

## 16-A-2 us-isochoric1

At an absolute temperature of 0 Kelvin the entropy is zero. In an us-diagram (s on the horizontal axis) the slope of the isochoric process when s approaches zero goes to infinity

The slope of an isochoor in a us-diagram (s on the horizontal axis) is given by:  $\left(\frac{\partial u}{\partial s}\right)_v$ . From  $du = Tds - Pdv$  it follows that this is equal to T. For s goes to zero the temperature also goes to zero, therefore the slope of the isochoor for s goes to zero goes to zero. For s goes to infinity it would go to infinity.