

Formulated Caffeinated Beverages – “Energy Drinks”

A survey to investigate the caffeine levels in caffeinated beverages

Background to the survey

In mid 2004 a ‘survey’ was conducted by the Department of Health to investigate the caffeine levels in formulated caffeinated beverages, commonly known as ‘energy drinks’. FCBs are non-alcoholic water-based flavoured beverages that contain caffeine and may contain other substances that purport to enhance an aspect of mental or physical performance.

Caffeine is added to beverages either as a bitter flavouring, a stimulant or both. In FCBs its promoted purpose is often as a stimulant. As excessive caffeine consumption can have a, generally mild, adverse effect on health, the Food Standards Code incorporates a standard that regulates the maximum amount of caffeine that can be present in a FCB.

This survey was specifically chosen because the Standard is relatively new so it was seen as important to ensure compliance in the marketplace early on.

Standard

Standard 2.6.4 of the Food Standards Code regulates the use of caffeine in “energy drinks” and has set a minimum and maximum caffeine level of 145mg/L and 320mg/L respectively. The Code can be viewed at www.foodstandards.gov.au.

What drinks were tested

A total of 10 drinks were purchased from various retail outlets including supermarkets and health food stores within central Adelaide. This was all the FCBs that were observed on sale at the time.

What did we test for?

All samples were sent to the National Measurement Institute (NMI) in Melbourne for analysis. NMI tested for caffeine levels using Capillary Electrophoresis.

Results

Below is a table representing a summary of the results found:

Sample	Results	Pass/Fail	% Exceeds Standard
1	450mg/L	f	41%
2	290mg/L	p	
3	180mg/L	p	
4	310mg/L	p	
5	280mg/L	p	
6	460mg/L	f	44%
7	200mg/L	p	
8	400mg/L	f	25%
9	310mg/L	p	
10	337mg/L	f	5%

Of the 10 samples collected, test results indicate that 4 of the samples contained caffeine levels greater than the levels permitted by the Food Standards Code. In no case were there caffeine levels below the minimum required to be categorized as a “formulated caffeinated beverage”.

Because the non-complying foods were imported from interstate, the Department of Health notified the relevant jurisdiction of the findings of this survey and requested that the issue be investigated.

The interstate jurisdiction has advised that follow up investigations have taken place. It was found that of the four companies involved, three no longer import nor distribute the products in question. The scale of the distribution of these products appears to have been limited and they have not been observed on sale in Adelaide in the post-survey period:

The fourth company, which produced sample 1, is still distributing the product however it has now introduced routine company testing as part of their quality assurance controls. The analysis result exceeds the standard by 41% and the relevant government authority has informed the SA Department of Health that there will be a follow up analysis performed to ensure compliance.

Discussion of results

The ‘survey’ showed that, at the time of sampling, 40% of FCBs (four products) exceeded the caffeine limit in the Food Standards Code by amounts as high as 44%.

These failures did not appear to be major lines and on the evidence available, three of the four imports are no longer distributed in Australia. Nonetheless it should be possible for manufacturers to accurately control the amount of caffeine in their beverages and it is a concern that some manufacturers failed to do so.

Conclusion

Manufacturers and importers must be aware of their responsibility to ensure products are sold in compliance with the Food Standards Code. Food regulators in Australia are aware of the results of this survey and need to consider enforcement action should future breaches of the Food Standards Code be detected.