

## Alcoholic Energy Drinks

Energy drinks have an assortment of ingredients ranging from taurine, guarana and caffeine (all stimulants) to B vitamins. They were first marketed in the United States in 1997. Since that time their popularity has increased, along with the number of people using them. These drinks are often mixed with alcohol, such as vodka or Jägermeister. Because of the popularity of these drinks as mixers, energy drinks premixed with alcohol were introduced to the market under such brand names as Joose and Four Loko. They come in fruity flavors and are sold in brightly colored cans as large as 23.5 ounces, for as little as \$2-\$3. They have as much as 12% alcohol by volume, two to four times the alcohol content of the average beer. These drinks contain the same amount of alcohol found in as many as three cans of beer. The stimulant content in one can is estimated to be equivalent to the amount of caffeine contained in two or three cups of coffee. Caffeinated alcoholic drinks have become very popular with young college students. In fact, a recent study estimated use by college students in the United States to be as high as 28% (*Acad Emerg Med* 2008;15(5):453-460). On the street these drinks are known as “liquid cocaine” and “blackout in a can.”



While alcohol produces a sedative effect, depressing the central nervous system, caffeine exerts a stimulant effect. In combination, the caffeine reduces the perception of alcohol intoxication, but does not reduce the impairment to judgment or reaction time. Users are more likely to consume unsafe amounts of alcohol because they do not feel impaired. This has resulted in hospitalizations of college students across the country. In addition, they are more likely to engage in high risk behaviors such as driving a motor vehicle. In fact, a recent study found that bar patrons who consumed energy drinks mixed with alcohol were at a 3-fold increased risk of leaving the bar highly intoxicated (breath alcohol content  $\geq 0.08$  g/210 L), as well as a 4-fold increased risk of intending to drive, as compared to other drinking patrons who did not consume energy drinks (*Addict Behav* 2010;35:325-330).

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### ***DID YOU KNOW THAT... the FDA considers caffeine to be generally regarded as safe (GRAS) when added to soda, but not when added to alcohol?***

On November 17, 2010, the FDA sent warning letters to several companies that manufacture alcoholic energy drinks. The FDA stated that caffeine added to the alcohol in these drinks does not meet the criteria for GRAS, and therefore, the administration considers it to be an unsafe food additive and adulterated. The FDA has given the companies 15 days to respond with corrective measures. In anticipation of regulatory action, the manufacturer of Four Loko announced the day before that caffeine, taurine and guarana would be removed from their products.



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