**Cheese or Not?**

**An Analysis of the Chemical Cheese Conglomerate known as Easy Cheese**

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**Ingredients**

NMR analysis was used to compare the fat composition of Easy Cheese and Kroger brand cheddar cheese. The cheeses were extracted by the Weibull-Stodlt method of fat hydrolysis and a Soxhlet extraction by petroleum ether.

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**Plastics**

Analysis of the polymer composition of the Easy Cheese container’s outer plastic cap, spray nozzle, and inner plastic lining was conducting using a Nicolet 6700 Fourier Transform-Infrared spectrometer (FT-IR). The resulting spectra were compared to reference spectra from literature and the instrument’s library.

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**Colors**

Annatto, a common food colorant, is a listed ingredient in Easy Cheese. Raw annatto seeds and Easy Cheese were extracted in 5% potassium hydroxide and analyzed on a Perkin-Elmer Lambda 900 Ultraviolet Visible spectrometer. The resulting spectra were compared to determine if annatto is the main colorant in Easy Cheese.

The UV-Vis signature of annatto was not detected in the Easy Cheese spectrum.

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**Metals**

A portion of the Easy Cheese metal can was dissolved in hydrochloric acid, diluted, and analyzed for trace metals using inductively coupled plasma mass spectrometry (ICP-MS). The Easy Cheese can composition was also analyzed by handheld x-ray fluorescence (XRF). The thickness of the can was determined through scanning electron microscopy (SEM).

The can is primarily composed of aluminum. The thickness of the can was determined to be 453 ± 3 µm.

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**References**