Technical Report B8698 – 4 Pages
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TECHNICAL REPORT

THE DETERMINATION OF RELEASE OF NICKEL IN ACCORDANCE WITH BS EN 1811:1999 ON A COMPONENT PART OF JEWELLERY ITEMS JBLH 2S AND BNB

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SYNOPSIS

The two pieces of wire tested showed release of nickel (adjusted) of <0.05µg/cm^2/week and have, therefore proved suitable for direct and prolonged contact with the skin.

INTRODUCTION

Two items of body jewellery, as shown in figure 1, were submitted for determination of nickel release. Each consisted of a curved wire carrying a bauble at each end, and SSD were instructed that only the wire was required to be examined. The baubles were attached to the wire by means of a mechanical attachment (screw thread), and were removed from the wire for the purposes of test.

EXAMINATION

The testing was conducted in accordance with the requirements of BS EN 1811:1999 – *Reference test method for release of nickel from products intended to come into direct and prolonged contact with the skin.* Firstly the surface area of the wire component was established and they were then immersed in 0.5ml of test solution representing artificial sweat as detailed in paragraph 6 of the Standard. After 1 week of immersion the test samples were removed and rinsed and the test liquid processed in accordance with the standard.

CHEMICAL ANALYSIS

Determination of Nickel content in the processed test liquors was effected using graphite furnace atomic absorption spectrometry, and the results were

Sample reference	JBLH 2S	BNB
Surface area, cm^2	0.84	0.88

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Nickel expressed as Nickel, µg/cm^2/week	0.03	0.08
Nickel expressed as Nickel (adjusted), µg/cm^2/week	<0.05	<0.05

CONCLUSIONS

1. Both samples tested have demonstrated a nickel release below the threshold of 0.5 µg/cm^2/week as set in European Parliament and Council Directive 94/27/EC (OJ No. L188 of 22.07.94), when determined in accordance with the requirements of BS EN 1811:1999, and are therefore deemed acceptable for direct and prolonged contact with the skin

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Figure 1: Jewellery items as received