



## Melamine and Metal Packaging

Recent events reported from China involving melamine and the potential abusive applications in milk and infant formula products are disturbing and warrant clarification. These products were intentionally contaminated with melamine reportedly to increase the protein analysis results, thereby enhancing the product's apparent nutritional value. A similar event last year involved pet food from China which utilized melamine for the same purpose. There is now, understandably, confusion in the marketplace as a result of these events, giving rise to concern about the role that melamine plays in other consumer items, including food packaging coatings.

While melamine is utilized as a reactive substance in a class of curing resins employed in coatings, the amount of residual melamine in the curing resin is extremely low. The amount in the cured coating film is even lower, due to the low percentage used in the formulas and the reactivity during the coating bake. Melamine is not used in packaging coatings without first being reacted with other materials to form the alkylated melamine-formaldehyde resins that are very low in free melamine. These resins provide the cross linking reaction with the other coating constituents to cure the coating.

The safety of melamine as a starting reactant for resins that are used in coatings in contact with food has been reviewed and confirmed by regulatory agencies around the world, including the U.S. Food and Drug Administration (FDA) and the European Food Safety Authority (EFSA). Melamine-formaldehyde resins are explicitly permitted by FDA for use in formulating coatings that are applied to a wide variety of substrate materials -- including cans and other metal articles, paper and paperboard, polyolefin films, and PET films -- where the coatings may come into direct contact with food. In the European Union, melamine has been fully assessed by the Scientific Committee for Food (SCF) and is on List 2 with a Specific Migration Limit (SML) of 30 mg/kg, or 30 ppm.

The toxicological effects of melamine as seen in China have been found to occur only at a very high dose. The combination of the very low potential for consumer exposure and the low degree of mammalian toxicity ensure the absence of any substantive health or safety concern regarding the use of melamine-based resins in food packaging coatings.

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### About NAMPA

The North American Metal Packaging Alliance, Inc. and its members support sound science and trust the scientific review process that has protected our food supply for decades. For further information, visit [www.metal-pack.org](http://www.metal-pack.org).

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