

February 14, 1994

DEPARTMENT OF  
HUMAN  
RESOURCES

HEALTH DIVISION

Ms. Diane Manning  
Docket Office Manager  
Division of Standards Development and Technology Transfer  
National Institute for Occupational Safety and Health  
4676 Columbia Parkway, MS C-15  
Cincinnati, OH 45226-1998



Dear Ms. Manning:

This letter is in response to the request for information on family member exposures to contaminants brought home due to occupational exposures. The Oregon Health Division maintains surveillance programs for elevated blood lead levels and for pesticide exposures. We are able to provide limited information on family exposures resulting from chemicals brought home from the workplace from these two systems. We have not received anecdotal reports of exposures to other chemicals for which we do not conduct routine surveillance. There are no Oregon rules or laws which deal specifically with home contamination from occupational exposures.

There has been only one reported case since 1987 of a confirmed pesticide-related illness in family members due to "take home exposure." In this particular case the exposure was actually to members of a neighboring family. The circumstances in this incident are described in item A on the following page.

Two cases of take home lead exposure are described (B and C) on the following page. One case is recent and still undergoing investigation, therefore we do not have full documentation. There are at least three additional cases of children with very slight elevations in lead levels (blood leads of 10-15 $\mu\text{g}/\text{dl}$ ) where the parent's occupation may have been a contributing factor but a definitive causal association could not be determined. Descriptions of these cases are not included.

It is not always possible to determine whether elevated lead levels in children are due to a specific environmental cause. Lead screening was not routine in Oregon until 1993, and the level of screening remains very low. Questions regarding household members at risk for take home exposure are routinely asked as part of case follow-up for all adults with occupationally related elevated blood leads  $\geq 40\mu\text{g}/\text{dl}$ . Surveillance only documents lead levels of individuals with occupational lead exposures at work places with routine monitoring programs or individuals whose private health care providers have

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chosen to screen them or conduct diagnostic testing. Oregon is a state with primarily small employers who are not always fully aware of or in compliance with complex occupational codes like the OSHA lead standard. We therefore suspect that the cases described here represent only a fraction of actual family exposure to lead from occupational activities of household members.

### Case Descriptions

#### A. Chloropicrin Spill in Driveway of Worker's Residence:

An employee of a wood treating company brought a case of the wood treatment pesticide home to prepare the company vehicle for a twelve day trip to treat utility poles to prevent insect damage. Six plastic containers of chloropicrin were placed in a plastic milk carrying container. The bottom of the plastic carrier broke when they were being loaded onto the vehicle, causing the containers to fall and split. As some containers were partially full, only about one gallon spilled onto the driveway.

The pesticide was carried by the breeze to the next door residence and affected two adults and three children. Symptoms included eye irritation, nausea, vomiting and coughing. Symptoms resolved within 30 minutes to 14 hours for all individuals. The wind direction protected the worker's child, who was watching from inside the garage where the spill occurred and was not affected. The local Fire Department Hazmat was called to the scene and cleaned up the spill.

As a result of this incident, the employer has instituted workplace changes which include a policy that company vehicles are not to be brought home, and appropriate storage and means to secure containers while transporting chloropicrin. Results of an investigation by Oregon OSHA (OR-OSHA) are still pending.

B. A small bronze foundry was shut down for one week in 1990 during an OR-OSHA investigation. Eleven of the sixteen employees had significantly elevated blood lead levels. Two children were identified as having elevated lead levels due to take home occupational exposures in family members. The children (18 and 6 months old) had bloods of 14 and 23  $\mu\text{g}/\text{dl}$ . OR-OSHA documented that workers were taking home lead dust on their clothing and that their cars contained observable lead dust. The employer provided a HEPA vacuum for the cleaning of vehicle interiors. Individuals were provided with information on cleaning their homes. No sampling in homes or cars was conducted. The workplace was cleaned up, the lead standard complied with, and the employer later switched to a metal stock with a lower lead content.

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C. A situation currently under investigation involves the use of lead glaze in a tile manufacturing company. The employer had not implemented any safeguards against lead exposure in the workplace, nor advised employees about lead hazards to themselves or their families. A blood lead level (BLL) is currently only available for one worker (73 $\mu$ g/dl). Results on other workers and family members are pending. One of the workers, a painter who spray painted the lead glaze on the tiles, wore work clothes home and then played with an infant child. While lead level results are still pending, we suspect that the youngest children of workers with the highest exposures may be elevated. Interventions by the Oregon Health Division and Oregon OSHA have resulted in the employer substituting a non-lead glaze, installation of a ventilation system and a change in housekeeping practices.

I hope this information is useful. Please let me know if you would like any additional information.

Sincerely,

A handwritten signature in cursive script, appearing to read "Margot Barnett" with a long horizontal flourish extending to the left.

Margot Barnett, M.S.  
Occupational Epidemiology Program Manager  
Center for Disease Prevention and Epidemiology

MB:cs

c: Janie Gittleman  
Diana Ordin