energy drinks, energy "shots"

What are energy drinks and energy ‘shots’?

Formulated energy drinks are non-alcoholic beverages containing caffeine (‘caffeinated’). They are designed to increase energy and enhance mental performance. Since the debut of Red Bull® onto the global beverage market in 1997, the popularity and consumption of energy drinks has increased dramatically. In Australia, energy drinks are the fastest growing segment of the soft drink market. As their name implies, energy drinks promise a ‘boost’ of energy. They are marketed primarily to young adults, athletes, students and people in occupations that require sustained alertness in particular, although a significant proportion of the consumer market are children and
Energy drinks typically contain the following ingredients in varying amounts:

- caffeine
- taurine – an amino acid naturally present in meat, fish and milk
- glucuronolactone – a natural substance produced by the metabolism of glucose in the human liver
- herbal extracts (eg, guarana, ginseng)
- water-soluble vitamins (eg, vitamins B3, B5, B6, and B12)
- sweetening agents (eg, glucose, sucrose).

Energy shots are a concentrated form of energy drink, which contain caffeine and other substances similar to energy drinks, but in small volumes (typically 50-60 mL).

Caffeine is a naturally-occurring substance that can be found in the seeds, nuts and leaves of various plants, including coffee beans, tea leaves, cocoa beans, kola nuts and guarana seeds. It is a central nervous system stimulant, increasing mental alertness and reducing drowsiness and fatigue.

**Caffeine content**

In cola-type beverages containing caffeine as a food additive, the total caffeine content must not exceed 145 mg/L (36 mg/250 mL serve).

The Food Standards Code stipulates that formulated caffeinated beverages must contain no less than 145 mg/L and no more than 320 mg/L of caffeine (from all sources, including guarana). As such, the legal caffeine limit for a standard 250 mL energy drink in Australia is 80 mg, the equivalent of an average cup of instant coffee. Despite regulation of the level of caffeine in energy drinks, there are no regulations on the volume (pack size) of retail units and therefore, the dose of caffeine consumed per retail unit can vary greatly.

The volume of cans sold in Australia range from 250-550 mL, with the stated level of caffeine in the large cans equivalent to two cups of coffee (176 mg).

Energy shots have been found to contain caffeine and other substances at concentrations that exceed the 320 mg/L caffeine limit and, therefore, do not meet the requirements of the Food Standards Code legislating caffeinated beverages. Although energy shots cannot be manufactured in Australia, they can be imported from New Zealand, where they are regulated by the Supplemented Food Standard, and legally sold in Australia. The Industry Code for the Manufacturing and Marketing of Energy Shots specifies that adults are the target market for these products, and requires that energy shots do not exceed 160 mg caffeine per shot.
Labelling

In addition to limiting their caffeine content, foods containing added caffeine must also have a statement on the label that the product contains caffeine. Foods containing guarana must also be labeled as containing caffeine.

The label of a formulated caffeinated beverage is required to state the quantity of caffeine in mg/100 mL and mg per serving size. Energy shots that are marketed as dietary supplements must state the level of caffeine if greater than 145 mg/L. The regulatory standards for energy drinks (Food Standards Code) and energy shots (Supplemented Food Standard) include additional labelling requirements whereby labels advise that the products are not recommended for children, pregnant or lactating women, and individuals sensitive to caffeine; and, subject to containing certain substances beyond caffeine (for example, taurine, glucuronolactone), no more than a certain amount should be consumed per day.

Common caffeine-containing foods and beverages

<table>
<thead>
<tr>
<th>Food</th>
<th>Caffeine content</th>
</tr>
</thead>
<tbody>
<tr>
<td>instant coffee (1 teaspoon/cup)</td>
<td>60-80 mg/250 mL cup</td>
</tr>
<tr>
<td>percolated coffee</td>
<td>60-120 mg/250 mL cup</td>
</tr>
<tr>
<td>brewed coffee</td>
<td>80-350 mg/250 mL cup</td>
</tr>
<tr>
<td>tea</td>
<td>10-50 mg/250 mL cup</td>
</tr>
<tr>
<td>formulated caffeinated beverages (energy drinks)</td>
<td>80 mg/250 mL can</td>
</tr>
<tr>
<td>Coca Cola</td>
<td>48.75 mg/375 mL can</td>
</tr>
<tr>
<td>milk chocolate</td>
<td>20 mg/100 g bar</td>
</tr>
</tbody>
</table>

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Further reading


Using energy drinks with other drugs

The use of energy drinks with alcohol has become an increasingly popular phenomenon. People typically use energy drinks with alcohol to intensify and prolong the effects of alcohol and to remain awake and alert in order to keep drinking and socialising. People who consume energy drinks with alcohol report increased stimulation and alertness, reduced fatigue, and the ability to consume more alcohol, particularly over long periods of time. Research has found that the consumption of energy drinks with alcohol is associated with greater alcohol consumption and an increased likelihood of alcohol-related harm. Moreover, as people drink more alcohol and become intoxicated, they may lose track of the number of energy drinks (and caffeine) they consume, increasing the risk of adverse reactions to caffeine.

How much energy drinks is safe?

Adverse reactions following the consumption of energy drinks stem primarily from their caffeine content. Food Standards Australia New Zealand recommends a ratio of 3 mg to each kilogram of an average adult (210 mg per day for an adult who weighs approximately 70 kg). Based on this, the recommended consumption limit for energy drinks is two cans per day.
See the section on caffeine [3] for information about effects, treatment and more.

**Source URL**: https://www.sl.nsw.gov.au/drug-info/drugs-z-drugs/energy-drinks

**Links**