

14.32 $2\text{NO} + \text{O}_2 \rightarrow 2\text{NO}_2$

	[NO]	[O ₂]	RATE
①	0.0126 M	0.0125 M	1.41×10^{-2}
②	0.0252 M	0.0125	5.64×10^{-2}
③	0.0752	0.0250	$1.13 \times 10^{-1} \rightarrow 11.3 \times 10^{-2}$

⑨ Rate = $k[\text{NO}]^2[\text{O}_2]$

2nd order for NO
1st order for O₂ } ⇒ 3rd order overall

Feb 4-8:09 AM

Rate = $k[\text{NO}]^2[\text{O}_2]$

$\frac{\text{M}}{\text{Sec}} = k (\text{M})^2 (\text{M})^1$

$\frac{\text{M}}{\text{Sec}} = k \frac{\text{M}^3}{\text{M}^3}$

3rd order

$k = \frac{1}{\text{M}^2 \cdot \text{sec}}$

$\frac{\text{M}}{\text{Sec}} = \frac{\text{M}^3}{\text{M}^2 \cdot \text{sec}} = \frac{\text{M}}{\text{sec}}$

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$$\text{Rate} = k [\text{NO}]^2 [\text{O}_2]^1$$

$$1.41 \times 10^{-2} = k [0.0126]^2 [0.0175]^1$$

$$\text{Rate} = k [\text{NO}]^2 [\text{O}_2]^1$$

$$\text{Rate} = (7.1 \times 10^3) (0.075)^2 (0.01)^1$$

NO₂ is produced = Rate = 0.4 M/sec

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$$2\text{NO} + \text{O}_2 \rightarrow 2\text{NO}_2$$

? 0.4 O₂ 0.4 M/sec
↓ disapp (M) num APP

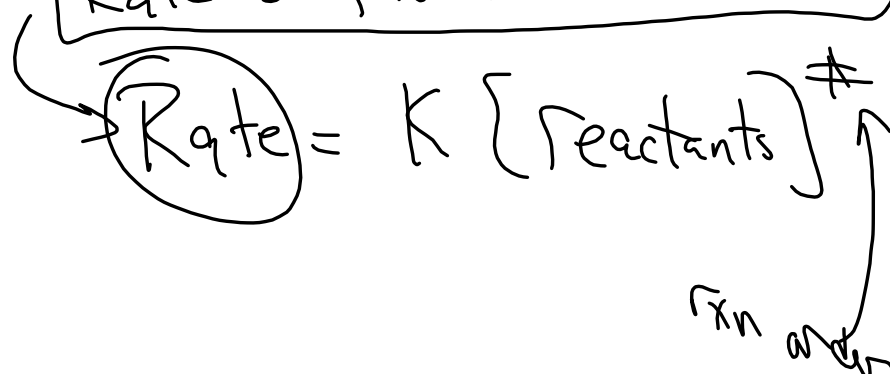
$$-\frac{1}{2} \frac{\Delta[\text{NO}]}{\Delta t} = \frac{+1}{2} (0.4)$$

~~$$-\frac{\Delta[\text{O}_2]}{\Delta t} = \frac{1}{2} (0.4)$$~~

Feb 4-8:40 AM

Table \rightarrow Rate Law.

Rate of production of products.



Feb 4-8:44 AM

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Feb 4-8:46 AM