



Paul Helliker
Director

Department of Pesticide Regulation



Gray Davis
Governor
Winston H. Hickox
Secretary, California
Environmental
Protection Agency

MEMORANDUM

To: Ralph Shields, Senior Pesticide Use Specialist
Pesticide Registration Branch **HSM-02043**

VIA: Joseph P. Frank *[original signed by J. Frank]*
Senior Toxicologist

FROM: Tareq A. Formoli *[original signed by T. Formoli]*
Associate ERS
Worker Health and Safety Branch

DATE: December 3, 2002

SUBJECT: REQUEST FOR INSIGNIFICANT EXPOSURE ASSESSMENT FOR
FIREPRO, EPA REGISTRATION NO. 3008-84

Pesticide Registration Branch has requested the review of FirePRO, EPA registration no. 3008-84 to determine if the product, as labeled, would result in insignificant exposure.

FirePro is a fire retardant product for wood treatment that claims pesticidal effects. It is a toxicity category III pesticide with "Caution" as a signal word. This product contains 45% sodium tetraborate pentahydrate and 25% boric acid as active ingredients. Wood products treated with FirePro are only for interior and above ground applications. This product is used in the pressure treatment of wood products, at concentrations ranging from 6 to 20% (w/w) in water. There is no description of the wood treatment procedure on the label. However, the label refers users to the pressure treatment procedures described in the current Osmose FirePRO Treatment and Processing Manual or those described in the American Wood Preservers' Association Standards. The label requires handlers to wear the following personal protective equipment (PPE):

- Coveralls over long-sleeved shirt and long pants
- Chemical resistant footwear plus socks
- Goggles or faceshield
- Chemical resistant gloves

When cleaning the equipment, a chemical resistant apron is also required.

Without the description of wood treatment procedure, we assume that it is similar or identical to that of creosote or pentachlorophenol (PCP) wood pressure treatment. In this type of wood treatment, stacks of wood on movable trams are pushed into the horizontal pressure cylinders. The cylinders are then filled with the treatment material at high pressure and high temperature. After several hours of treatment, the pressure is released, the excess treatment material is vacuumed, and the treated wood is pulled out of the cylinders. Several work tasks are involved during this procedure that have the potential for exposure. Workers are involved in treatment operation, loading and unloading operations and those who help in the cylinder and drip areas



may be exposed to wood treatment material. From our knowledge of worker exposure during pressure treatment, we estimate that workers could be exposed to significant levels of the treatment material through dermal and respiratory routes, despite the PPE worn. This estimate is with the understanding of the very low dermal absorption rate (we assume 1%) of boric acid. We also acknowledge the low vapor pressure of boric acid and thus the insignificant of inhalation route of exposure under normal circumstances. However, once the material is subjected to high temperature and high pressure, the exposure via inhalation may play a significant role.

Assuming that the wood pressure treatment of FirePRO is identical or similar to that of creosote and PCP, significant exposure is anticipated. However, we may reevaluate exposure if the registrant provides us with additional information on the pressure treatment procedure of FirePRO that leads us to believe that the procedure is more exposure protective (both dermal and respiratory) than those used in creosote and PCP. Of particular concern, and highly hypothetical, is the potential for respiratory exposure after the active ingredients of FirePRO are subjected to high temperature and high pressure. Once we have a more refined understanding of exposure, we will determine if it is within the magnitude of insignificant exposure appropriate for boric acid and sodium tetraborate pentahydrate.