

Thermochemistry Podcasts #1 and #2: KMT and Pressure / Vapor Pressure and Phase Diagrams

1. Use kinetic theory to explain what causes gas pressure.
2. Convert the following Pressures:
 - a. 600 mm Hg into atm
 - b. 190 kPa into atm
 - c. 2.3 atm into mm Hg
 - d. 1.5 atm into kPa
3. What is the equation that relates kinetic energy to Kelvin Temperature

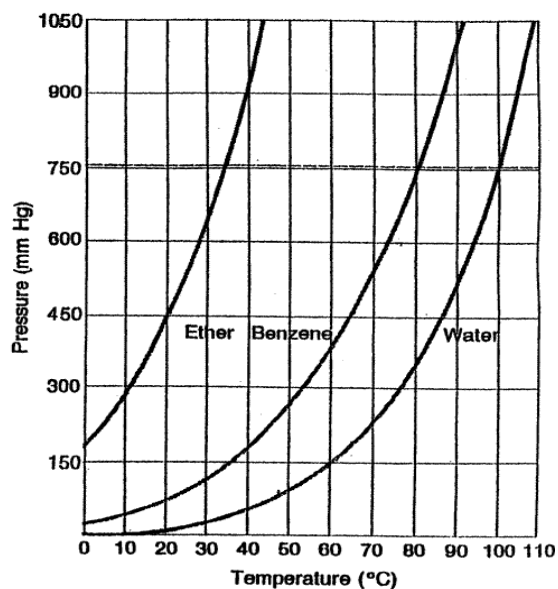
4. What is the temperature at absolute zero
5. Use kinetic theory to explain the difference between evaporation and boiling of a liquid.
6. Use the chart to answer the following questions.

- a. What is the vapor pressure of ether at 40°C?
- b. What is normal boiling point of water?
- c. What is the normal boiling point of benzene?

7. How is the average kinetic energy of water molecules affected when you pour hot water from a kettle into cups at the same temperature as the water?

Vapor Pressure of Ether, Benzene, and Water

(Graph of Temperature Dependency)



7. How is the average kinetic energy of water molecules affected when you pour hot water from a kettle into cups at the same temperature as the water?

Thermo Podcast #2: Vapor Pressure and Phase Diagrams

1. What is the relationship between atmospheric pressure and altitude? What effect does this have on the boiling point of water?
2. Define vapor pressure.
3. What is the full definition of the boiling point of a liquid?
4. Explain why the boiling point of a liquid varies with atmospheric pressure.
5. Using the diagram below: What would happen to the CO₂ if you:
 - a. Heat it up from -60° to 30° C at 6.0 atm?
 - b. Increase the pressure from 2.0 atm to 60 atm at a temperature of 0°C?
 - c. Decrease the pressure from 80.0 atm to 1 atm at a temperature of 25°C?
 - d. Increase the temperature from -80°C to +80°C at a pressure of 1.0 atm?
 - e. Increase the temperature from -60°C to 20°C at a pressure of 70 atm?

