

BASIC INFORMATION REGARDING ACETALDEHYDE

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ACETALDEHYDE IS A COMMON BUT POORLY KNOWN CARCINOGENIC SUBSTANCE

- ***Alongside asbestos and tobacco, acetaldehyde is a Group I human carcinogen.***
- **Exposure to acetaldehyde occurs on a much larger scale than exposure to asbestos and smoking.**
- **On a global scale, exposure to acetaldehyde is linked to approximately 4 million new cancer cases annually, or nearly 40 per cent of all cancers.**
- **Awareness of the dangers posed by acetaldehyde should have a major global effect on the food industry and people's behaviour. By influencing both of these, exposure to acetaldehyde can be notably decreased.**

In October 2009, the International Agency for Research on Cancer (IARC), the international cancer research unit which forms part of the World Health Organization, classified acetaldehyde included in and generated endogenously from alcoholic beverages as a Group I human carcinogen.

Acetaldehyde belongs to the same risk class as, for example, asbestos and tobacco.

Specific microbes (bacteria and yeasts) in the gastrointestinal tract are the most important source of acetaldehyde exposure to the human body.

These microbes produce acetaldehyde from alcohol and, in certain circumstances, from sugar.

Unlike the liver, the microbes and the intestinal mucosa cannot remove the acetaldehyde, and due to the effect of alcohol, an abundance of acetaldehyde accumulates in the saliva and elsewhere in the gastrointestinal tract.

Acetaldehyde is a substance that accumulates in the body from several sources, continuous exposure to it thereby severely increasing the risk of cancer to various organs.

Risks posed by acetaldehyde can be compared with those posed by cholesterol

In the light of scientific evidence, health risks related to acetaldehyde correspond to those related to cholesterol but, compared to cholesterol, awareness of acetaldehyde is non-existent.

Therefore, health education related to acetaldehyde should be increased dramatically.

Abstention from smoking, moderate use of alcohol, excellent oral hygiene and avoidance of foods and alcoholic beverages containing acetaldehyde are key factors in reducing the cancer risk caused by acetaldehyde.

In particular, health education should be aimed at known risk groups, or at carriers of the gene mutation increasing acetaldehyde exposure and people suffering from an acid-free stomach.

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People unaware of danger posed by acetaldehyde, the chemical with an apple fragrance

Acetaldehyde is a commonly used substance with an apple fragrance and amply present in nature. Hundreds of tons of the chemical are manufactured annually for use by industry.

In particular, acetaldehyde is abundantly present in foods whose manufacture includes a fermentation process, such as alcoholic beverages, vinegar, dairy products, home brewed beer and mead.

Thanks to its pleasant smell, acetaldehyde is used as a flavouring in yoghurts, sweets, deserts, pastries, soft drinks, fruit juices and alcoholic beverages.

In addition, acetaldehyde can be formed endogenously in some fruits, such as apples, pears and berries, and can also be used as a fruit preservative.

Cigarettes and alcohol contain the same carcinogenic substance

Cigarette smoke contains 1,000 times more acetaldehyde than any other carcinogenic substance. A portion of cigarette smoke acetaldehyde dissolves in the saliva during smoking and is then carried to the pharynx, oesophagus and stomach.

Cancer risk related to acetaldehyde can be reduced

Since exposure to acetaldehyde is cumulative, exposure should be avoided at all levels. The easiest way to do this is to intervene in the acetaldehyde contained in alcoholic beverages and foods. The market already contains alcoholic beverages and other foodstuffs with an acetaldehyde concentration below the safety limit or close to zero.

Finland should establish production lines free of acetaldehyde

Informing consumers of acetaldehyde concentrations in foodstuffs should be rendered mandatory through legislation.

Additionally, food safety authorities should cancel acetaldehyde's GRAS classification ('generally regarded as safe'), and begin applying the ALARA principle ('as low as reasonably achievable') for acetaldehyde in compliance with EU legislation.

Since, in most cases, official decision-making processes take years, the Finnish alcohol and food industry should view the establishment of an acetaldehyde-free production line as an opportunity rather than a threat.

Further information:

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