

## Alcohol Facts

**Lifeloc**  
TECHNOLOGIES

*Manufacturer of  
Premium Quality Breath Alcohol Testing Equipment  
Since 1983*

Alcohol is a drug that affects the central nervous system. Alcohol does not affect the senses or muscles directly, rather the nervous system is impaired and reaction time and reflexes are slowed as a result. It stimulates and suppresses certain brain functions and can act as a mild tranquilizer in small doses. Alcohol is a depressant that can produce such feelings as euphoria, and relaxation for short periods of time; however, with continued consumption; these feelings will give way to intoxication. Some common affects of intoxication are: slurred speech, glassy eyes, lowered inhibition, unsteady walk, slowed reflexes etc. Alcohol is a vasodilator (it causes blood vessels to relax and widen), but at even higher levels, it becomes a vasoconstrictor, shrinking the vessels and increasing blood pressure, exacerbating such conditions as migraine headaches and dehydration. In large doses, alcohol can act as a general anesthetic and possibly lead to death by inhibiting involuntary bodily functions such as breathing.

There are several types of alcohol including Isopropyl, Methanol, and Ethanol (or Ethyl Alcohol). Ethanol is the type of alcohol found in alcoholic beverages. Ethanol is greatly diluted by bodily fluids. If a subject weighing 150 lbs. consumes one drink (1.25 oz. of 80 proof liquor, 12 oz. of beer, or 5 oz. of table wine) the body would dilute the alcohol to a BAC (see note) level of around 0.02%. Whereas a subject weighing less, with roughly half the water weight, consuming the same amount, in the same amount of time, would produce a BAC of around 0.04%.

When an alcohol is consumed it first passes down the esophagus through the stomach and into the small intestine. A small amount of alcohol is absorbed into the bloodstream through the mucous membrane; however, the majority of alcohol enters the bloodstream through the walls of the small intestine. After absorption, and until all the alcohol consumed has been metabolized, it is distributed fairly evenly throughout the body, affecting the brain and other tissues.

Alcohol affects individuals differently. Age, gender, physical condition, amount of food consumed and any drugs or medication may affect a subject's blood alcohol level. In addition, different drinks may contain different amounts of alcohol, so it's important to know how much and the concentration of alcohol you consume.

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Men								
Approximate Blood Alcohol Concentration								
Body Weight in Pounds								
Drinks	100	120	140	160	180	200	220	240
0	.00	.00	.00	.00	.00	.00	.00	.00
1	.04	.03	.03	.02	.02	.02	.02	.02
2	.08	.06	.05	.05	.04	.04	.03	.03
3	.11	.09	.08	.07	.06	.06	.05	.05
4	.15	.12	.11	.09	.08	.08	.07	.06
5	.19	.16	.13	.12	.11	.09	.09	.08
6	.23	.19	.16	.14	.13	.11	.10	.09
7	.26	.22	.19	.16	.15	.13	.12	.11
8	.30	.25	.21	.19	.17	.15	.14	.13
9	.34	.28	.24	.21	.19	.17	.15	.14
10	.38	.31	.27	.23	.21	.19	.17	.16

Subtract .01% for each 40 minutes of drinking.  
One drink is 1.25 oz. of 80 proof liquor, 12 oz. of beer, or 5 oz. of table wine.

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Women									
Approximate Blood Alcohol Concentration									
Body Weight in Pounds									
Drinks	90	100	120	140	160	180	200	220	240
1	.05	.05	.04	.03	.03	.03	.02	.02	.02
2	.10	.09	.08	.07	.06	.05	.05	.04	.04
3	.15	.14	.11	.10	.09	.08	.07	.06	.06
4	.20	.18	.15	.13	.11	.10	.09	.08	.08
5	.25	.23	.19	.16	.14	.13	.11	.10	.09
6	.30	.27	.23	.19	.17	.15	.14	.12	.11
7	.35	.32	.27	.23	.20	.18	.16	.14	.13
8	.40	.36	.30	.26	.23	.20	.18	.17	.15
9	.45	.41	.34	.29	.26	.23	.20	.19	.17
10	.51	.45	.38	.32	.28	.25	.23	.21	.19

Subtract .01% for each 40 minutes of drinking.  
One drink is 1.25 oz. of 80 proof liquor, 12 oz. of beer, or 5 oz. of table wine.

**Food** A number of factors influence the absorption process, including the presence of food and the type of food in the gastrointestinal tract when alcohol is consumed. The higher the dietary fat content, the longer the process of absorption will take.

**Gender** Generally women tend to have a higher percentage of body fat, and thus a lower percentage of body water, so if a man and a woman of the same weight ingest the same amount of alcohol the woman will tend to achieve a higher alcohol concentration. This, of course, would not be true if the woman was very fit and the man was somewhat obese, but on average, this is the case. The differences in alcohol concentration due to average body composition differences based on gender would be between 16% and 10% depending on age.

**Weight** In general, the less a subject weighs, the more they will be affected by a given amount of alcohol. Alcohol has a high affinity for water and a person's blood alcohol concentration is a function of the total amount of alcohol in their system divided by total body water. In two individuals with similar body compositions and different weights, the larger individual will achieve lower alcohol concentrations than the smaller one if ingesting the same amount of alcohol.

In addition, several other factors such as age, mood, and amount of sleep can have varying effects as well. Thus, alcohol can have different effects on the same person from day-to-day, dependant upon such factors.

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The liver can metabolize only a certain amount of alcohol per hour, regardless of the amount that has been consumed. The rate of alcohol metabolism depends, in part, on the amount of metabolizing enzymes in the liver, which varies among individuals. In general, after the consumption of one drink, the amount of alcohol in the subject's blood peaks within 30 to 45 minutes. Alcohol is metabolized more slowly than it is absorbed. If the amount of alcohol consumed is not great, the metabolism of the alcohol can keep up with the rate that the alcohol that is entering the bloodstream and the alcohol concentration will not increase. If however, the alcohol intake is greater than the rate at which the subject is able to metabolize it, the BAC of that individual will increase.

*Note: Blood Alcohol Concentration (BAC) is the amount of alcohol in the bloodstream, measured in percentages. For instance, having a BAC of 0.10 percent means that a person has 1 part alcohol per 1,000 parts blood in the body.*