

Formaldehyde – also a natural product

About formaldehyde

Formaldehyde is a natural metabolic intermediate and is produced by all living cells. 3 mg/kg formaldehyde is the natural concentration in the blood of humans and mammals. In some cells of the human body concentrations of formaldehyde can reach up to 6-12 mg/kg. The maximal occupational exposure level in most EU countries is at 0.3 – 0.5 ppm (ml/m³). Formaldehyde is broken down by sunlight and bacteria within a few hours and is quickly decomposed in the human metabolism. That is why formaldehyde neither accumulates in the human body nor in the environment. As an industrial chemical, formaldehyde is indispensable for many applications. Among others, it is widely used for the production of construction material, furniture, paintings and coatings, textiles and pharmaceuticals.



Where is it found in nature?

Formaldehyde is formed on Earth as a result of photochemical processes from the oxidation of methane in the atmosphere. Methane is the key to its production and also a raw material used when producing formaldehyde synthetically. It is in fact made up of oxygen, hydrogen and carbon. Formaldehyde occurs naturally in the livestock and in agriculture as well as from human activities such as the operation of motors or from gas heating and cooking. It is also released during forest and bush fires. Formaldehyde can be found in everyone's garden. Apples, a food people eat everyday, naturally contain rather high levels of formaldehyde. In general, levels range between 3-30 mg/kg in fruits and between 3-60 mg/kg in vegetables. The natural wood of trees contains around 0.04 mg/kg. Formaldehyde is also given off by algae, plankton and other vegetation.

Formaldehyde in the human body

Formaldehyde is natural. It exists in the human body as it does in other parts of nature, in low, but measurable concentrations. Formaldehyde is a normal product needed for cell metabolism in mammals and humans. It is quickly decomposed during the human metabolism process. This is why formaldehyde neither accumulates in the human body nor in the environment. It is not stored in the body because it is always rapidly oxidised or biodegraded.

Living environment & formaldehyde

In over a century of use as a manufactured product, many people have been exposed to formaldehyde in industry or by other means. Due to constantly improving products derived from formaldehyde over the last decades, indoor air levels of Formaldehyde have decreased significantly. Studies show that indoor air levels of formaldehyde in houses and offices are nowadays at a safe level below 0.1 ppm (ml/m³).

Formaldehyde is not only readily found in nature, but is also an exceptional and flexible substance when manufactured that has many important uses, particularly when creating polymers and other substances that are essential for living in a contemporary world. Formaldehyde is a natural product and a safe chemical under today's exposure limits that has hundreds of practical uses in our daily lives – from good cell function to the foods we eat to the products we use.

About FormaCare

As a sector group of Cefic (the European Chemical Industry Council), FormaCare represents key European producers of formaldehyde, aminoplast glues and polyols. FormaCare aims to promote the sustainable use of formaldehyde and formaldehyde based products among its members and their customers, with due regard to health and environmental care.

Contact us

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