

CHEMICAL CALCULATIONS

CLASSIC

Simplest Chemical Calculations

Date:

- Determine the number of moles in each of the following:
 - 1.2×10^{22} Fe atoms =
 - 93 g P_4 = (P:31)
 - 5.6 L CH_4 at STP =
 - 2.2 g CO_2 = (C:12, O:16)
 - 1.8×10^{23} SO_2 molecules \approx
 - 134.4 L P_4O_6 at STP =
 - 28.4 g P_2O_5 = (P:31, O:16)
 - 72 g Mg = (Mg:24)
- Perform the following conversions.
 - 3.2 g Cu = mol Cu (Cu:64)
 - 0.2 mol Ag = g Ag (Ag:108)
 - 3.01×10^{22} Fe = mol
 - 17.6 g CO_2 = L at STP (C:16, O:16)
 - 0.75 mol of N_2O_3 = N_2O_3 molecules
 - 5.6 L O_2 at STP = O_2 molecules
 - 1 silver atom = g
- Find the number of molecules in each of the following.
 - 6.2 g $Ca_3(PO_4)_2$ = (Ca:40, P:31)
 - 3 mol of C_6H_6 =
 - 5.6 L N_2O_3 at STP =
 - 12 g C_2H_6 = (C:12, H:1)
 - 0.4 mol of $(NH_4)_2Cr_2O_7$ =
 - 1.12 L CO at STP =
- Find the mass of each of the following.
 - 3 mol $(NH_4)_2SO_4$ = (N:14, S:32)
 - 5.6 L C_3H_8 = (C:12, H:1)
 - 9.03×10^{23} H_2S molecules = (S:32)
 - 0.6 mol NaOH = (Na:23, O:16)
 - 2.8 L H_2O at STP = (H:1, O:16)
 - 3.01×10^{24} NH_3 molecules = (N:14)
- Perform following conversions.
 - 0.2 mol N_2O (N:14, O:16)
.....g = molecules =L at STP
 - 6.8 g NH_3 (N:14, H:1)
.....mol =L at STP = molecules
 - 5.6 L P_2O_5 at STP (P:31, O:16)
..... g = mol = molecules
 - 4.8×10^{22} SO_2 molecules approximately (S:32, O:16)
..... g =L at STP = mol
 - 6.72 L C_3H_4 at STP
..... molecules = mole =g
- Calculate total number of atoms in followings.
 - 6 molecule of O_2 gas =
 - 1 mol Fe atoms =
 - 2 mol H_2O =
 - 0.2 mol CH_4 =
 - 5.6 L CO_2 at STP =
 - 8 g Fe_2O_3 = (Fe=56, O=16)
 - 6.02×10^{20} $Ca(OH)_2$ molecules =
 - 24 g FeS_2 = (Fe=56, S=32)
- What is the mass of a single P_4O_{10} molecule? (P:31, O:16)
- What is the volume of 1.42 g of Cl_2 gas at STP? (Cl:35.5)
- Find mass of 1.5×10^{24} $NaHCO_3$ molecules. (Na:23, C:12, O:16, H:1)
- Calculate mass of 11.2 L CO at STP. (C:12, O:16)
- What is the number of molecules of 44.8 L of CO_2 gas at STP?