

From: Colin Walker [ghem@bigpond.net.au]
Sent: Wednesday, 14 January 2009 3:20 PM
To: MCS
Subject: Working Draft MCS Comment

Dear officers of the National Industrial Chemicals Notification and Assessment Scheme (NICNAS) and the Office of Chemical Safety (OCS)

I write to comment on the working draft prepared in November 2008 to identify research needs associated with MCS. Your draft comes to my attention through my involvement with community members who lived near the Wagerup alumina refinery over the period from 1996 to around 2003 and developed poor health conditions characteristic of MCS. There were several family members in more than one family developing symptoms and the onset of weather conditions inducing acute symptoms (nausea, headaches, ..) have been the subject of research.

I have investigated the exposure information provided through state agency testing and that by Alcoa and believe that there are multiple agents involved in inducing these cases. As well as aldehydes such as formaldehyde there are other semi-VOCs such as pyrene and styrene that are in trace amounts at the stack emission point but that may cyclically condense onto surrounding Eucalyptus foliage overnight (a process called cold condensation) and re-volatilise with radiative warming the following morning. A further material of concern is alumina itself. Soluble aluminium salts act as an adjuvant and was a common addition to development of allergies for study in animal models. Alumina production seeks to avoid handling alumina in a soluble form that could cause such problems: the refinery harden it in a plant process sequence called calcining. However at one point Wagerup produced a considerable quantity of badly calcined alumina and stockpiled it in the open, where wind transport might disperse a small portion. At least: I have been shown a photograph of an uncovered stock said to be inadequately calcined.

I therefore put forward the prospects that the high complaint level of MCS health issues in the proximity of the Wagerup refinery may have these agents involved. It should also be noted that mercury is a byproduct of operating vacuum pumps over solutions of aluminium – caustic and that an alkaline red mud is a periodically lifted from dry residue ponds.

I know of nothing involving mercury, but I am aware that the veterinarians of the WA Dept Agriculture did not a regional inflammation of respiratory systems in stock in the region, and attributed this to the red mud. Hydrolysis of epithelium cell membrane proteins on caustic diffusion is my concern, with an immunological response thereto.

Regards,

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