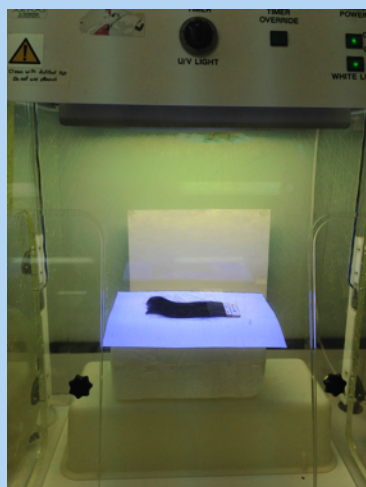




STEPS



1. COLOUR SWATCH



2. UV EXPOSURE DOSING



3. COLOUR READING

Hair Colour Fastness

Colour Fade Reduction

To determine the ability of a sample product to reduce colour fade in hair.

Supportable Claims

Supports claims related to protection from fading due to UV light, or suitability for use on colour treated hair.

Steps of the Test

Bleached hair swatches are treated with commercial, two component permanent hair dye products. 2 dye products are used, one with red tones and the second with brown tones.

The dye is applied according to the manufacturer's instructions. The swatches are dried at room temperature for 24 hrs.

The colour of the swatches is measured by Minolta Chromameter and recorded as L*a*b* values.

For Wash Off Products: Swatches are then immersed in a client nominated dilution of the challenge product(s) for 4 minutes, rinsed and air dried. This immersion and drying is repeated four times.

For Leave In Products: Swatches are then immersed in a client nominated dilution of the challenge product(s) for 4 minutes and air dried. This immersion and drying is repeated four times. The swatches are again dried at room temperature for 24 hrs.

If forced fading is required, then the hair swatch samples are placed under UV light in a light cabinet to receive a UV light exposure equivalent to 8 hrs summer sunlight. Untreated swatches are washed, dried and exposed in the same sequence, but without product treatment. These are used as experimental controls.

The colour of the swatches is again measured by Minolta Chromameter and recorded as L*a*b* values.

Reporting

Changes in the hair colour are expressed as L*a*b* values, pre and post treatment.

Results are reported as changes in 3 scales

L* darkness to lightness

a* red to green

b* yellow to blue

The change is calculated as

$$\Delta E = \sqrt{\Delta L^* + \Delta a^* + \Delta b^*}$$

Where ΔE is the measure of total colour change

References

1. Effects of Sun Protection Agent on Preventing Hair Colour Fading and Hair Damage. Yuen C.W.M., Kan C.W. and Chow Y.L. *Fibers and Polymers 2010 Vol 11 No.2 316-320*

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