

Answer on Question #60336, Chemistry / General Chemistry

1. What is the reason the group 13 metals have a typical charge of 3+?

Solution:

13 group of the periodic table represented by boron, aluminum and gallium subgroup. It includes, gallium, indium, thallium. Typical steper oxidation in the subset gallium 3 is explained by the presence of $(n-1)d^{10}$ E-configuration.

Aluminium oxidation degree +3 has an electronic configuration of noble gases S^2P^6

2. Why does one mole of carbon atoms have a smaller mass than one mole of sulfur atoms?

Solution:

(In chemistry and physics, the Avogadro constant is the number of constituent particles, usually atoms or molecules, that are contained in the amount of substance given by one mole).

According to Avogadro constant It contains one mole of carbon atoms of the same number as one mole of sulfur. But since one sulfur atom weight is higher than that of carbon and than one mole of the sulfur will weigh more than the mole of carbon.

3. What is the percentage of nitrogen in N₂O? Show all calculations leading to an answer.

Solution:

Ar(N)=14

Ar(O)=16

Mr(N₂O)=14*2+16=44g/mol

The weight of N in N₂O = 14*2=28;

hereof the percentage of nitrogen =28/44*100=63.64%

Answer: the percentage of nitrogen in N₂O is 63.64%