ENERGY DRINKS
Fact Sheet

What are energy drinks?
- Energy drinks are beverages that contain caffeine and other plant-based stimulants, sugars, and other additives.¹
- Marketed as energy-boosters that improve mental and physical performance,² energy drinks are distinct from sports drinks, which contain electrolytes and are marketed as beneficial during or after physical activity.³
- The energy drink market is the fastest growing beverage market in the United States, with sales expected to increase from $10 to $16 billion by 2017.⁴ Popular energy drinks include “Monster Energy,” “Red Bull,” and “Rockstar,” which collectively comprise nearly 90% of the market.

What is the difference between energy “drinks” and energy “shots”?  
- Energy shots are concentrated forms of energy drinks: While energy drinks are generally sold in 12 and 16 fl. oz. containers, energy shots are sold in much smaller amounts (2 fl. oz. bottles) but contain the same amount of caffeine or other ingredients as energy drinks.⁵ Some energy shots, called “micro shots,” are available in even smaller concentrations (1-5 teaspoons of liquid).⁶ Examples of energy shots include “5 Hour Energy” and “925 Energy Shot.”

What ingredients are commonly in energy drinks and shots?
- Caffeine is the most common ingredient in energy drinks and shots; however, these products also typically contain taurine, guarana, kola nuts, or yerba matè. Taurine is an amino acid, which manufacturers add to energy drinks as a caffeine adjuvant (to aid the effects of caffeine). Guarana, kola nuts, and yerba matè contain caffeine as well as other stimulants.⁷
- Energy drinks also often contain large amounts of sugar, comparable to sodas and fruit drinks (27g per 8oz.) and artificial sweeteners, either as a substitute or in addition to sugar.⁸

How are energy drinks and shots regulated?
- Although commonly referred to as “drinks,” many energy drinks and shots are labeled as “dietary supplements” rather than “beverages.” Unlike beverages, active ingredients in dietary supplements do not require prior U.S. Food and Drug Administration (FDA) approval and the FDA must prove that an ingredient is unsafe before a product may be taken off the market.⁹
- In January 2014, the FDA clarified that even if a manufacturer labels their product as a “dietary supplement,” it may be regulated as a beverage (or vice versa), depending on a variety of factors, including: 1) product name, 2) serving size and 3) advertising statements.¹⁰ Failure to properly label products constitutes “misbranding,” which can subject manufacturers to injunctions, product seizures, or other penalties.¹¹
- Caffeine is the primary active ingredient in energy drinks—but the FDA does not require manufacturers to disclose the amount of caffeine in their products. Because caffeine is not a “nutrient”, when added to “food,” it must only be listed as an ingredient.¹² While the American Beverage Association encourages its members to disclose caffeine content on their products, this is still only on a voluntary basis.¹³
- The FDA does not currently regulate other ingredients frequently used in energy drinks (such as taurine and guarana), so levels of these ingredients may vary between brands as well.¹⁴
Are energy drinks and shots safe?

- Caffeine has been designated as GRAS (Generally Recognized as Safe) when used in cola-type beverages, up to a level of 0.02% (200 parts per million). However, since manufacturers are not required to disclose caffeine content, it is difficult to conclusively determine if the caffeine levels in energy drinks are safe.

- An FDA-commissioned study found that most energy drinks contain much more caffeine per serving than typical sodas; Red Bull, for example, contains 80 mg of caffeine per 8 fl. oz. serving, Monster Energy contains 160 mg per 16 fl. oz. serving, and Extreme Energy 5-Hour Shot contains 220 mg per 2 fl. oz. serving. In comparison, a Pepsi or Coke contains 35-40 mg per 12 fl. oz. serving.

- Caffeine is a central nervous system stimulant, and can cause negative health effects if consumed in excess (e.g., disturbed sleep, increased blood pressure, and irregular or heightened heart rate). Generally, for healthy adults, an intake of 400 mg or less of caffeine per day is considered safe; an intake of more than 1 g per day can cause acute clinical toxicity, and an intake of 5-10g per day can be lethal.

- Caffeine and sugar intake from energy drinks is compounded by the fact that most of these products are sold in large, non-resealable containers—thus, despite the product’s listed number of servings, one container may actually constitute one serving, thereby providing a high caffeine and sugar intake at one time.

- There have been minimal studies on the effects of the other stimulants and additives found in energy drinks (either individually or synergistically), with inconclusive and contradictory results. Despite manufacturers’ claims that these additional ingredients boost mental or physical performance, there is insufficient evidence that they actually complement or improve on the effects of caffeine alone.

What are the risks for youth and young adults?

- Energy drinks are frequently and increasingly marketed to young people, and have become popular among youth and young adults. It is estimated that half of the energy drink market consists of children, adolescents, and young adults. Specifically, one study found that 28% of 12-14 year olds, 31% of 12-17 year olds, and 34% of 18-24 year olds reported regular consumption of energy drinks.

- A study of U.S. high school students found that energy drinks constituted 8.8% of their consumed sugar-sweetened beverages. There is concern that youth and young adults are substituting energy drinks for other sugary drinks: Since 1999, added sugar intake from sugary beverages in total has decreased, but added sugar intake from energy drinks has increased.

- The American Academy of Pediatrics has stated that “caffeine and other stimulant substances contained in energy drinks have no place in the diet of children and adolescents.” One of the concerns is the increased risk for caffeine toxicity. Adolescents should not consume more than 100 mg of caffeine per day, and children should not consume more than 2.5 mg/kg per day.

- In 2013, U.S. poison control centers received reports of over 3,000 exposures to energy drinks, with over 1,800 of these reports involving children 18 or younger. Between 2007 and 2011, the number of emergency department visits involving energy drinks for those 12 years of age or older doubled from 10,068 to 20,783; in 2011, about 1 in 10 of these visits resulted in hospitalization.

- Young adults also often mix energy drinks and alcohol, a dangerous practice since the caffeine in the energy drinks masks the depressant effects of alcohol, yet has no effect on the liver’s metabolism of alcohol; those who mix alcohol and energy drinks are much more likely to binge drink. In 2011, over 8,000 emergency department visits involved mixing energy drinks with alcohol or other drugs, with 8% resulting in hospitalization.
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8 Pomeranz at 4.
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19 Seifert at 517.
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