Attachment C – June 13, 2002

Statements by Scientists, Scientific and Other Organizations Contradicting EPA's Use of PBT Methodology to Determine that Lead is a PBT (Including Use of Bioconcentration Factors)

March 23, 1995
Great Lakes Water Quality Guidelines
US EPA
EPA's final rule establishing water quality guidelines for the Great Lakes examined whether ten metals, including lead were bioaccumulative substances, and found that none exceeded the BCF of 1000, which it used as its cutoff. [EPA is now apparently using the same set of pre-1995 data and finds that the BCF for lead exceeds at least 1000.]

William J. Adams et al., *The Challenges of Hazard Identification and Classification of Insoluble Metals and Metal Substances for the Aquatic Environment*, 6 Hum. Ecol. Risk Assess. 1019 (2000)

"Persistence measurements typically used for organic substances (biodegradation) do not apply to metals. Alternative measurements such as complexation and precipitation are more appropriate. . . . Further, bioaccumulation and bioconcentration factors are often inversely related to exposure concentration for most metals and organisms, and hence are not reliable predictors of chronic toxicity or food chain accumulation."

May 2000
Science Advisory Board Report
An SAB Advisory on the US EPA's Draft Case Study Analysis of the Residual Risk of Secondary Lead Smelters

The "classification of metals as PBTs is problematic, since their environmental fate and transport cannot be adequately described using models for organic contaminants."

September 22, 2000 Letter
Margaret Cavanaugh, National Science Foundation
to Kevin Bromberg, Office of Advocacy

The PBT methodology "is not consistent with the recommendations of inorganic chemists and other scientists who have considered this issue."

October 4, 2000 Letter
James Hickey, U.S. Geological Survey
to Kevin Bromberg, Office of Advocacy

The "criteria used for classifying organic chemicals (persistence, bioaccumulation and inherent toxicity) cannot be used for metal and metalloid compounds."

October 3, 2000 Email
Thomas Feeley, Department of Energy
to Kevin Bromberg, Office of Advocacy

The Department of Energy staff memo indicates that "the PBT criteria should not be used to establish the environmental hazard of metals."

October 6, 2000
World Wildlife Fund, Views on the List of Priority Substances for Pollution Reduction and on the Procedure for the Selection of Priority Hazardous Substances for Phase-out Under the EU Water Framework Directive

The "PTB [PBT] concept . . . is not fully applicable to metals. All metals are persistent, can accumulate and cause toxic effects. However, they are part of nature and many of them - but not all - are essential for living organisms. Thus the PTB concept does not really allow for priority setting."

January 16, 2001
Commission of the European Communities, Amended Proposal for a Decision of the European Parliament and of the Council Establishing the List of Priority Substances in the Field of Water Policy

"[I]t is not possible to apply toxic, persistent and bio-accumulative criteria to select those metals which should become 'priority hazardous substances'…."

December 2001

Inorganics Working Group Report to Environment Canada on Hazard Categorization of Metals

"Agreement was not achieved on the scientific relevance of B [bioaccumulation] within Environment Canada's regulatory framework, however, the IWG agreed that most published BCF (bioconcentration factor) and BAF (bioaccumulation factor) data for inorganics are, in practice, not useful for categorization. Thus, for the mechanical purposes of characterization, bioaccumulation based on BCF and BAF values can generally be ignored unless, based on best professional judgement, such data prove useful for some specific substances."