

Notes 10/20 - adding up molecular masses



$$2(1.01) + 1(16.00) = 18.02 \text{ amu or } 18.02 \frac{\text{g}}{\text{mol}}$$



$$63.55 + 2(14.01) + 6(16.00) = 187.57 \text{ amu}$$

Mass Percent or Percent Composition

1) What % of H_2O is H by mass?

$$\frac{\text{mass H}}{\text{total mass}} = \frac{2(1.01)}{2(1.01) + 16.00} = \frac{2.02}{18.02} \times 100 = 11.2\% \text{ H by mass}$$

2) What % of $\text{Cu}(\text{NO}_3)_2$ is oxygen by mass:

$$\frac{60}{\text{Cu} + 2\text{N} + 6\text{O}} = \frac{6(16.00)}{63.55 + 2(14.01) + 6(16.00)} \times 100 = 51.18\% \text{ O by mass}$$

3) What % of lead(II) carbonate is lead by mass?
↳ PbCO_3

$$\frac{\text{Pb}}{\text{PbCO}_3} = \frac{207.2}{207.2 + 12.01 + 3(16.00)} = 77.54\% \text{ Pb}$$