

Expert Advice:

NAPCG Opinion on Opawz Lightening Cream & Super Black Dog Hair Dye By Kelcie Brown

One of the goals of the NAPCG is to promote safety in creative grooming, which is why the organization does not condone the use of hair bleach on pets—as outlined in “On the Topic of Bleach.”*

Much to the disappointment of the organization, Chinese-based company Opawz is now marketing and selling a hair bleach solution for use on dogs. Do not be misled by the name of the product: the “Lightening Cream,” according to the ingredient list given for the products, contains both ammonium persulfate and potassium persulfate while the developer contains hydrogen peroxide. Persulfates catalyze hydrogen peroxide as it oxidizes hair, which is the characteristic reaction of hair bleach. Whether a company claims their product lightens or gently lifts color, the ingredients speak for themselves.

The NAPCG remains of the opinion that the ingredients contained in the Opawz “Lightening Cream” and “Developer” are not suitable for use on dogs. The health and safety risks raised by using such a product are discussed in “On the Topic of Bleach.”

Additional safety and health risks are raised by another Opawz product: their “Dog Hair Dye (Super Black)” for dogs. This product comes as “Dye 1” and “Dye 2” that are mixed together prior to application, which is a defining characteristic of an oxidizing dye. Oxidizing dyes consist of a developer that contains an oxidizing agent and of a color gel that contains dye

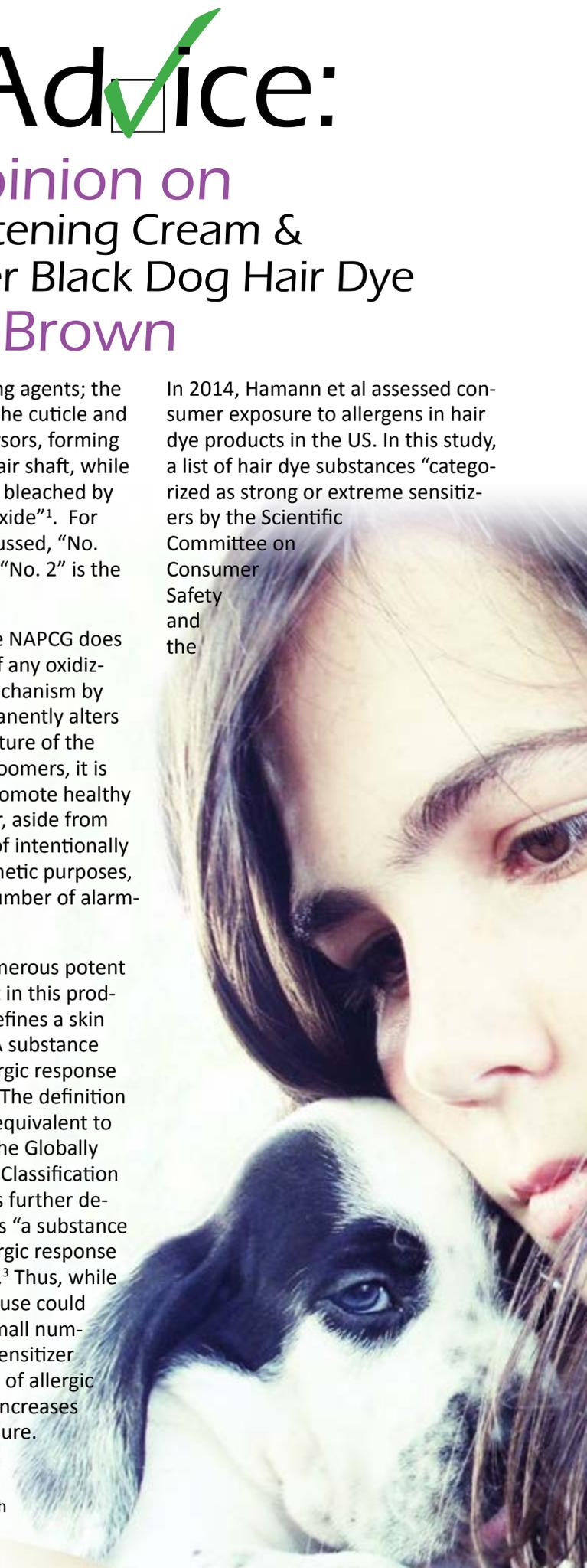
precursors and alkalizing agents; the oxidizing agent opens the cuticle and oxidizes the dye precursors, forming dye molecules in the hair shaft, while “melanin pigments are bleached by alkaline hydrogen peroxide”¹. For the product being discussed, “No. 1” is the color gel, and “No. 2” is the developer.

For ethical reasons, the NAPCG does not condone the use of any oxidizing dye, as the very mechanism by which they work permanently alters and damages the structure of the hair. As professional groomers, it is our responsibility to promote healthy skin and coat. However, aside from the ethical discussion of intentionally damaging hair for cosmetic purposes, this product poses a number of alarming health concerns.

To begin, there are numerous potent skin sensitizers present in this product. Note that MSDS defines a skin sensitizer as follows: “A substance that will induce an allergic response following skin contact. The definition for “skin sensitizer” is equivalent to ‘contact sensitizer’.”² The Globally Harmonized System of Classification and Labeling Chemicals further defines a skin sensitizer as “a substance that will induce an allergic response following skin contact.”³ Thus, while nearly any product we use could cause a reaction in a small number of animals, a skin sensitizer poses a substantial risk of allergic response and this risk increases with subsequent exposure.

In 2014, Hamann et al assessed consumer exposure to allergens in hair dye products in the US. In this study, a list of hair dye substances “categorized as strong or extreme sensitizers by the Scientific Committee on Consumer Safety and the

*<http://www.thenapcg.com/apps/blog/show/43273935-on-the-topic-of-bleach>



Scientific Committee on Consumer Products and/or strong or moderate skin sensitizers by Sosted et al⁷ were analyzed to determine their prevalence in hair dye products.^{4,5} Resorcinol, p-phenylenediamine (PPD), m-aminophenol, 2,4-diaminophenoxyethanol, 2-methylresorcinol, and toluene-2,5-diamine (PTD) are all considered potent contact sensitizers.^{4,5} All 6 of these potent ingredients are present in the ingredient list given for Opawz Dog Hair Dye (Super Black).

The compound p-Phenylenediamine (PPD), in particular, is a well-known extreme skin sensitizer.⁶⁻¹⁰ It is so potent that it can permeate vinyl, polyethylene, and natural rubber latex gloves to cause eczematous reactions in humans with just 15 minutes of exposure time.¹¹ In just 15 minutes, a black oxidizing dye that contained PPD caused reactions through 3 different types of protective gloves. Consider that the chemically similar Opawz Dog Hair Dye (Super Black) is intended to be applied directly to a dog's coat for 35-40 minutes.

Another study published in the British Journal of Dermatology found that "hair dyes available to the consumer are potent and rapid immune activators and that the effect is not inhibited by the oxidation or by short exposure time."¹² In this case, "short exposure time" is 30 minutes, which again is shorter than the recommended exposure time of 35-40 minutes for the Opawz Dog Hair Dye (Super Black). Thus, this study found that a commercially available oxidizing dye elicited a strong immune response¹² in a shorter amount of time than what is directed for use of Opawz Dog Hair Dye (Super Black).

Interestingly, this study also notes that the "data suggest that the allergenic potential of hair dyes is greater under in-use conditions compared with the separate colour gel and oxidizer components making up the product."¹²

This is important to consider because a molecule may behave differently depending on its environment. Previous claims have been made that the potent ingredients in oxidizing dyes are less harmful once in solution, yet the aforementioned study indicates that the exact opposite is true.

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Thus, it is apparent that oxidizing dyes present a significant risk of contact dermatitis, and the referenced studies suggest that the Opawz Dog Hair Dye (Super Black) poses these same significant health risks.

If it is not apparent, consider that the European Commission's Scientific Committee on Consumer Products stated that "The SCCP is of the opinion that the use of toluene-2,5-diamine cannot be considered safe based on the available data," and that toluene-2,5-diamine "is an extremely potent skin sensitizer."¹³ Consider that similar statements have been made regarding additional ingredients found in the Opawz Dog Hair Dye (Super Black), but time constraints limit the depth of this discussion.

Although contact dermatitis is the most common allergic response to oxidizing hair dyes, cases of anaphylaxis in humans have been also been reported.¹⁴⁻¹⁹ One such case was fatal¹⁹, so while this type of reaction may be rare, it is often very extreme and life-threatening. Another case "demonstrates that patients can develop anaphylaxis to synthetic hair dyes even after long-term safe use. Testing for reactions to individual components is impractical and often unreliable."¹⁴ Thus, there is a potential for both

anaphylaxis and contact dermatitis to occur, even after multiple safe uses of oxidizing hair dye. This is noteworthy because a single use may not elicit a response, but that does not guarantee that a reaction will not occur with later usage. In fact, because many of the ingredients are sensitizers, the risk of reaction increases with each successive dye application.

The last type of risk worth noting is that of toxicity following oral ingestion. A 20 year-old woman ingested just 100-ml (roughly 2/5 of a cup) of an oxidizing hair dye, and despite receiving emergency medical treatment approximately an hour after ingestion, she suffered severe face and neck swelling, respiratory distress, convulsions, loss of consciousness, bradycardia, oliguria, pulmonary edema, and seizures before succumbing to cardiac arrest nearly four days later.²⁰ Oxidative hair dye solutions are so effectively fatal and easily accessible that they have become an alarmingly popular means of suicide.²⁰⁻²⁵

Obviously, no hair dye solution should be ingested, and under normal circumstances, this is preventable with appropriate supervision. Consider, though, how many other solutions (shampoos, conditioners, sprays, etc) used in the grooming salon are so highly toxic. The typical shampoo would not warrant an immediate emergency response if a small amount were accidentally ingested, but quantities as small as 80-ml (1/3 of a cup) of oxidative hair dye have been fatal in humans.²¹

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No studies could be found regarding the toxicity of oxidative hair dye in dogs, but it is reasonable to assume that there is a very high potential for health complications—including

death—from oral ingestion of oxidative hair dye.

Any oxidative hair dye poses these risks, regardless of what exact ingredients are present. An oxidative hair dye solution is not simply a solution such as a shampoo or conditioner: it is a reaction mixture. There is an active chemical reaction occurring between the ingredients in the solution and anything the solution contacts. Oxidative dyes can be easily identified as any hair dye that is not purchased ready-to-use. If it must be mixed with a developer or even simply with wa-

ter, it is oxidative.

Based on the available research, the NAPCG is of the opinion that oxidative dyes, including the Opawz Dog Hair Dye (Super Black), are not safe or suitable for use on animals. Yes, these products are regularly used on humans, but we have the ability to educate ourselves to the potential risks involved and to choose to use these products regardless. We also have the ability to express discomfort at any point while our hair is colored. Dogs (or any other animal) do not. They rely on us to do what is best for them.

That is why the use of such products remains prohibited from NAPCG events and is considered a violation of our member code of ethics.

While much of this information is available in *The Science of Creative Grooming*, we felt compelled to update the research and make it available to the public so that groomers do not fall under the misconception that being labeled for use on dogs guarantees the safety of a product and so that educated decisions regarding product usage may be made.

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