

## BLEVE SCENARIOS

Here is a hypothetical example to illustrate. Let's say that the boiling point of some mythical liquid is 100oF at normal atmospheric pressure; i.e., at 14.7 PSI. If the pressure is raised to 30 PSI, the boiling point goes up to 250oF. Therefore, at 30 PSI and 200oF the liquid will not boil. If the container suddenly ruptures, though, the atmospheric pressure will instantly drop to 14.7 PSI (if you are at sea level) but the temperature of the liquid will remain at or about 200oF, well above the boiling point at 14.7 PSI the new pressure. Therefore, the released liquid will be boiling violently, giving off huge quantities of vapors virtually instantly.

A source of heat, a fire, is the most common occurrence that will bring the temperature above the normal boiling point. The heat source is not always essential, though. Some liquids have extremely low boiling points at atmospheric pressure. These liquids are thus already considerable above the boiling point even at normal atmospheric temperature; i.e., they are superheated. The liquified gases are cases in point; e.g., propane, boiling point of minus 45oF and normal butane boiling point 31oF. The latter two liquids must be stored under pressure if they are to remain in the liquid state. Should the container fail in this case the ambient air temperature would normally greatly exceed the liquid's boiling point and a BLEVE would occur.