Answer on Question #54765 – Chemistry – General chemistry

Question:

How many MOLES of CrO42- ion are present in 1.71 grams of magnesium chromate?

Solution:

Formula of the substance is $MgCrO_4$

$M_r (MgCrO_4) = Ar(Mg) + Ar(Cr) + Ar(O)*4 = 24 + 52 + 16*4 = 140$

$n (MgCrO_4) = m (MgCrO_4) / Mr(MgCrO_4) = 1.71 / 140 = 0.012$ (mol)

$MgCrO_4$ dissociates by following equation

$MgCrO_4 = Mg^{2+} + CrO_4^{2-}$

Thus, $n(CrO_4^{2-}) = n (MgCrO_4) = 0.012$ mol

Answer: $n(CrO_4^{2-}) = 0.012$ mol