

# CODEx ALIMENTARIUS COMMISSION



Food and Agriculture  
Organization of  
the United Nations



World Health  
Organization

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**CF/5 CRD 22**

**(original language only)**

## AGENDA ITEM 5

### COMMENTS BY THE NATIONAL HEALTH FEDERATION

Melamine is an organic base and a trimer of cyanamide, with a 1,3,5-triazine skeleton. As with cyanamide, it contains 66% nitrogen by mass and, if mixed with resins, has fire-retardant properties due to its release of nitrogen gas when burned or charred, and has several other industrial uses. It is synthetic and not found in nature unless deliberately added into food or food items. It is deadly to humans and animals.

#### **Toxicity**

The European Union itself set a standard for acceptable human consumption of melamine at 0.5 milligrams per kg of body mass (based upon a relatively short period of time, i.e., not enough time for cumulative effects to occur), Canada declared a limit of 0.35 mg, and the United States FDA's limit was put at 0.63 mg (based upon a *13-week* rat study), but was later reduced to 0.063 mg daily.

The World Health Organization's food-safety director estimated that the amount of melamine a person could stand per day without incurring a **bigger** health risk, the "tolerable daily intake" (TDI), was 0.2 mg per kg of body mass.<sup>[i]</sup>

Note that the above studies were **very** short-term studies and cannot in any way be used as a basis for determining the **cumulative** effects of melamine on humans and animals.

#### **Toxicity Cumulative**

Very importantly, though, a recent study conducted by the School of Public Health (Beijing, China) and the Beijing Center for Disease Prevention and Control, <sup>[ii]</sup> found dangerous cumulative effects from exposure to melamine. This study should be given great weight in that it considered the long-term effects of melamine consumption, something that almost all other studies of melamine contamination ignored.

As reported by the Chinese researchers, "In general, the adjusted odds ratios between melamine dose and nephrolithiasis **increased** with an increasing daily level of melamine intake per kilogram of body weight. The risk of nephrolithiasis **also increased** with the increasing duration of exposure. Preterm infants, urinary malformation, and parents with a history of urinary stones were independent risk factors. In children exposed to melamine levels <0.2 mg/kg per day, the adjusted odds ratio expressing the risk for nephrolithiasis was still 1.7 times higher than in those without melamine exposure. **These findings suggest that the risk of melamine-induced nephrolithiasis in young children starts at a lower intake level than the levels recommended by the World Health Organization.**" (emphasis added)

Given the European Union's and other countries' penchant for adhering to the Precautionary Principle, one would think that when a proven-dangerous, cumulative, man-made substance such as melamine is present in the food supply, these countries would be just as strict in applying safety limits to melamine as they have quite correctly been with GM foods and crops.

Because of the cumulative, detrimental effects of this synthetic contaminant, this Committee cannot afford the luxury of establishing a maximum level based upon short-term studies conducted in isolation of melamine's interaction with other contaminants. The level must be set as low as possible.

### Proposal

The National Health Federation has always argued that this synthetic contaminant – which can easily be eliminated from our food supply by banning its use in food equipment, pesticides, and the like – should have a maximum level of zero.

However, given the mood of this Committee to allow a certain amount of melamine contamination despite its avoidable health dangers, CCCF and CAC should set the maximum level as low as possible. **For this reason, the NHF supports the US FDA maximum level of 0.063 mg/kg., particularly where vulnerable infants are involved.**

Nevertheless, recognizing that the majority of Codex delegations support a maximum level of 0.125 mg/kg (while others either support no limit or a higher limit of 0.5 mg/kg), the NHF agrees with the comments of the Delegation of Kenya (CX/CF 11/5/5-Add.1), which states that it *"[s]upports position of 0.125 mg/kg for liquid infant formula considering we can achieve a level of less than 1 mg/kg in powder infant formula. Use of melamine containing packaging material should be discouraged."*

Other delegations, such as that of the European Union, Tanzania, Cameroun, and the Philippines, have stated similar support for this lower maximum level of 0.125 mg/kg. While this proposed level is double that of the US FDA maximum level, it is still far better than the 0.5 mg/kg or even higher permissive levels proposed by some other delegations.

Melamine is a man-made contaminant, deliberately added to food by man's use of it. Unlike natural contaminants, such as arsenic and lead, which occur naturally in the environment, melamine can be easily eliminated. At the very least, its unnecessary use by industry in food production should be discouraged by the adoption of highly-restrictive maximum levels. We possess the easy means to eliminate this cumulative, deadly contaminant through the use of safer substitutes. We would be remiss in our duty were we not to act now to reduce or eliminate melamine contamination.

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1. Lara Endreszl (10 December 2008) *"Safe Melamine Levels Named by World Health Organization"* *Health News*.
  2. Gang Li, Shufang Jiao, Xiangjun Yin, Ying Deng, Xinghuo Pang, and Yan Wang, "The risk of melamine-induced nephrolithiasis in young children starts at a lower intake level than recommended by the WHO," *Pediatric Nephrology* 25:1, pp. 135-141 (Jan 2010), at <http://www.springerlink.com/content/h8353152m3140536/>.