#75816 Chemistry, General Chemistry

Bacteria and viruses are inactivated by temperatures above 145∘C in an autoclave. An autoclave contains steam at 1.00 atm and 100∘C.

At what pressure, in atmospheres, will the temperature of the steam in the autoclave reach 145∘C, if n and V do not change?

Answer:

According to Gay-Lussac's Law, $p_1/T_1 = p_2/T_2$
T = t + 273
Therefore: 1 atm / (100 +273) = x / (145 +273)
(1.00 atm) x (145 + 273) K / (100 + 273) K = 1.12 atm