

# Analysis of an Ecoriginals nappy

J S Church, Colin Veitch and A L Woodhead  
Report SSA1214-25  
13 October 2014

Lisa Laing  
Ecoriginals

Commercial-in-confidence

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## Client Contribution

One Ecoriginals nappy sample.

## CSIRO Services

Use infrared spectroscopy to identify the fibre types and materials comprising the major components of the nappy.

Use energy dispersive x-ray analysis to determine if chlorine or heavy metals are present in the inner liners and wadding of the nappy.

Use UV light to determine the possible presence of fluorescent whiteners.

## Methods

Infrared analysis of the samples was carried out using an Attenuated Total Reflectance (ATR) accessories fitted onto a Perkin Elmer Spectrum 100 Fourier transform infrared spectrometer.

Energy Dispersive X-ray (EDX) analysis was carried out using a Vortex-EM (SII NanoTechnology, USA) Si drift detector fitted to a Schottky Emission Variable Pressure Scanning Electron Microscope.

The samples were examined under UV light at 366 and 254 nm.



In summary:

A majority of the nappy components tested were found to be cellulose based.

No latex or phthalates were detected in any of the components tested by infrared analysis.

Further to this, no residual oily aliphatic materials were detected by infrared spectroscopy on the surfaces of the tested components suggesting that no lotions are present on these surfaces.

No fragrances could be detected by sense of smell.

No chlorine or heavy metals were detected in any of the components tested using EDX analysis. It should be noted that the EDX technique does not determine the chemical form of the elements detected. The level of detection is between 0.25 and 0.5 atomic %, ie 1 atom in every 400 to 200 atoms.