

THE UNIVERSITY OF BRITISH COLUMBIA  
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DEPARTMENT OF CHEMISTRY

January 20, 1977

The Hon. Marc Lalonde  
Health Minister  
House of Commons  
Ottawa, Ontario K1A 0X2

Dear Sir:

The recent publicity to the controversy concerning the exposure of the citizens of Yellowknife to arsenic has prompted me to write to you to draw your attention to the work of the Bioinorganic Chemistry Group at the University of British Columbia, Vancouver. This group which is based in the Chemistry Department, U.B.C., was funded by the National Research Council of Canada two years ago, through a Negotiated Development Grant, to work on specific problems involving the biochemistry of metals and metalloids.

One of the projects concerns the metabolism and transport of arsenic in the environment. We have shown that arsenic (using the common name for what is actually the poisonous, but moderately insoluble oxide,  $\text{As}_2\text{O}_3$ ) is transformed by microorganisms in the soil to compounds such as trimethylarsine,  $(\text{CH}_3)_3\text{As}$ , which are volatile, moderately stable, and very poisonous. The situation is analogous to the conversion of mercury to methylmercury compounds. The new arsenic compounds, like the methylmercury ones, are more easily assimilated into the living tissue of other organisms. However, unlike mercury, arsenic does not seem to bioaccumulate in the food chain.

Unfortunately, there is very little known about the way arsenic in any form gets into humans and their food, and the amounts necessary to cause hazardous situations. Some of our work is directed to provide information on these subjects and we would appreciate the opportunity to do more.

We are a group of practicing scientists with considerable expertise in this area and should your Department decide to fund further investigations along these lines, we would like to be considered since, at the moment, only a part of our effort can be channelled toward these vital issues.

Yours sincerely,

*W. R. Cullen*  
W.R. Cullen  
Professor and Chairman,  
Bioinorganic Chemistry Group

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Minister's Office  
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JAN 24 1977  
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