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To FSANZ: [submissions@foodstandards.gov.au](mailto:submissions@foodstandards.gov.au)

**SUBMISSION**

**FSANZ Proposal P1054**

**Pure and highly concentrated caffeine products**

**Review of ban on retail sale of pure and highly concentrated caffeine**

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**Submitter information:**

[REDACTED] is a NHMRC Early Career Research Fellow at the Telethon Kids Institute and a Registered Public Health Nutritionist. The submitters lead a program of research investigating health effects associated with highly caffeinated beverages and recently completed the world's largest and most comprehensive study on the adverse effects of energy drink intake in adolescents. [REDACTED] is a legal academic at the University of Notre Dame Australia, Fremantle Campus.

## Summary

The submitters strongly recommend that the existing variation to Standard 1.1.1 subsection 1.1.1—10(5) of the *Australia New Zealand Food Standards Code*<sup>1</sup> ('Code') be further amended to specify which foods and beverages this amendment applies to. We recommend it be modified to reflect that it only applies to caffeinated powders/liquids/gels/semi-solid foods *which require reconstitution or dilution by the consumer*.

We also recommend a second amendment be introduced to govern all other 'ready to consume' caffeinated foods and beverages (i.e., to capture the foods and beverages containing caffeine which fall outside of caffeinated powders/liquids/gels/semi-solids/solids which require reconstitution/dilution by the consumer, cola-type drinks, and formulated caffeinated beverages (FCBs)).

The submitters note the previous Ministerial request for, 'information about current caffeine permissions in the Code, and preliminary recommendations for strengthening regulations and consumer warnings'<sup>2</sup>. Having recently conducted the world's largest and most comprehensive study on the adverse health effects associated with energy drink intake in adolescents, the submitters also propose the retail sale of FCBs (Standard 2.6.4 of the Code) should be prohibited to people under the age of 18 years in Australia and New Zealand, due to the significant negative impact these drinks have on children's health.

## Key points

### Amendments to the existing variation of Standard 1.1.1

The submitters agree with FSANZ's concerns that pure and highly concentrated caffeine products pose an unacceptably high risk to the health and safety of retail consumers. It is acknowledged that even small amounts of these products can severely, adversely affect the health of consumers. However, the existing variation of Standard 1.1.1 does not specify which foods and beverages the amendment applies to. This variation, if implemented, therefore would apply to all food and beverages containing caffeine (apart from cola drinks and FCBs, which are already provided for in the Code).

We recognise that FSANZ cautions:

'The amendment to Standard 1.1.1 subsection 1.1.1—10(5) of the Code cannot – and does not – itself constitute a broad permission for the purposes of the Code to add caffeine to all foods (e.g., for the purposes of the prohibitions imposed by other paragraphs in subsection 1.1.1—10(5) or by subsection 1.1.1—10(6)).<sup>3</sup>

However, there is *no legislative prohibition in place to stop food manufacturers adding caffeine to any and all foods* (apart from cola drinks/FCBs, which are already provided for in the Code). There does not appear to be any legislative prohibition stopping manufacturers from adding up to 4.9% caffeine to any solid or 'semi-solid' food which would encompass gel-like substances, nor adding up to 0.9% of caffeine to food that is a liquid food.

Some examples of common foods and beverages that contain caffeine include tea, coffee, iced coffees, chocolate bars, chocolate drinks and coffee flavoured ice-creams. Table 1 below provides examples of what the existing variation to Standard 1.1.1 subsection 1.1.1—10(5)(g), could result in if the existing variation prohibiting 'a food in which caffeine is present at a concentration of 5% or greater – if the food is a solid or semi-solid food and 1% or greater if the food is a liquid food'<sup>4</sup>, modelled on a caffeine concentration of 0.9% in a flavoured caffeinated milk drink or 4.9% in a chocolate bar. Clearly, such concentrations would result in consumers ingesting harmful and lethal<sup>5</sup> amounts of caffeine in a single serve of a 'ready to consume' product.

**Table 1. Examples of potential food products on the market with a 0.9% caffeine concentration for liquids and 4.9% caffeine concentration for solids.**

Product	Amount of caffeine per serve in Product	Amount of Product required to consume 400mg of caffeine
<b>Potential Product on the market with a 0.9% caffeine concentration</b> Flavoured caffeinated milk drink	4,500 mg (500 mL serve)	Only 44.4 mL (8.9%) of the flavoured caffeinated milk drink. Thus, one 500mL serve of the flavoured milk would be 11.3 times the recommended daily safe limit of caffeine for adults.
<b>Potential Product on the market with a 4.9% caffeine concentration</b> Chocolate bar (45g)	2,205 mg (45 g serve)	Only 8.2 g (18.1%) of the chocolate bar. Thus, one 45g chocolate bar would be 5.5 times the recommended daily safe limit of caffeine for adults.

<sup>1</sup> *Australia New Zealand Food Standards Code* (Cth), Standard 1.1.1 - 10(5).

<sup>2</sup> FSANZ, *Pure and highly concentrated caffeine products* (Review, August 2019), Appendix A, 26.

<sup>3</sup> FSANZ, *P1054 – Pure and highly concentrated caffeine products*

<<https://www.foodstandards.gov.au/code/proposals/Pages/P1054.aspx>>.

<sup>4</sup> *Australia New Zealand Food Standards Code* (Cth), Standard 1.1.1 - 10(5)(g).

<sup>5</sup> FSANZ *Call for submissions – Urgent Proposal P1054. Initial Consideration Report* (1 November 2019) 10.

The submitters contend the variation to the Code be further clarified to only apply to caffeinated powders/liquids/gels/semi-solid/solid foods *which require reconstitution or dilution by the consumer*. This would include caffeine supplement powders/liquids, instant coffee granules, hot chocolate powders etc. As per the table below, caffeinated powders/liquids containing less than 5% caffeine concentration, once diluted with liquid prior to consumption by the consumer, would provide caffeine in amounts similar to traditional coffee products; however, this does require the consumer to measure out the correct (safe) serving from what can be a toxic or even lethal amount of bulk product.

Product	Caffeine per 100g in product	Amount of caffeine per serve (250mL) of reconstituted product
Instant coffee granules	3.1–3.9 g (3,100 mg – 3,900 mg) <sup>6</sup> (i.e., 3.1-3.9% caffeine concentration)	77.5 mg – 97.5 mg (2.5 g of coffee; one teaspoon)
Other caffeinated powder, such as a pre-workout powder supplement <sup>7</sup>	4.9 g (4,900 mg) (i.e., 4.9% caffeine concentration)	122.5 mg (2.5 g of caffeinated powder; one teaspoon)

In addition to the existing variation of Standard 1.1.1 being further modified to reflect that it only applies to caffeinated powders/liquids/gels/semi-solid and solid foods which require reconstitution or dilution by the consumer, a second amendment should also be included to govern the caffeine content of all other food and beverages (excluding FCBs and cola drinks) ingested by the consumer in a 'ready to eat' state. For example, the amendment could specify a maximum permitted caffeine amount or a decree on certain food products which should not contain caffeine. This would help prevent or discourage adding large amounts of caffeine to 'ready to eat' food and beverages. For example, in the United States, Wrigley previously launched a caffeinated chewing gum, 'Alert Energy' which contained the caffeine equivalent of half a cup of coffee per stick (now discontinued). Even food giants such as PepsiCo, have begun to expand into the caffeinated food market, setting a precedent for other food makers to use caffeine in products (e.g., Frito-Lay's caffeinated 'Cracker Jack'd' snack products). Some other examples of caffeinated food products which have previously hit the US market are shown in Table 3 below.

**Table 3. Examples of US caffeinated food products**

Product	Amount of caffeine per serve
Cracker Jack'D 'snacks with impact'	2 ounce pack (57 g) = one cup of coffee
Wired Waffles (now discontinued)	200 mg per waffle
Wired Maple Syrup	84 mg per serve
Caffex Marshmallows	One 'mallow = one cup of coffee
Perky Jerky (beef jerky)	Was 150 mg now caffeine free
STEEM Caffeinated Peanut Butter (now discontinued)	160 mg per 2 tbsp
Energy Gummi Bears	One 60 calorie pack = a single energy drink
Bang!! Ice cream	Single 4 fluid ounce scoop (118ml) = 125mg caffeine
Jelly Belly Extreme Sports Beans	35 beans = half cup of coffee
X8 Energy Gum	2 pieces = one cup of coffee
Get Up and Go Smart Cookie (now discontinued)	1 cookie = two cups of coffee
Crackheads2 Candy	37 g box = 6 cups of coffee

Thus, an unintended consequence of not having a standard for caffeine in other foods and beverages could be that we see caffeine being added to ever-more food products, drinks and snacks, putting children, unsuspecting pregnant women and others at risk, especially if consumed along with more traditional caffeine products. An additional amendment which sets a maximum permitted caffeine amount per serve or a decree on certain food products which should not contain caffeine, would proactively address this potential unintended consequence.

#### Prohibition on sale of formulated caffeinated beverages to people under the age of 18 years

The submitters note the previous Ministerial request for, 'information about current caffeine permissions in the Code, and preliminary recommendations for strengthening regulations and consumer warnings'<sup>8</sup>.

FSANZ considers that FCBs do 'not present a high risk given the maximum concentration of caffeine in these foods is already prescribed in the Code'<sup>9</sup> and that existing FCB labelling requirements in place 'limit excessive exposure and to protect vulnerable populations, such as children and pregnant women'<sup>10</sup>. However, despite the existing limits in Standard 2.6.4 prescribed for caffeine in FCBs (i.e. 320 mg/L, which equates to a 0.032%

<sup>6</sup> FSANZ *Call for submissions – Urgent Proposal P1054. Initial Consideration Report* (1 November 2019) 12.

<sup>7</sup> At the maximum, permissible concentration of caffeine pursuant to the current draft variation proposed.

<sup>8</sup> FSANZ, *Pure and highly concentrated caffeine products* (Review, August 2019), Appendix A, 26.

<sup>9</sup> FSANZ, *Pure and highly concentrated caffeine products* (Review, August 2019) 7.

<sup>10</sup> FSANZ, *Pure and highly concentrated caffeine products* (Review, August 2019) 19.

caffeine concentration, warning labels stating they are 'not recommended for consumption by children'), FCBs are still widely available and accessible to young consumers (< 18 years) and pose an unacceptable risk to the health and safety of this vulnerable population group.

Having recently conducted the world's largest and most comprehensive study on the adverse effects of energy drink intake in adolescents, the submitters propose the retail sale of FCBs (Standard 2.6.4 of the Code) should be prohibited to people under the age of 18 years in Australia and New Zealand, due to the significant negative impact these drinks have on children's health. Our study surveyed 3,688 adolescents aged 12-17 years (recruited from 25 secondary schools located across Western Australia) about their energy drink use. As noted in our overview of the study's preliminary results to the Select Committee on Personal Choice and Community Safety in the Parliament of Western Australia for the Inquiry on Personal Choice and Community Safety;

*'Our preliminary analyses indicate half (51.2%) of those surveyed had tried an energy drink; and of these 'ever consumers', 23.4% reported consuming them monthly, 19.2% reported consuming them weekly and 2% reported consuming them every day, with the average age of first consuming an energy drink being 10 years old. Overall, 55.4% of adolescents who had ever consumed an energy drink reported that they had experienced at least 1 adverse event, including stomach upset (24.6%), heart palpitation (24.5%), difficulty sleeping/insomnia (24.3%), headache (24.0%) and agitation (22.9%). The prevalence of reported adverse events was statistically significant, showing these events to be greater among energy drink consumers than among coffee consumers (55.4% vs 47.4%), as was the proportion who reported seeking or considering seeking medical help for adverse events (16.9% v. 13.2%). Thus, more than half of Western Australian adolescents who had consumed energy drinks reported adverse outcomes, some serious enough to warrant seeking medical help. The adverse outcomes were consistent with the physiologic effects of caffeine but were significantly more prevalent than with other sources of caffeine, such as coffee'.<sup>11</sup>*

Our preliminary findings suggest there is a clear need to restrict the availability and accessibility of FCBs to young people. Banning FCBs to young people under the age of 18 years would be consistent with existing FSANZ objectives<sup>12</sup>. Specifically, the health and safety of this vulnerable population group would be protected if the sale of FCBs were restricted to adults. Further, prohibiting the sale of FCBs to young people also assists in the 'prevention of misleading or deceptive conduct'<sup>13</sup>. Currently, young people are not protected from the potential side effects from excess caffeine consumption, who may be unaware of the risks of FCBs to their vulnerable cohort, despite the warning label on the FCB. It has previously been suggested that FCBs should be restricted for sale and sold like alcohol<sup>14</sup>. The submitters agree.

The United Kingdom recently announced it will move to ban the sale of FCBs to young people under the age of 16 years. The submitters contend Australia and New Zealand should follow suit and ban the sale of FCBs to young people under the age of 18 years.

#### Further research – Recommendation five

The submitters note recommendation five of the FSANZ report dated August 2019<sup>15</sup>. The submitters acknowledge further research concerning caffeine consumption in 'vulnerable population groups' within Australia and New Zealand is warranted. Given the submitters' research to date on energy drinks and young people, the submitters would be willing to undertake further research on caffeine and vulnerable population groups (such as pregnant women and young people), subject to the provision of funding.

We thank you for your time and consideration. Please don't hesitate to contact us if any further clarification or elaboration is required.

  
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<sup>11</sup> Trapp G, Cross D, Martin K, Christian H, Oddy W, Howard J, Bromberg M. Appendix 1 to Submission No 74 to Select Committee on Personal Choice and Community Safety, Parliament of Western Australia, Inquiry on Personal Choice and Community Safety (5 October 2018).

<sup>12</sup> Food Standards Australia New Zealand Act 1991 (Cth), section 18(1)

<sup>13</sup> Food Standards Australia New Zealand Act 1991 (Cth), section 18(1)(c)

<sup>14</sup> Marilyn Bromberg and Justine Howard, 'Red Bull: Does it Give you Wings or Cardiac Disturbances? Modifying the Law Regarding Energy Drinks in Australia' (2016) 24(2) *The Journal of Law and Medicine* 433, 452.

<sup>15</sup> FSANZ, *Pure and highly concentrated caffeine products* (Review, August 2019) 5.