Mill workers' lungs hit: Chlorine gas a health risk, scientists say

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Abstract (Abstract): Susan Kennedy, an epidemiologist with the occupational lung disease research group, headed a recently released Workers’ Compensation Board study of the Woodfibre pulp mill. Kennedy said the problem is complicated by pulp mills' efforts to reduce dioxins by using chlorine dioxide rather than chlorine.

* A research program be established to specifically investigate the lung health consequences of acute chlorine gas exposure incidents at Woodfibre and other pulp mills.

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Full text: Pulp mill workers are suffering permanent lung damage from frequent accidental chlorine "gassings," a University of B.C. assistant professor of medicine said Wednesday.

Susan Kennedy, an epidemiologist with the occupational lung disease research group, headed a recently released Workers’ Compensation Board study of the Woodfibre pulp mill.

The three-month, $32,711 study compared the health of 320 workers at the Western Pulp Mill Ltd. Partnership in Woodfibre to 237 employees of BC Rail at the maintenance yard in Squamish.

The study found that about half the pulpworkers at Woodfibre reported one or more exposures to leaking chlorine gas - an event workers called "gassings."

Workers who reported exposures also reported more wheezing, missed more work days due to chest illness, and suffered more lung damage than pulpworkers who reported no such exposure.

Western Pulp Ltd. Partnership responded to the study with a prepared statement:

"Mill management recognizes there is still room for improvement. We will concentrate our efforts on further reducing the risk of accidental exposure to chlorine gas."

Kennedy said the study reveals new evidence of the damaging effects of chlorine gas. When inhaled, chlorine can reach deep into the lungs, causing injury and inflammation similar to a chemical burn.

"With gassing there is more lung damage and workers are losing lung function more rapidly than pulp workers who aren't exposed," Kennedy said.

"And that's important because we in the medical community did not used to think these gassing incidents caused lasting damage. We thought recovery was complete.

"But in the pulp mill environment . . . our study shows that these people are incurring further lung damage at a faster rate."

Kennedy said another disturbing finding was the frequency of reported gassings.

"The finding that is quite troubling was that when we asked people if they ever had an incident of exposure to chlorine gas, they said there are leaks all the time. These are common occurrences in the mill," Kennedy said.

"About half of the 320 pulpwokers said they had been gassed at least once and many on repeated occasions. It's suprising how common an occurrence it is - it's treated lighter than it should be."

Greg Melnechuk, occupational health and safety officer for the Pulp and Paper Woodworkers of Canada, said gassings are a common and worrisome occurrence in all B.C. pulp mills.

"There are generally too many gassings in pulp mills. I have been gassed many times and I get a bronchial problem once a year," Melnechuk said in an interview from Kamloops.

"Our objective is to have the government take the chlorines away completely and make the mills use substitutions like ozone, peroxide and oxygen."
Kennedy said the problem is complicated by pulp mills' efforts to reduce dioxins by using chlorine dioxide rather than chlorine.

While chlorine dioxide reduces dioxins, it is about 10 times more harmful to the lungs than chlorine. "In a sense, in order to reduce dioxins they are using chlorine dioxide and putting more workers at risk," she said.

The study recommends:
* All possible efforts be directed at reducing the number of chlorine gas exposure incidents.
* An education campaign be established to inform all individuals of the possible health consequences of small accidental chlorine gassing incidents.
* Efforts be made to improve warning systems to ensure that chlorine gas leaks are spotted immediately.
* Clean and efficient respiratory protection be immediately available and its use reinforced.
* A research program be established to specifically investigate the lung health consequences of acute chlorine gas exposure incidents at Woodfibre and other pulp mills.

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