

## **ALERT**

### **Another fatality caused by trying to make steam in a portable propane bottle**

We have been made aware of an explosion that killed a man on January 3, 2016 at a private residence near Consort, Alberta. It was reported that the man was using a 20-pound propane bottle that had been filled with water and was being heated with a propane torch, to produce steam, when it failed catastrophically. A similar incident caused a fatality in Strathcona County in February 1997.

When boiled at atmospheric pressure, liquid water will expand to 1700 times the volume as steam. When the expansion is prevented, the steam will be compressed and build up great pressure. This is what happened in these incidents with fatal results. In both incidents, the propane bottle was being used as a steam boiler. Propane bottles are not designed to be used for this purpose and it is unsafe and illegal to use propane bottles to generate steam.

Over 100 years ago, ASME and CSA codes were first developed because of the high number of fatalities with the use of steam pressure equipment. It is important that pressure equipment is designed and constructed to appropriate codes to prevent injury or death. In Alberta, the Safety Codes Act and regulations under the Safety Codes Act require that pressure equipment is designed and constructed, with controls in place, for the end use; and that the equipment must be used within the design parameters.

*<original signed by>*

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