

# Reference values of urinary acetone in a Brazilian population and influence of gender, age, smoking and drinking

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## KEY WORDS

Reference values; acetone; isopropanol; head space

## SUMMARY

**Background:** Reference values for some xenobiotics naturally present in the body are important for biomonitoring, in order to compare the levels found in a population exposed to the xenobiotic with those of a reference population. Acetone in urine (UAc) is the most used bioindicator to evaluate worker exposure to acetone and isopropanol. **Objectives:** Since acetone is also found in individuals not occupationally exposed to these solvents, the purpose of the present study was to evaluate the basal levels of UAc and the possible influence of individual factors on such levels. **Methods:** The population consisted in 207 individuals, 91 men and 116 women, between 18 and 80 years old. UAc was determined by headspace/gas chromatography/FID. **Results:** For the total population, the reference values found were: mean ( $\pm$ SD), 1.12 ( $\pm$ 0.47) mg/l; median 1.04 mg/l; geometric mean 1.03 mg/l; 95% confidence interval 0.98-1.26 mg/l, 95<sup>th</sup> percentile 2.20 mg/l and upper reference level (mean+2 SD) 2.06 mg/l. As the values of UAc resulted in a non-Gaussian distribution, the option was to transform these values to log UAc, which drew the data closer to normal distribution ( $W=0.98532$ ,  $p<0.7000$ ). **Conclusions:** Reference values for acetone in urine determined in a population in south Minas Gerais, Brazil, are close to the background values reported elsewhere; gender and ingestion of alcohol seem to affect the basal levels of urinary acetone, while age or smoking showed no similar effect.

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