

# Release

## Drugs, The Law & Human Rights

### Alcohol

#### Overview

Alcohol is the popular name for *ethanol*, a colourless chemical. It is produced by the process of fermentation, in which yeast acts to convert the sugars contained in fruits and vegetables into ethanol. The resultant liquids, together with their added flavourings, form what are collectively referred to as alcohol. There are three main forms of alcoholic drink: beers, wines and spirits.

A central nervous system depressant, the drug's effects include weakened bodily control and co-ordination, resulting in blurred vision, slurred speech, loss of balance, and so on. It also acts as a disinhibitor, enabling people to act in ways they would not if they were sober. The effects are mediated by the strength of the drink (i.e. percentage of ethanol to water), body weight, gender, social setting and other factors. The effects may be experienced as relaxing, helping people to enjoy socializing, or as releasing pent-up aggression. The more people drink, the more likely they are to experience hangover.

While alcohol can produce a powerful addiction, it is an important component of leisure in most modern western cultures, and comes in a number of different preparations (beer, lager, wine, spirits etc) and brands. Its popular names include 'drink', 'booze', 'liquor'; in addition, the various preparations have their own colloquial names (such as 'plonk' or 'vino' for wine).

#### Chemistry

In terms of chemistry, there are many *alcohols*— however the substance, which is popularly known as alcohol or an alcoholic beverage, is a drink containing ethanol ( $\text{CH}_3\text{CH}_2\text{OH}$ ). Alcohol for human consumption purposes is produced by fermentation – the metabolism of carbohydrates - by certain species of yeast in the absence of oxygen. The process of culturing yeast under alcohol-producing conditions is referred to as brewing.

When compared to other alcohols, ethanol is only slightly toxic, with a lowest known lethal dose in humans of 1400 mg/kg (about 15 shots for a 100kg person), and a median lethal dose of 9000 mg/kg. Nevertheless, accidental overdosing of alcoholic drinks, especially those of concentrated variety, is a risk, especially for women, lightweight persons and children. These people have a smaller quantity of water in their bodies, so the alcohol is

diluted less. A blood alcohol concentration of 50 to 100 mg/dL may be considered legal drunkenness (laws vary by jurisdiction). The threshold of effects is at 22 mg/dL.

Alcohol affects the gamma-amino butyric acid (GABA) receptors, to produce a depressant (neurochemical inhibitory) effect. Other psychoactives affecting the GABA receptor include gamma-hydroxybutyric acid, barbiturates and benzodiazepines.

Excessive consumption of alcohol leads to a toxication-induced delayed poisoning called hangover (in Latin, *crapula* refers to intoxication and hangover) and represents the inhibited state of the brain in the initial phases of addiction. Various factors contribute, including the toxication of ethanol itself to acetaldehyde, the direct toxic effects and toxication of impurities called congeners, and dehydration. The hangover starts after the euphoric effects of alcohol itself have subsided, typically in the night and morning after alcoholic drinks were consumed. However, the blood alcohol concentration may still be substantial and above the limits imposed for drivers and operators of other dangerous equipment. Hangover subsides during the day. Various treatments, many of them pseudoscientific, are presented to "cure hangover", but activities such as driving are still dangerous.

## History

Alcohol is an extremely ancient element of human diet. As well as being a nutrient, it has functioned as a recreational drug, a euphoriant, a medicine, a ritual substance with symbolic and cultural significations, and so on. It played a strong role in Greco-Roman religion, where it was identified with the god Dionysus or Bacchus, and is still used in the Catholic Church as the Eucharist, symbolic of the blood of Christ and a link with the divine.

In pre-modern societies beer and wine were widely consumed; water was often impure and carried infections, while wine was a safe source of liquid. Beer tended to be the drink of the poor, and was in many ways a food as much as a drink, owing to its offering of cheap calories. Beer was consumed for breakfast in medieval and early modern Europe, mixed with oatmeal as a form of porridge. It was also drunk throughout the day; it is likely that many individuals went through life in permanent state of semi-drunkenness; when they drank to get drunk at festivals and celebrations, they tended to get "dead drunk" and did not stop until unconsciousness intervened.

While distillation had been practiced for centuries, the modern age brought new techniques, with improved copper stills and the availability of sugar assisting the process. Aqua Vitae or spirits were much stronger than the traditional beers and wines- they had a higher ethanol content and could be kept for long periods without deterioration. Their use spread rapidly, resulting in the scenes of drunken excess depicted by Hogarth in the "Gin Lane" prints. Whiskey and brandy improved with age, and brandy was added to wines to produce "fortified" wines. Slave-produced sugar from Britain's West Indian colonies was used to

produce rum.

### Use and culture

Alcohol is the most widely used drug in the UK. Despite its legal status, it is responsible for much greater harm than the illicit drugs, its use leading to illness, road traffic and other accidents, hospital admissions and lost productivity—in addition to alcoholism, one of the most pernicious of addictions.

Alcohol is an integral facet of the contemporary leisure industry in urban Britain, its disinhibiting effect facilitating both enhanced social interaction (on the one hand) and the release of pent-up aggression (on the other). Like any drug, its effects are mediated by the state of mind of the user, the social and cultural context and the quantities consumed. The binge-drinking, “work hard, play hard” culture that became increasingly popular in the 1990s has encouraged the consumption of large quantities of alcohol. Some critics of the New Labour government’s relaxation of the licensing laws, which aimed at introducing into Britain a continental-style cafe culture, argue that instead it has turned city centres into no-go areas on Saturday nights.

### Health

When taken in moderation, there is some evidence that alcohol can help to reduce heart disease in men over 40 and women of menopausal age. It can also assist in generating a convivial social scene - again, depending on the style of use; the other side of this particular coin is that it can impair judgment and induce drinkers to take greater risks in their behaviour than they otherwise would.

Excessive and chronic use can cause damage to the liver (cirrhosis), the brain (where it affects the dendrites, the branched ends of nerve cells by which messages are delivered to the neuron); it has also been linked to certain cancers, with research suggesting that 3.6 % of the global burden of cancer is alcohol-related.