

What's really in an Energy Drink?

“Don't mix with alcohol!”

Since the early 1990's energy drinks have proliferated and become a permanent fixture in our culture.

An ***energy drink*** is any beverage that contains some form of legal stimulant and or vitamins which have been added to give the consumer a short term boost in energy. These drinks tend to contain significant amounts of sugar, caffeine, and other dietary supplements. An example of a popular energy drink on the market is Red Bull.

An ***alcohol energy drink*** is either premixed by the manufacturer or mixed by the consumer. Tilt and Sparks are manufactured examples of this type of beverage.

As stated, the energy drink or energy component of the mixed drink contains many different ingredients that are vitamins or stimulants, all with the purpose of increasing ones energy. Ingredients that may be found in these beverages include:

- ***Caffeine*** – a mild stimulant found in cola, tea, coffee, and chocolate. Most energy drinks have 70 – 200 mg of caffeine. Caffeine is known medically as trimethylxanthine. Medically, caffeine is useful as a cardiac stimulant and also as a mild diuretic (it increases urine production). Recreationally, it is used to provide a “boost of energy” or a feeling of heightened alertness. Caffeine is an addictive drug and it operates using the same mechanisms that amphetamines and cocaine use to stimulate the brain, though caffeine's effects are more mild than amphetamines and cocaine.
- ***Guarana*** is a climbing plant, native to Brazil, that contains caffeine. Each fruit contains about one seed, which contains approximately three times more caffeine than coffee beans. (It also contains modest amounts of related compounds, one is theophylline a substance that dilates the bronchi in the lung and is used to treat various respiratory diseases such as asthma). Guarana has also been found to promote weight loss, again through its stimulant properties (increasing the metabolic rate).
- ***Taurine*** is an amino acid which is just now being researched. It is a possible inhibitory neurotransmitter and a cardiac stimulant and it is not known yet what influences it has on the body. One theory is that taurine enhances the effect of caffeine.

- **Yerba Mate** comes from the dried leaves of a shrub tree that is part of the holly family. It is grown in Argentina, Paraguay and Southern Brazil and consumed widely in these regions, as well as Uruguay. Similar to tea, mate leaves are dried, and then brewed in hot water. Yerba Mate is very popular in South America as an energizing, nutritious herbal tonic. Yerba Mate contains a total of 3 xanthine alkaloids including caffeine and theophylline (a stimulant found in green tea). A standard serving of mate (1 tea bag) contains 40 mg of caffeine. Since Yerba Mate does contain caffeine, pregnant women, nursing moms, children, and caffeine-sensitive individuals should consume it only in extreme moderation, or not at all. You should consult with a health professional for advice before using Yerba Mate.
- **Sugar** (glucose) is the major carbohydrate used as fuel in our body to supply energy. Glucose is the preferred fuel of brain cells, and also muscle cells in early exercise. Carbohydrates (which sugar is) provide most of the energy needed in our daily lives, both for normal body functions such as heartbeat, breathing, and digestion and for exercise such as cycling, walking, and running.

What happens when energy drinks are combined with alcohol?

This combination carries a number of dangers:

- Since energy drinks are stimulants and alcohol is a depressant, the combination of effects may be dangerous. The stimulant effects can mask how intoxicated you are and prevent you from realizing how much alcohol you have consumed. Fatigue is one of the ways the body normally tells someone that they've had enough to drink.
- The stimulant effect can give the person the impression they aren't impaired. No matter how alert you feel, your **blood alcohol concentration (BAC)** is the same as it would be without the energy drink. Once the stimulant effect wears off, the depressant effects of the alcohol will remain and could cause vomiting in your sleep or respiratory depression.
- Both energy drinks and alcohol are very dehydrating (the caffeine in energy drinks is a diuretic). Dehydration can hinder your body's ability to metabolize alcohol and will increase the toxicity, and therefore the hangover, the next day.