

BY FAX TRANSMITTAL

30 April 2004

Mr. William V. Kennedy
Executive Director

Commission for Environmental Cooperation
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393, rue St-Jacques Ouest, bureau 200
Montréal (Québec)
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Dear Mr. Kennedy:

Thank you for having shared with the Canadian Chamber for International Business, the CEC draft report, *Taking Stock: A Special Report on Toxic Chemicals and Children's Health in North America*. We agree with its central premise that society has a responsibility to ensure we are adequately assessing, preventing and reducing risks to our children's health.

We support the objective of increasing the public's understanding of issues related to toxic chemicals and children's health in North America. While we agree that pollutant release and transfer registers (PRTRs) help communities and citizens gain an understanding of the sources and management of pollutants, we have serious concerns about the report's use of PRTR.

As you state, in the Executive Summary, "*PRTR data are releases and transfers of chemicals, and do not necessarily reflect exposures to the public of these chemicals.*" Aggregation of chemical releases and transfers by tonnage, as a common denominator, assigns a value to each substance which is independent of environmental or health considerations. Unfortunately, such aggregated data, even when carefully qualified, can seriously misrepresent the risks to population health, associated with individual substances and/or facilities releasing and transferring such substances. You recognize this, yourself, in the report, where you describe the limitations of PRTRs, in that they do not include:

- information on the toxicity or potential health effects of chemicals;
- information on risks from chemicals released or transferred; or
- information on exposures to humans or the environment from chemicals released or transferred.

In addition we would also point out the following limitations:

- information on the form in which the chemical is emitted (speciation)
- information on exposure from natural sources

These limitations are particularly relevant in terms of the aluminum substances listed as suspected neuro-toxicants. For example, it has been demonstrated that some patients with kidney failure, undergoing dialysis, developed a specific neurological condition, called dialysis encephalopathy. This condition was associated with exposure to aluminum in the dialysis fluid combined with long term medical use of aluminum compounds for phosphate removal. It has been demonstrated that this condition is both clinically and pathologically absolutely different from those of Alzheimer's Disease and can be avoided by controlling aluminum intake in these individuals. These are patients who have no useful kidney function. Even natural substances like sodium, potassium and urea accumulate in their bodies to life-threatening levels because they are unable to excrete them normally. These substances, too, exert severe neurological symptoms.

A few studies suggest that, over a lifetime of working as aluminum welders, without breathing protection, some individuals developed symptoms that may be linked to the aluminum exposure. Other studies found no such effects. The U.S. Agency for Toxic Substances and Disease Registry refers to cases of brain and bone disease (acquired through dialysis) in children with kidney disease, as well as bone disease in children taking some medicines containing aluminum. Children with kidney failure undergoing dialysis are in very bad medical condition, where normal body functions are no longer working,

Most research on aluminum and neurological disorders has centered on a possible causal role for aluminum in Alzheimer's Disease (A. D.). Most recent studies, however, have failed to document any relationship. The World Health Organization and both the Alzheimer's Society of Canada and Alzheimer's Association (U.S.) stress that the overwhelming medical and scientific opinion is that the research carried out to date does not demonstrate a causal relationship between aluminum and Alzheimer's Disease.

The rare conditions in which children have developed complications related to aluminum have no relationship to the aluminum emissions reported in the PRTR data. We are unaware of any research implicating aluminum (fume or dust) and/or aluminum oxide as neurotoxic threats to children's health.

Your report indicates that the lists were compiled by Environmental Defense, from 'government and academic sources'. There is no indication, however, that any consideration was given by Environmental Defense to the reasons for which the substances were listed, nor the research on which the listings are based. In addition, no information is provided indicating when the lists used to generate the Environmental Defense report were last reviewed for scientific accuracy and currency – e.g. the ATSDR final report on Aluminum was made in 1999 and states a specific minimum risk level of 2 mg/Kg/Day – oral intake. In the absence of such considerations, linkage of aluminum fume and dust or aluminum oxide to children's health, rather than informing, could seriously mislead the public about risk to health causing unnecessary anxiety and undue personal health concerns. It is of note that the Joint FAO/WHO Expert Committee on Food Additives established, in 1989, a Provisional Tolerable Weekly Intake for aluminum of 7 mg/kg body weight / week.

It is also important to note that Aluminum Oxide (Alumina and its fibrous form), as the most insoluble aluminum compound, is most unlikely to pose a risk as a neurotoxicant. Aluminum oxide does not normally occur in fibrous form, aluminum oxide fibers are specially produced for dedicated applications and have no relation to the aluminum oxide particle emissions from alumina refineries or primary smelters reported in PRTR databases. Studies on aluminum neurotoxicity have routinely focused on soluble Al^{+3} salts and no studies have demonstrated any relation between aluminum oxide and neurological effects.

Prior to publication of the report, we request an opportunity to review the studies on which the decisions related to inclusion of aluminum fume and dust and aluminum oxide are based, to understand how these substances could have any relevance to children's health.

Yours sincerely,

C. Van Houtte
President
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