# Answer on Question #78493 - Chemistry - Physical Chemistry

Question:

The hydrated salt Na2Co3. xH2o undergoes 63% loss in mass on heating and become anhydrous. The value of x is;

**Solution:**

$w(Na_2CO_3)$ = 100-63 = 37 %;

$M (Na_2CO_3)$ = 46+12+48 = 106 g/mol;

$w(Na_2CO_3) = M(Na_2CO_3)/M(Na_2CO_3*xH_2O)$;

$M(Na_2CO_3*xH_2O) = M(Na_2CO_3)/w(Na_2CO_3)$ = 106/0.37 = 286 g/mol;

$M(xH_2O) = M(Na_2CO_3*xH_2O) - M(Na_2CO_3)$ = 286 – 106 = 180 g/mol;

$x = M(xH_2O)/M(H_2O)$ = 180/18 = 10.

**Answer:** 10.