

**Submission to the
Review of the National Industrial Chemicals
Notification and Assessment Scheme
August 2012**

Submission from
Doctors for the Environment Australia Inc.
David Shearman, Hon Secretary
College Park House, 67 Payneham Road
COLLEGE PARK SA 5069
Phone: 0422 974 857
Email: admin@dea.org.au
<http://www.dea.org.au>



The following are members of our Scientific Committee and support the work of
Doctors for the Environment Australia

Prof. Stephen Boyden AM; Prof. Peter Doherty AC; Prof. Bob Douglas AO; Prof. Michael Kidd AM;
Prof. David de Kretser AC; Prof. Stephen Leeder AO; Prof. Ian Lowe AO; Prof. Robyn McDermott;
Prof. Tony McMichael AO; Prof. Peter Newman; Prof. Emeritus Sir Gustav Nossal AC; Prof. Hugh Possingham;
Prof. Lawrie Powell AC; Prof. Fiona Stanley AC; Dr Rosemary Stanton OAM; Dr Norman Swan;
Professor David Yencken AO

Doctors for the Environment Australia is a voluntary national organisation of medical doctors working to prevent ill health caused by damage to the environment. DEA Australia is a branch of the International Society of Doctors for the Environment (ISDE), a global network of concerned medical professionals.

DEA commends the Department for seeking views of non-industry stakeholders. Given NGOs are often poorly resourced and NGO representatives often have to bear significant costs to attend stakeholder workshops in person due to lost work income, travel and accommodation costs, true stakeholder input requires a level playing field with well-resourced industry lobbyists and should be budgeted for by the Department.

This submission by DEA is made at the request of the Department of Health and Aging subsequent to a teleconference on 8th August 2012 organised by Blair O'Connor, Assistant Director Chemical and Plastics Regulation Reform Taskforce, Office of Chemical Safety, between representatives of the Department and their consultants and representatives of DEA: Dr Marion Carey (Public Health Physician), Dr George Crisp (General Practitioner), and Dr Helen Redmond (Consultant Physician). The submission will address key aspects of the discussion paper and then issues of concern canvassed in the teleconference.

- DEA agrees with the summary of stakeholder input that “the industrial chemicals regulatory framework is complex and that a lack of clarity and fragmentation poses a challenge.”
- DEA is concerned about the slow progress NICNAS has made in assessing existing and unassessed chemicals on the Australian Inventory of Chemical Substances (AICS). One of the main functions of the regulatory system is to protect human health and well-being. The Australian public has an expectation of protection from adverse chemical exposures and looks to government to fulfill this function. The system is currently failing to adequately perform this function.
- It is of concern to DEA that there is little or no scope to ban or restrict the use of dangerous chemicals; to track and monitor use; and to respond to risks which emerge post-market and that there are circumstances in which chemicals can be introduced into Australia, without adequate conditions of use, because there is no clear risk manager or there is a delay in risk managers considering the NICNAS recommendations and imposing any necessary conditions for safe use.

- DEA agrees that NICNAS should have the capacity to consider overseas assessments but should continue to be able to take into account unique Australian conditions and not be bound by the decision of a foreign government as to whether a chemical is safe for introduction in Australia
- DEA is concerned about the limited ability of NICNAS to undertake urgent assessments or re-assessments in response to issues of immediate concern and the potential 'gaps' in regulatory coverage when NICNAS makes recommendations to risk managers and there is no other relevant risk manager or a delay in consideration of the recommendations or imposition of risk management conditions.
- DEA is very concerned about NICNAS' inability to track, use and gather data (resulting in a limited understanding of the longer term effects of chemicals in Australia), the absence of any mandatory system of adverse reporting and the lack of basic power to ban chemicals that have been banned overseas or shown to be harmful to human health or the environment.
- DEA supports NICNAS receiving some immediate and adequate budget funding to enable it to expedite assessment of existing chemicals and to undertake important post-market monitoring.
- DEA is concerned about the current situation where an introducer can request that information such as the name of the chemical and its function and structure be kept commercial in confidence and that this can affect the capacity of regulators to perform their functions and for introducers to understand their obligations. DEA believes that reforms requiring greater transparency are required in order to adequately protect public health and the environment.

As discussed in the teleconference on this issue, a number of these problems are illustrated by what is happening currently with chemicals used in the coal seam gas (CSG) and shale gas industries for hydraulic fracturing (fracking) in Australia.

The CSG industry is expanding rapidly across the country and encroaching on the environments of thousands of Australians. There is emerging evidence from the United States that exposure to fracking chemicals either directly or indirectly may be hazardous to health.

<http://www.endocrinedisruption.com/chemicals.journalarticle.php>
<http://www.ncbi.nlm.nih.gov/pubmed/22444058>

Some US authors have said "Communities living near hydrocarbon gas drilling operations have become de facto laboratories for the study of environmental toxicology".

<http://baywood.metapress.com/link.asp?id=661442p346j5387t>

Some communities have already begun to report adverse health impacts.
<http://www.abc.net.au/news/2012-07-26/health-experts-to-probe-csg-health-complaints/4155672>

Adequate health risk assessment is an important tool for assessing human health impacts of the industry, but this relies on accurate hazard information, which is largely absent. One of the problems is the lack of public transparency around the chemicals used, the majority of which have not been assessed for safety (and none for safety in the context of fracking), and the lack of monitoring of their use.

The peak industry organisation APPEA has listed about 45 compounds used during fracking in Australia but as there is no national requirement for public disclosure of chemicals used, it is unclear which additional ones are used. In the US at least 750 chemicals have been reported as used in the unconventional gas industry there.

<http://democrats.energycommerce.house.gov/sites/default/files/documents/Hydraulic%20Fracturing%20Report%204.18.11.pdf>

CSG companies frequently infer safety of these products to the public due to the fact some are components of household products. APPEA says "Some of the chemicals used in fracking may have some toxic characteristics...; however, when diluted such as in fracking gels, they present minimal to no human or ecological risk". It is difficult to understand how such claims can be made when NICNAS has assessed only four of the chemicals used for fracking, and none of these in the specific context of fracking.

<http://www.youtube.com/watch?v=DBnOBgJPuYE>

Furthermore, there is no system of adverse reporting or ongoing surveillance of this chemical use.

Medical practitioners in the US have also expressed concerns that the secrecy around fracking chemicals may be detrimental to management persons exposed to these chemicals.

<http://www.thedailybeast.com/newsweek/2008/08/19/a-toxic-spew.html>

Community groups find it extremely difficult to obtain information on fracking chemicals used in their environment, as companies often use trade names only without CAS numbers and the range of potential synonyms without a unique identifier creates confusion and anxiety.

In Western Australia, a community group recently wanted advice on chemicals to be used in drilling and fracking at the Arrowsmith gas project (near Eneabba). Material Safety Data Sheets were provided to the community by the drilling company. One of these details a product identified as "PHPA (ALL GRADES)", (synonym: "Magnafloc"). The MSDS lists the chemical name as "Anionic acrylamide copolymer powder". No CAS number is provided. Under the heading "Hazardous Identification", this material is described as "Non-hazardous, Non-dangerous goods".

Further on the information under "Ingestion" states: "Health injuries are not known to occur under normal use".

There are two problems with this; the first is that acrylamide is known to be a neurotoxic compound and carcinogenic in animals.

<http://www.atsdr.cdc.gov/PHS/PHS.asp?id=1113&tid=236>

Also the advice for ingestion does not make sense, as "normal use" would by definition preclude ingestion. The company was contacted to determine if the product was "Acrylamide (CAS number 79-06-1)", but they were unable to confirm the exact nature of this compound, stating that the supplier did not provide that information. If this is the case, then it also follows that they are not able to confirm if the correct safety information has been supplied.

This is in marked contrast to the claims made by industry representatives at community meetings. At one such event in Dongara, where this same project was discussed, the question of chemical disclosure was raised. A company representative present was insistent that all chemicals used in these operations were detailed on MSDS's made available to the public via their websites. Moreover, company representatives did not accept that chemicals in use had not been adequately assessed by the regulator for safety. It is therefore likely that these companies do not fully understand the nature of chemicals in use, their safety or the regulatory framework around chemical safety and disclosure. Furthermore communities feel frustrated by lack of accurate information and adequate safeguards for their health.

Community members have expressed concerns about fracking with chemicals such 2-butoxyethanol, which has recognized human health effects, in the water catchment of Brisbane. Industry however dismisses this as merely "detergent". http://blogs.abc.net.au/queensland/2012/03/fracking-used-in-brisbane-water-catchment-area-.html?site=brisbane&program=612_morning

2-butoxyethanol has been assessed by NICNAS as a Priority Existing Chemical in relation to cleaning products, but not in relation to fracking. http://www.nicnas.gov.au/publications/car/pec/pec6/pec_6_full_report_pdf.pdf

The same chemical 2-butoxyethanol was found by the US EPA to have contaminated underground water supplies in Pavillion, Wyoming USA, where fracking had occurred. <http://www.scientificamerican.com/article.cfm?id=epa-finds-fracking-compound-wyoming-aquifer>

In summary, the current situation with chemical use in the unconventional gas industry highlights many of the gaps and inadequacies of the current industrial chemical regulatory system. These include lack of assessment of any of the current fracking chemicals in the relevant environment, inflexibility in being able to quickly screen chemicals of concern, lack of monitoring of use or any adverse reporting

system, and lack of transparency of chemical use. This contributes to difficulty developing accurate and comprehensive health risk assessments of the industry. It also leaves the community relatively unprotected without ready access to accurate and independent information on chemical safety to be able to ensure a safe and healthy environment for their families.

DEA looks forward to action based on the current review and would be happy to contribute further to helping develop a more robust and responsive regulatory system.