

SCREEN ALCOL TEST

Saliva

INTENDED USE

The Screen Alcol Test rapid test is an enzymatic test for the rapid and sensitive detection of alcohol (alc) (ethyl alcohol/ethanol) in saliva and other liquid specimen. By examination of saliva specimen you can estimate the blood alcohol concentration.

ABSTRACT

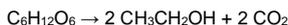
This enzymatic assay gives a qualitative result, i.e. the test shows if specimens contain alcohol or not.

The assay detects ethanol at concentration 0.1‰ or 10 mg/dL respectively by colour change of the reaction or test pad to light green-grey. The green colour intensity increases with the alcohol concentration in the sample. Thus, Screen Alcol Alcol Test produces a colour change in the presence of alcohol in specimen ranging from a light green-grey colour at 0.1‰ alcohol concentration via middle green at medium concentration to a dark green-grey colour near 1,50‰ alcohol concentration.

We recommend using this visual test only as a qualitative test because the discrimination of the human eye might give errors in quantitative results.

BASICS

Ethanol for use in alcoholic beverages, is produced by fermentation: when certain species of yeast (most importantly, *Saccharomyces cerevisiae*) metabolize sugar in the absence of oxygen, they produce ethanol and carbon dioxide. The overall chemical reaction conducted by the yeast may be represented by the chemical equation



The process of culturing yeast under conditions to produce alcohol is referred to as brewing. Brewing can only produce relatively dilute concentrations of ethanol in water; concentrated ethanol solutions are toxic to yeast. The most ethanol-tolerant strains of yeast can survive in up to about 20% ethanol (by volume).

In order to produce ethanol from starchy materials such as cereal grains, the starch must first be broken down into sugars. In brewing beer, this has traditionally been accomplished allowing the grain to germinate, or malt. In the process of germination, the seed produces enzymes that can break its starches into sugars.

By distillation the concentration of ethanol in beverages can be higher like it is in liquors. Alcohol can be found in medicine and diverse chocolate candy.

Reasons of acute intoxication are mostly abuse by drinking alcoholic beverages or at working places alcohol vapour inhalation.

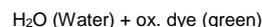
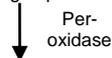
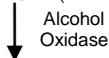
High intake of alcohol is a wide spreading social issue. The consumption can lead to accidents in traffic and at working environment. It can cause diseases and social problems like shattered partnerships or psychological problems in the social environment of alcohol consumers.

The controlling of people for consumption of alcohol is an important method, to discover persons which are influenced by alcohol. This people might endanger themselves as well as their surrounding. Even in the medicine of working space the alcohol test Screen Alcol Alcol Test gives you a brought awareness which can be used

- to increase occupational health and safety,
- to ensure the product quality,
- to optimize soft skills and to improve the working atmosphere,
- and to reduce absence from work.

TESTPRINZIP

The Screen Alcol Alcol test consists of a plastic strip with a reactive pad applied at the tip. The tip, on contact with solutions of alcohol will rapidly turn shades of green to blue depending on the amount of alcohol present. The reactive pad employs a solid phase chemistry which uses the following highly specific enzyme reaction.



STORAGE AND STABILITY

The test kit is to be stored refrigerated or at room temperature (2-30°C) in the sealed pouch for the duration of the shelf life.

Bring the strip to room temperature to avoid condensation of moisture on the reaction pad.

WARNINGS AND PRECAUTIONS

- Use only once
- Do not use after the expiration date
- Soak the reaction pad with enough liquid to ensure that it is totally wet.
- Do not eat, drink or smoke in the area where the specimens or kits are handled.
- Do not use test if pouch is damaged.
- Bring all reagents to room temperature (15-30°C) before use
- Do not touch the reaction pad of the strip to avoid contamination
- Avoid cross-contamination of samples by using a new specimen collection container for each sample.
- Handle all specimens as if they contain infectious agents. Observe established precautions against microbiological hazards throughout testing and follow standard procedures for proper disposal of specimens.
- The test strip should remain in the sealed pouch until use.
- Evaluate the test result within 2 to 3 minutes.
- Store and transport the test strip always at 2-30°C (36°-86°F)
- Humidity and high temperature can adversely affect results.
- Do not perform test in alcohol containing atmosphere.
- Pure alcohol can lead to false results.
- Be aware of the mentioned cross-reactivities.
- We recommend using this visual test only as a qualitative test
- The person who will read the color results can not be color blinded.

REAGENTS AND MATERIALS SUPPLIED

- Individually wrapped test devices.

SPECIMEN COLLECTION AND TEST PROCEDURE

1. Abstain from placing anything in the mouth for fifteen (15) minutes prior to beginning the test. This includes non-alcoholic drinks, tobacco products, coffee, breath mints, food, etc.
2. Bring the sealed pouch to room temperature (15-30°C), to avoid condensation of moisture on the reaction pad.
3. If you analyse other samples than fresh saliva be aware to bring them to room temperature before proceeding.
4. Open the foil package and remove the test strip. Observe the reactive pad on the end of the test strip. The pad should be a light cream colour. A test strip with a reagent pad which is dark tan in colour or otherwise discoloured must be discarded.
5. Saturate the reactive pad with liquid or saliva from mouth or sputum cup. Immediately start timer.
6. At two (2) minutes observe the colour change (if any) in the reactive pad. A colour change of green or dark green-grey indicates the presence of alcohol and a positive result. Results obtained after more than 3 minutes may be erroneous.
7. Estimate the approximate blood alcohol concentration by comparing the colour of the reagent pad with the colour chart appearing on the test package. But we recommend using this visual test only as a qualitative test.

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INTERPRETATION OF RESULTS

After 2 minutes the colour of the reaction pad must be evaluated.

Please do not compare the result of the test strip with the above colours due to colour variations caused by different printers. Please only use the colour-chart of the foil package.

The colour reaction is slower in saliva than in water solutions.

LIMITATIONS

Failure to wait 15 minutes after placing food, drink, or other materials in the mouth before running the test can provide erroneous results due to possible contamination of the saliva by interfering substances.

Screen Alcol Test is designed and calibrated to be interpreted 2 minutes after saturation of the reactive pad. Waiting longer than two minutes may result in erroneous results or false positive results.

Screen Alcol Test may be used to detect the presence of alcohol in fluids other than saliva. However, when used in this manner, the colour chart on the package does not apply. If alcohol is present in the fluid, a colour change ranging from a light green-grey to black to cocoa brown will occur as the alcohol concentration increases. Little or no colour change may occur with pure alcohol due to the absence of water, which is required for the colour change reaction. When testing beverages, a result should not be considered positive unless the pad changes to a very dark brown.

Screen Alcol Test is highly sensitive to the presence of alcohol. Alcohol vapours in the air are sometimes detected by the Screen Alcol Test. Alcohol vapours are often present in many institutions and homes. Alcohol is a component in many household products such as disinfectants, deodorizers, and glass cleaners. If the presence of alcohol vapours is suspected, the test should be performed in an area known to be free of these vapours (such as outside).

NOTES: The person who will read the color results can not be color blinded

CONTROLS

The integrity of Screen Alcol Test may be qualitatively verified using a test solution prepared by adding 4 drops of 80 proof distilled spirits to 8 oz. (1 glass) of water. This solution should provide a colour reaction equal to or higher (darker) than the 0.04% colour block. The colour reaction with alcohol in saliva is somewhat slower and less intense than with alcohol in aqueous solutions.

PERFORMANCE CHARACTERISTICS

Specificity

The Screen Alcol Test will react with methyl, ethyl, and allyl alcohols. Screen Alcol Test will not react with alcohols having 5 or more carbons, nor with glycine, glycerol, or serine. This property is a result of the specificity of the alcohol oxidase enzyme extracted from yeast.

INTERFERENCES

The following substances may interfere with the Screen Alcol test stick when using samples other than saliva:

Agents which enhance colour development:

- Peroxides
- Strong Oxidizers
- (common in detergents, cleaning agents and bleaches)

Agents which inhibit colour development:

- Reducing Agents:
- Ascorbic acid
 - Tannic Acid

- Pyrogallol
- Mercaptans and tosylates
- Oxalic acid
- Uric acid

- Bilirubin
- L-dopamine
- L-methyldopamine
- Methampyrone

The above named substances do not normally appear in sufficient quantity in saliva to interfere with the test. However, care must be taken that they are not introduced into the mouth during the 15 minute period preceding the test

In case of questions relate to the application or the principle of the test please contact your supplier or the manufacturer.
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