

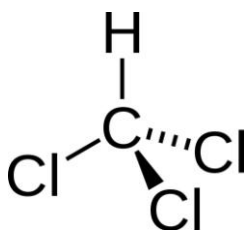
Answer on Question #55774 – Chemistry – Other

Question:

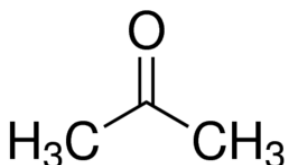
1. Why substance sublimes?
2. How to calculate the density of marsh gas?
3. Show hydrogen bonding in chloroform and acetone?
4. Why iodine is solid while bromine is liquid?
5. Why ethanol is soluble in water?

Answer:

1. Sublimation is the process of transition from the gaseous to the solid state of the matter. If there is an appropriate temperature difference (from vaporization temperature to solidification temperature) the matter sublimes.
2. At the standard temperature and pressure marsh density is equal to its mass divided to the occupied volume.
3. Chloroform – CHCl_3



Acetone – $\text{CH}_3\text{—C(O)—CH}_3$



4. Differences in intermolecular forces of attraction cause differences in their phase state. Iodine has a greater molecular mass. So that its London Dispersion Forces are also greater. Consequently, interaction between molecules of Iodine is also greater. The last fact preconditions differences in phase state of these 2 elements.
5. Ethanol has hydroxyl group —OH . This group can form hydrogen bounds with water. So that ethanol is soluble in water.