

2006 TAIWAN INTERNATIONAL SCIENCE FAIR

CATEGORY : Chemistry

PROJECT : Vitamin C in Cold and Flu Drinks

SCHOOL : Waikato Diocesan School for Girls

FINALISTS : Lisa May-Anne Henderson

COUNTRY : New Zealand

ABSTRACT OF EXHIBIT

TAIWAN INTERNATIONAL SCIENCE FAIR

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TITLE:Vitamin C in cold and flu remedies

NAME:Lisa Henderson

COUNTRY:New Zealand

Vitamin C in cold and flu drinks.

This chemistry project was designed to measure the vitamin C levels within liquid cold and flu remedies, and see if they had been accurately stated on the package. A range of Cold and flu drinks was selected, including one made with only cold water (Lemsip Original, Lemsip Max, Effer-C-Cold Water, Relief and Lemting) .The procedure used to carry out the experiment was a redox titration, each trial required two titrations, with the first being a blank titration to determine a sodium thiosulfate concentration in the absence of vitamin C. The following Drinks had more Vitamin C than stated on the packaging – Lemsip Original (19.4%), Lemsip Max (22.1%), Effer-C (17%) and Relief (8.8%). Lemting was the only drink made to directions that had less Vitamin C than stated by 31.8%. Two conclusions can be drawn from these results, the first being that Lemting has the most inaccurately recorded mass of vitamin C and is also the only drink with less vitamin C than stated. The other interesting result is that Effer-C (the only drink made with cold water) had 170mg of extra vitamin C. Of the other drinks that had more vitamin C, Lemsip Max was next with an extra 22.8mg.

Early research had showed that Vitamin C was affected by high temperatures (above approximately 70°C) and, as cold and flu drinks are commonly made with hot water the Vitamin C levels might change when they were made up. This poses a further possible research question which is, in making cold and flu remedies with hot water is some of the available Vitamin C being destroyed?

評語

This Project is to measure Vitamin C in liquid cold and flu remedies by a redox titration ,The method used is not a novel technique . The result only dedicated Vitamin C destroyed in hot water is also a well-known.