



Cotinine factsheet



What is cotinine?

Cotinine is a metabolite of nicotine. When nicotine enters the body, it is partly transformed into cotinine, which is a particularly suitable marker for assessing exposure to tobacco smoke.

Occurrence of nicotine

As mentioned above, cotinine is a metabolite of nicotine. The latter occurs in tobacco products (e.g. cigarettes, cigars, chewing tobacco) and also in low concentrations in tea, coffee and certain types of vegetable (e.g. potatoes, cabbage).

Toxicity

In smokers, chronic exposure to tobacco smoke is associated with an increased risk of cancer, coronary heart disease and asthma. However, passive smokers may also be affected. Children are particularly vulnerable to the effects of tobacco smoke: passive smoking can lead to respiratory disorders, such as bronchitis, chronic cough, pneumonia and emphysema, or lethargy. Active or passive smoking during pregnancy may increase the risk of sudden infant death syndrome, premature birth or low birthweight.

Potential sources of nicotine exposure

Because nicotine is mainly absorbed as a result of tobacco use, active smokers are most frequently exposed to this substance. Additional sources of exposure are passive smoking and consumption of the foodstuffs mentioned above.

Human biomonitoring of cotinine

Exposure to tobacco smoke can be estimated by measuring the concentrations of cotinine in blood or urine. Measurable concentrations of cotinine in blood or urine are not necessarily an indication of adverse health effects.

Risk management/measures to reduce cotinine exposure

Nicotine exposure can be substantially reduced by abstaining from smoking tobacco and avoiding contact with environmental tobacco smoke.