

Figure 5.1. Equation of state for helium gas. Each curve is an “isotherm” showing how pressure and volume can change while the temperature remains constant. The curves 1, 2, 3, 4 are for successively higher temperatures.

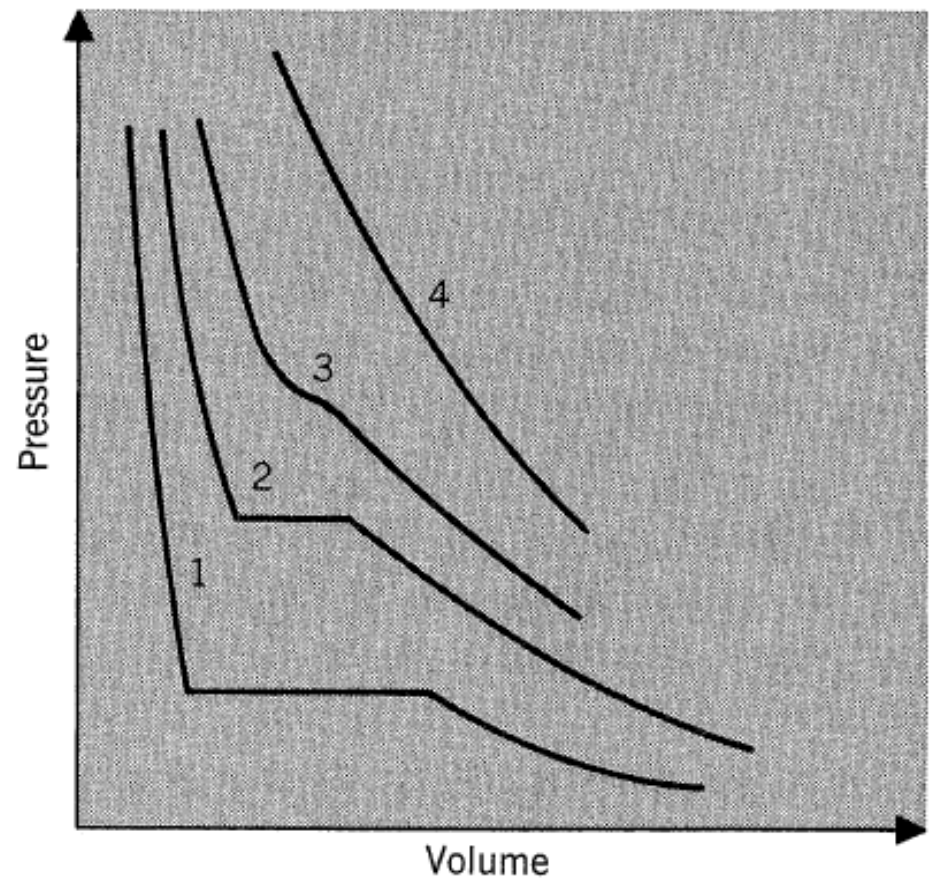


Figure 5.2. Equation of state for water. Each curve is an “isotherm” showing how pressure and volume can change while temperature remains constant. The curves 1, 2, 3, 4 are for successively higher temperatures. The flat parts of curves 1 and 2 cover a range of volumes for which part of the water is liquid and part gas. Water is completely liquid to the left of the flat parts, and completely a gas to the right. Curve 3 is at a temperature (374° Celsius) for which it is impossible to tell the difference between liquid and gas, whereas at all higher temperatures water can be only a gas.