

# Test can smell ketosis

April 23 2015, by Olli Ernvall

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VTT has developed a quick, easy-to-use ketosis test for consumers that can detect acetone on exhaled breath. The test will benefit diabetics and dieters in particular, but it can easily be adapted to other uses as well, such as the detection of the air pollutants formaldehyde or acetaldehyde.

Ketosis can now easily be detected on exhaled breath, which is much more convenient for the user than the [urine test](#) used today.

The ketosis test consists of two parts: a paper slip that changes colour, and a plastic sampling bag into which the person being tested exhales. The change of colour will reveal the result of the test within 15 minutes. The more [acetone](#) the [exhaled breath](#) contains, the quicker the colour will turn from light yellow to reddish.

In the future, it will be possible to use a mobile phone application measuring colours to read the result.

The acetone concentration of 1.8 ppm(V) is considered to be the threshold of ketosis. In healthy human beings, the concentration is usually clearly below 1 ppm(V).

The ketosis test has been targeted at users who follow a [low-carbohydrate diet](#) for health reasons or who are trying to lose weight. Due to its principle of operation, in addition to acetone, the test is also suited for detecting ketones and other aldehydes in the surrounding air.

More than 380 million people have diabetes, and 90 per cent of them

suffer from type 2 diabetes, which is getting more and more common in the world, according the International Diabetes Federation (IDF) and WHO. According to WHO, there are 1.9 billion [overweight adults](#) in the world.

Provided by VTT Technical Research Centre of Finland

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