



**VIDENCENTER for ALLERGI**

Commissioner **Markos Kyprianou**  
European Commission  
DG Health and Consumer Protection  
B-1049 Brussels

Commissioner **Günter Verheugen**  
European Commission  
DG Enterprise and Industry  
B - 1049 Brussels

National Allergy Research Centre,  
Department of Dermatology  
Gentofte Hospital  
University of Copenhagen  
DK-2900 Hellerup  
*e-mail: jedu@geh.regionh.dk*

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The National Allergy Research Centre in Gentofte Hospital, Denmark would like to draw the attention of the Commission to safety concerns regarding hair dyes and risk of allergy.

./. In recent years yet more evidence has been published showing that:

- Allergic side-effects to hair dyes are reported by many consumers.
- It is estimated that up to 1.3 million adults are sensitized to hair dyes in Germany.
- An increasing incidence of allergic reactions to hair dye ingredients have been reported from several European countries.
- Allergic reactions are also seen in children and youngsters.
- Allergic reactions to hair dyes may be severe and require admission to hospital and intensive care.
- Between 1.3 % and 7.2 % of healthy adults develop allergy to hair dye following hair dying for 6 months with products containing 3 % and 1 % PPD, respectively depending on frequency of exposures.  
PPD is permitted in 6% in the Cosmetic Directive.
- Several hair dye ingredients are predicted strong/moderate sensitizers.
- The products which cause allergic reactions in the consumer contain hair dye ingredients in permitted levels.

Hair dyes may cause damage to health under intended conditions of use.

A preventive strategy should be developed to ensure adequate protection of the consumer. Safety assessments of individual hair dye ingredients in cosmetics should take allergic effects into consideration.

Sincerely yours,

Jeanne Duus Johansen  
Director, MD, Ph.D.

Heidi Søsted  
Senior researcher, MSc

Torkil Menné  
Professor, MD

**List of more recent scientific papers addressing the problem (enclosed).**

McFadden JP et al. Allergy to hair dye. *BMJ* 2007;334:220

White I. Second site. *Clinical and Experimental Dermatology* 2006;31:724-26.

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Uter W et al. Contact allergy to ingredients of hair cosmetics in female hair dressers and clients – an 8-year analysis of IVDK data. *Contact Dermatitis* 2003;49:236-40

Søsted H et al. Contact dermatitis to hair dyes in a Danish adult population: an interview-based study. *British Journal of Dermatology* 2005;153:132-35.

Patel S et al. Patch test frequency to p-phenylenediamine: follow up over last 6 years. *Contact Dermatitis* 2007;56:35-37

Basketter DA et al. The impact of exposure variables on the induction of skin sensitization. *Contact Dermatitis* 2006;55:178-185

Søsted H et al. Ranking of hair dye substances according to predicted sensitization potency: quantitative structure-activity relationships. *Contact Dermatitis* 2004;51:241-254

Rastogi SC et al. Unconsumed precursor and couplers after formation of oxidative hair dyes. *Contact dermatitis* 2006;55:95-100

Søsted H et al. Severe allergic hair dye reactions in 8 children. *Contact Dermatitis* 2006;54:87-91

Hextall JM, et al. Dose-time relationships for elicitation of contact allergy to para-phenylenediamine. *Contact Dermatitis* 2002;47:96-99

Hillen U et al. Patch test results in patients with scalp dermatitis: analysis of data of the Information Network of Departments of Dermatology. *Contact Dermatitis* 2007;56:87-93

Ho SGY et al. Analysis of para-phenylenediamine allergic patients in relation to strength of patch test reaction. *British Journal Dermatology* 2005;153:364-67

Søsted H et al. 55 cases of allergic reactions to hair dye: a descriptive, consumer complaint-based study. *Contact Dermatitis* 2002;47:299-303

Jowsey IR et al. Elicitation response characteristics to permanent hair dye in paraphenylenediamine-allergic volunteers. *Contact Dermatitis* 2006;55:330-334

Søsted H. Patch test dose-response study of p-phenylenediamine: thresholds and anatomical regional differences. *Contact Dermatitis* 2006;54:145-149

Søsted H et al. Hair dye contact allergy: quantitative exposure assessment of selected products and clinical cases. *Contact Dermatitis* 2004;50:344-348

Jasim Z et al. Severe allergic contact dermatitis to paraphenylenediamine in hair dye following sensitization to black henna tattoos. *Contact Dermatitis* 2005;52:116-117