

Melamine Fact Sheet

What is Melamine?

- *Melamine is an organic chemical rich in nitrogen.¹ It is most commonly found in the form of white crystals.*
- *Melamine is widely used in the production of plastics, resins, cleaning products, adhesives, countertops, dishware, insecticides and fertilizers.² Commercially-produced melamine may contain structural analogues of melamine such as cyanuric acid.³*
- *Melamine is not harmful when consumed in trace amounts according to the world's leading health authorities.*

Definitions: Adulteration vs. Trace Amounts

Adulteration - *to make something less pure by adding inferior or unsuitable elements or substances to it⁴*

- *High levels of melamine in any food product are due to deliberate or accidental contamination.*
- *Deliberate adulteration of foods with melamine is illegal. When food is adulterated with melamine, it makes diluted or poor quality products appear to be higher in protein content. This occurs because adding melamine to food raises the nitrogen level – a marker of protein content.*
- *Illegal adulteration of animal feed has also led to the appearance of unacceptable levels of melamine in human food.*

Health Consequences of Adulteration with Melamine

- *The adulteration of milk or other food products with melamine has serious health consequences, particularly by causing kidney stones and/or damage to the kidney.*

Trace Amount - *an amount of something that is detectable, but too small to be quantified⁵ or have health consequences*

- *Because melamine is approved for use in plastics such as dishware and packaging, trace amounts may migrate into foods.*
- *Melamine is widely present in the environment as a result of its industrial and agricultural uses. In addition, trace amounts may be present in food commodities such as animal feed. Such cases may lead to the presence of trace amounts of melamine in a range of foods, e.g., eggs, milk, meat.*

Health Consequences of Trace Amounts of Melamine

- *Trace amounts of melamine are not harmful when consumed.*

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Melamine Recommendations

It is important to differentiate between low background – or trace levels – of melamine in foods versus intentional adulteration.

In order to clarify this distinction, the World Health Organization (WHO) on December 5, 2008 established a tolerable daily intake (TDI) of melamine. The TDI for melamine has been established at 0.2 mg/kg body weight (i.e. a 50 kg/110 lb person can tolerate 10mg of melamine per day).⁶

With the concerns raised regarding illegal adulteration of foods with melamine, the infant food industry is very supportive of governing authorities in their efforts to define background (trace) amounts in light of real risk assessment. The industry works closely with and applauds the efforts of health authorities to establish the background (trace) level of melamine that is not dangerous to consumers but that may occur through the supply chain. Industry associations and individual companies have shared their scientific expertise on food safety and safe background quantities of melamine and its analogues with authorities in many countries

References

¹ Information provided by the WHO's Questions and Answers on Melamine document; <http://www.who.int/csr/media/faq/QAmelamine>, December 10, 2008

² Information provided by the WHO's Questions and Answers on Melamine document; <http://www.who.int/csr/media/faq/QAmelamine> and CDC's Frequently Asked Questions document; <http://emergency.cdc.gov/agent/melamine/chinafood.asp>, December 10, 2008

³ Information from the WHO Executive Summary of the Expert meeting to review toxicology aspects of melamine and cyanuric acid, December 1-4, 2008

⁴ Definition from Encarta Dictionary

⁵ Definition from Encarta Dictionary

⁶ Information from the WHO press release, "Expert set tolerable level for melamine intake," December 5, 2008