data Sheets may reveal some interesting information. For example, one company has the MSDS for their product online. However, the section for “Composition” is missing. Why? Could it be that the composition is water and vinegar? I don’t know, but...?

Typical pH values



Remember back in the late '60's and through the "70's there was a new "miracle" mildew stain remover product. It was touted as the end-all, cure-all for mildew stains. As it turns out, it basically was bleach mixed with water and sold to the public in a fancy bottle. Here are the respective sections of the MSDS from that product and from regular bleach. It's the hypochlorite that does the work.

Miracle Spray

Ingredient	CAS #	Weight Percent
Sodium Hypochlorite	7681-52-9	3-6%
Sodium Carbonate	497-19-8	0.5-2%
Water	7732-18-5	90-96%

Bleach

<u>Ingredient</u>	<u>Concentration</u>	<u>Exposure Limit</u>	
Sodium hypochlorite	5 - 10%	Not established	CAS# 7681-52-9
Sodium hydroxide	<1%	2 mg/m1	CAS# 1310-73-2 2

Not a lot of difference. I think the same is true with these commercially sold cement neutralizers.

For further information, contact In-Spex, LLC at www.in-spexllc.com or (407) 588-2561.