Senate Economics Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Treasury Portfolio
Budget Estimates 2014
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Department/ Agency: Australian Competition and Consumer Commission
Question: BET 3670
Topic: Nano coatings on food contact materials
Reference: Written – 25 June 2014 (transferred from Food Standards Australia New Zealand)
Senator: Siewert

Question:

3670. Is FSANZ (ACCC) aware of the use of nano coatings on a variety of food contact materials in Australia, such as kitchen counters, cutting boards, utensils, plastic food containers and baby bottles?

Answer:

3670. The ACCC is aware of applications for nanometre scale particles that include food packaging, utensils and materials that come into contact with foods.

Throughout their existence, humans have been exposed to nanometre scale particles such as smoke, dust, ash, and fine clays through air, food and water. Humans inhale and ingest many millions of organic and inorganic nanoscale particles every day in their food and drinking water. It is estimated that people inhale around 10 million nanometre scale particles in every breath.

For decades fine mineral particles such as talc and glass have been used as fillers to enhance the mechanical and thermal properties in plastics. Clay has also been used in surface coating and printing of cardboard products.

More recent nanotechnology applications overseas include the use of nanometre scale particles such as; titanium nitride, zinc oxide, titanium dioxide and silver in food packaging and food contact materials. The nanoscale materials chosen by packaging companies tend to be those already permitted in food (a number of silica and oxide particulates are permitted as food additives) as this simplifies the issues around safety and premarket approval.

The incorporation of nanoscale particles of silver into plastics has been demonstrated to kill harmful microorganisms and this technology is already being used in fridge and washing machine liners, cutting boards, socks and other consumer products. Oxides of zinc and titanium incorporated into plastic help reduce transmission of light (ultra violet) through the material helping to preserve the contents.

The incorporation of titanium nitride particles in PET plastic bottles has been assessed by the United States Food and Drug Administration and the European Food Safety Authority. Both assessments of the titanium nitride particles in food packaging concluded that migration into the food does not occur and exposure through the food is therefore nil. See http://www.efsa.europa.eu/en/efsajournal/doc/cef_op_ej888-890_21stlist_en,3.pdf?ssbinary=true.

The ACCC works closely with Food Standards Australia New Zealand which has regulatory responsibility for food and food packaging, the Therapeutic Goods Administration (TGA) which has regulatory responsibility for therapeutic goods and the National Industrial Chemical Notification and Assessment Scheme (NICNAS) which is the national regulator of industrial chemicals.

NICNAS conducts scientific risk assessments of industrial chemicals and maintains the Australian Inventory of Chemical Substances (AICS). The ACCC is guided by the advice of NICNAS in relation to the safety of chemical substances (including nanometre scale particulates) and the status of a substance on the AICS. Since 1 January 2011, NICNAS changed their administrative processes for the notification and assessment of industrial nanomaterials. Any new chemical that falls under their working definition of 'industrial nanomaterial' must be notified for safety assessment.

The ACCC recognises that nanometre scale particles can behave differently to larger particles of the same type of matter. It is therefore important to ensure that the use of small particles in consumer goods is safe. An intergovernmental working group has been established, of which the ACCC is an active member, to consider the health, safety and environmental issues around nanotechnology and to closely monitor the scientific literature and international expert opinion.

On the basis of all the information now available, the ACCC is satisfied that current applications for nanoparticles in consumer goods, including silver and clay, do not pose safety concerns and are suitable for their intended purpose.