



Properties of Propane

Listed below are some of the properties of propane of which you should be aware. For more detailed information, see the Material Safety Data Sheet in the Appendix.

SAFETY NOTE: If this white mist or propane liquid comes into contact with your skin, it can cause severe frostbite. Always wear propane resistant gloves when filling containers.

Physical Characteristics

Propane is a colorless, naturally odorless, nontoxic gas which is stored, transported and transferred from one container to another as a liquid under pressure. The liquid is then vaporized and burned as a gas. Propane is flammable and, under very specific circumstances, can explode. **Always control ignition sources around propane storage and dispensing equipment.**

Expansion From Liquid to Vapor

When liquid propane is released into the atmosphere it vaporizes and rapidly expands to 270 times its original volume. Extremely cold temperatures are produced at this point of release. Always protect yourself from the hazards of frostbite.

Boiling Point

Propane will vaporize or "boil" at any temperature above -44°F. The white mist that appears when liquid propane is released to the atmosphere (such as coming from the fixed liquid level or outage gauge when the container is at its proper filling level) is moisture particles in the air being frozen by the -44°F temperature produced when the liquid vaporizes.

Vapor Pressure

The pressure in a propane container varies proportionally with the temperature of the propane, which is affected by the outside temperature. The warmer the liquid temperature, the greater the pressure inside the container:

OUTSIDE TEMP.	CONTAINER PRESSURE
0° F	28 psi
70° F	120 psi
100° F	190 psi

psi = pounds per square inch

LIQUID PROPANE EXPANDS RAPIDLY WHEN THE PRESSURE IS RELEASED. WHEN RELEASED INTO THE ATMOSPHERE, ONE UNIT OF LIQUID PROPANE WILL EXPAND TO 270 TIMES ITS ORIGINAL VOLUME. (ILLUSTRATION NOT TO SCALE)

