Answer on Question #79142 - Chemistry - Physical Chemistry

Question:

In the following reaction 2H202_____2H2o+o2. Rate of formation of o2 is 36gm/ min. Find rate of appearance of H2o. 2, find rate of disappearance of H2o2

Solution:

If t = 1 min,

m(O2) = 36 gm;

n(O2) = 36/36 = 1.125 mol;

Then $n(H_2O_2) = n(H_2O) = 2n(O_2) = 2.25$ mol;

$v(H_2O) = n(H_2O)*M(H_2O)*t = 2.25*18*1 = 40.5$gm/min;

$v(H_2O_2) = n(H_2O_2)*M(H_2O_2)*t = 2.25*34*1 = 76.5$gm/min.

Answer: $v(H_2O) = 40.5$gm/min;

$v(H_2O_2) = 76.5$gm/min.