

Fatality Assessment & Control Evaluation

Prevention through comprehensive research and investigation

INVESTIGATION/RESEARCH

FATAL ASTHMA ATTACK WHILE CLEANING BULK MILK TANK

A 75-year-old female dairy farmer died from an acute bronchial asthma attack while cleaning out a bulk milk tank. Tank cleaning involved a rinse with a sodium hypochlorite/sodium hydroxide mix, followed by an acid rinse. The victim rinsed the tank with the sodium hypochlorite mixture. It appears that the sodium hypochlorite rinse was mixed with the acid rinse. Her husband working in another area smelled the strong odor produced and went to see if she was okay. He saw her outside of the milking bulk tank room leaning against a fence, having difficulty breathing. He went to get a truck to transport her to the house. Upon returning, she was unconscious. Returning home, he called 911. A neighbor arrived and together they began CPR. She was transported to the hospital where she was pronounced dead. Her husband stated that the victim used an inhaler regularly; one was found at the fence.

IN ORDER TO PREVENT SIMILAR INCIDENTS IN THE FUTURE

- **Check** water quality for hardness and bacterial count (Check with Health Department). Alkaline detergents do not perform well in water that contains high levels of minerals or salts.
- **Choose** cleaners that are compatible with the water. Discuss with dealer.
- **Post** cleaning procedures for dairy equipment including bulk tanks and **Train** employees.
- **Rinse** bulk tank immediately after milk is removed with water that is 90^o-140^o F.
- **Follow** manufacturer directions and **Measure** appropriate amount of alkaline cleaner for proper concentration.
- **Wash** for time designated by manufacturer. **Drain** thoroughly.
- **Rinse** equipment and tank thoroughly with water. **Drain** thoroughly.
- **Ensure** alkaline cleaner residues are removed from the equipment and tank. **DO NOT** allow alkaline cleaning solution to contact acid solution – chlorine gas may be formed.
- **Drain** system completely to minimize bacterial growth in residual water.

DID YOU KNOW?

- Mixing ammonia and an acid causes toxic chloramine gas to be released. Chloramine gas, like chlorine, will cause your lungs to fill up with fluid or an asthma attack if you already have asthma.
- Asthma is a life-long *inflammatory* disease of the lungs. About 1 in 10 adults in Michigan have asthma.
- Your local store or dealer can give you a material safety data sheet (MSDS) for a chemical product you buy there so you know the product's reactivity/incompatibility with other substances, corrosiveness, toxicity, and how to protect yourself.
- If an individual survives exposure to chloramines gas or chlorine gas, they may develop asthma.

MSU Occupational and Environmental Medicine website: www.oem.msu.edu/

Asthma Initiative of Michigan (AIM) website: www.getastmahelp.org

MSU Extension homepage: www.msue.msu.edu/portal/

MIOSHA Standards: www.michigan.gov/mioshastandards

Hazard Alert #6

TO REPORT A NEW WORKPLACE FATALITY TO MIOSHA

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MICHIGAN FATALITY ASSESSMENT &
CONTROL EVALUATION

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