Answer on Question#59692 – Chemistry – General chemistry

Question:

1.) Epsom salt, MgSO4 . xH2O is heated to 250 degrees Celsius, and all the water of hydration is lost. if 1.687 g of hydrated salt is heated it reaches a constant mass of 0.824 g (pure MgSO4), then what is the value of x?

Solution:

$n(MgSO_4)$ = 0.824g : 120 g/mol = 0.0069 mol

$m(H_2O)$ = 1.687 g : 18 g/mol– 0.824 g = 0.863 g

$n(H_2O)$ = 0.863 g : 18 g/mol = 0.048 mol

x = 0.048 mol : 0.0069 mol = 7

Answer: 7