FOOD STANDARDS Australia New Zealand
Te Mana Kounga Kai - Ahitereiria me Aotearoa

Nanoparticles and infant formula

(July 2017)

A recent report commissioned by Friends of the Earth claimed that nanoscale particles were detected in some infant formula products available for sale in Australia and New Zealand.

FSANZ has reviewed the available information and concluded it does not contain any new evidence to suggest these products pose a risk to infant health and safety. This conclusion is supported by experts from our Scientific Nanotechnology Advisory Group. See also the expert reaction from the Australian Science Media Centre here.

Carers of infants should not be alarmed by this report or concerned about the safety of these products.

FSANZ notes that:

- Hydroxyapatite is soluble in acidic environments such as the stomach, so small amounts in food are likely to dissolve to release calcium and phosphate. These are essential minerals that are required to be in infant formula products.
- Calcite has low solubility in the gastrointestinal tract regardless of whether it is in nanoscale form or in larger particles. The small fraction that is absorbed is likely to be in the form of calcium.
- Silicon dioxide has been used safely as a food additive in other foods in Australia, and internationally, for many years. See FSANZ's previous response to media enquiries about titanium dioxide and silicon dioxide.
- Nanoscale materials are not new. Food is naturally composed of nanoscale sugars, amino acids, peptides and proteins, many of which form organised, functional nanostructures. For example, proteins are in the nanoscale size range and milk contains an emulsion of nanoscale fat droplets. Humans, including infants, have consumed these particles in foods throughout evolution without evidence of adverse health effects related to the materials' nanoscale size.
- Nano-size particles may not be the result of intentional addition (e.g. as an additive), some are naturally occurring and others may be produced during processing.
- The presence of something, whether on the nanoscale or not, in a food that does not have a permission in the Code does not mean a food is unsafe.

Safety/regulatory requirements for infant formula in Australia

All infant formula products sold in Australia and New Zealand must meet stringent requirements set out in the infant formula standard in the Food Standards Code. This is one of the most comprehensive standards in the Code and is enforced by national, state and territory authorities and the Ministry for Primary Industries in New Zealand.

- Standard 2.9.1 – Infant formula products
- Schedule 29 – Special purpose foods

If FSANZ were to become aware of any public health issues with specific nanomaterials, we would work with the state and territory enforcement agencies to develop appropriate risk management measures.

Read more about nanotechnology in food

Expert reaction to media reports about nanoparticles in baby formula