

ACE submission to NICNAS on the regulatory reform proposal for Nanomaterials.

ACE welcomes this opportunity to submit comment on the proposal to regulate Industrial Nanomaterials and would like to be included on any consultative stakeholder database in the future.

Consultation

ACE believes that the regulation of this emerging new technology and the associated unknown, possible public health and environmental impacts dictates that proactive and extensive community engagement is essential. The public interest must override any notion of corporate protection whilst major data gaps exist in the knowledge of this new technology.

The CEF is NICNAS's own engagement forum and therefore should be proactively included in any consultation on Nanotechnology in Australia. ACE would like to see the role of the CEF supported better to ensure that the public interest has a voice in relation to the release of nanomaterials onto the market and into the environment. To date the Federal government's approach to stakeholder engagement on Nanotechnology leaves much room for improvement. To this end ACE urges NICNAS to involve the CEF more fully in future engagements with all stakeholders.

Public Health and Environmental Protection

ACE believes that there should be a moratorium on the commercial use of nanomaterials until the major data gaps in knowledge applicable to risk assessment for nanomaterials and products, is fully defined, understood and validated.

NICNAS should urgently enforce the precautionary principle in relation to nanotechnology and associated products so that the health of the Australian public and environment is not compromised. As Australia is a signatory to international conventions such as the Rio Brundtland - Principles of Ecologically Sustainable Development through Agenda 21 and the Bahai Declaration, ACE believes that NICNAS should pro-actively uphold these principles. (1)

This would mean that NICNAS should work with the ACCC to ensure labelling of nanomaterials in all consumer products so as to fulfil the important principle of "community right to know".

This would also mean that NICNAS should ensure that full peer reviewed, scientifically validated health and environmental risk assessments exist to adequately protect the Australian population and environment before any nanomaterial is released for use. To do otherwise could see a repeat of the horrendous events associated with the use of asbestos products in Australia. The impacts of nanomaterials will be far more wide reaching and profound than asbestos because of the prolific and extensive possibility of uses. The potential for the disproportionate impacts on women and children (including invitro) must be recognised urgently and addressed.

It is already known that nanomaterials pass directly through the placenta and into the bloodstream.(2) Therefore, cosmetic and domestic products are a priority area for investigation and effective regulation.

As with all chemicals that do not biodegrade totally, it is the environment that is the ultimate repository for their residues. It is well known that waste disposal sites contribute extensively to the contamination of the environment and there are many studies throughout Australia that have documented these environmental residues.

Just recently in WA there have been a number of reports detailing the pollution residues in sediment and water in the Swan river. These reports highlight the long term impacts that chemicals can pose in the environment such as organochlorine pesticides and heavy metals. These residues continue to pose ongoing risks to the environment many years after they have been banned for use.(3)

Therefore, the full life cycle, from manufacturer to disposal must be fully investigated and accounted for in any risk or hazard assessment, as the re-uptake of these residues into the food chain and ultimately the bodies of humans again, is an area of environmental health that is poorly understood or accounted for in chemical assessments in general. The unique and complex biomagnification that nanomaterials could pose in the Australian environment requires greater consideration in the assessment and regulation of nanomaterials in Australia.

ACE believes that NICNAS does not currently have a regulatory system that can account for such needs in relation to nanomaterials. The Review of Existing Chemicals has highlighted many loopholes and regulatory inadequacies that will potentially apply to nanomaterials that have yet to be addressed, therefore a precautionary approach is further warranted.

NICNAS does not have an adequate permit system that could apply to nanomaterials nor does the NICNAS regulatory system have adequate tools to gather information. Voluntary options for industry have been disproved as effective and NICNAS is yet to engage downstream users of industrial chemicals. Vital information about use is simply not within NICNAS's regulatory powers and until information relating to how, where and what quantities of chemicals are released into the environment and the impacts of their residues, this major data gap in knowledge will continue to undermine the integrity of chemical assessments as they relate to nanomaterials and therefore the public's confidence in their safe regulation.

Therefore ACE recommends that a specific permit system for all nanomaterials is justified.

ACE submits these comments to NICNAS in good faith and looks forward to receiving some feedback on our submission through this community engagement process.

Jane Bremmer
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1. [Peel, J., The Precautionary Principle in Practice: Environmental Decision-Making and Scientific Uncertainty \(Federation Press, Sydney, 2005\); Also see Lloyd-Smith, M., Precautionary Principle Gets Real, Proceedings of the Environmental Grantmakers Conference, Kauai, Hawaii 2004](#)

2. [Tsuchiya et al, Novel harmful effects of \[60\] fullerene on mouse embryos in vitro and in vivo. Fed. of European Biochemical Societies \(FEBS\) Letters 393 \[1996\] 139-145](#)

3. [Baseline study of contaminants Swan and Canning catchment drainage systems. WA Department of Water, Feb 2009, and A Baseline study of contaminants in the sediments of the Swan and Canning estuaries. Wa Department of Water, Feb 2009.](#)