fairly constant throughout the decomposition. The power input to the discharge tube is less than 1 watt and there is no observable temperature rise in it. The second order specific rate of the decomposition is evaluated from the slope of the linear curve obtained by plotting $1/(2p_0 - p)$ versus time.

The decomposition is studied at five different applied voltages with five different pressures of ammonia. At each pressure the specific rates are plotted separately versus the discharge current, applied voltage and multiple of the starting voltage, $V/V_s$. The results are presented in Figures 1 and 2.

The range of initial pressures over which the kinetics has been studied is limited to 50–200 mm Hg due to experimental difficulties. Yet the curves for specific rate versus discharge current or versus applied voltage are distinctly different for the various initial pressures. Further, the specific reaction rates are also widely different even though the same discharge current $\mu A_x$ or the same voltage $V_x$ be applied in every case. As compared with these, when the specific rates are plotted versus the multiple of the starting voltage, all the twenty-five points fall on a single curve and the various initial pressures become indistinguishable. The slight scattering of the points around the curve is due to experimental errors in the kinetic measurements. This clearly shows that even though the initial pressures are different, the application of the same multiple of the respective starting voltage ensures the same specific rate.

In comparison with the decomposition of nitrous oxide by first order kinetics under electrodeless discharge $^3$, in the present study the gas is different, the kinetic order of decomposition is different and the type of electric discharge is different, yet the conclusion regarding the criterion to ensure the same specific reaction rate when the gas is at different initial pressures, is the same.

5 S. Miyazaki and S. Takahasi, ibid. 75, 1149 [1954]; 76, 383 [1955].
6 J. C. Devins and M. Burton, J. Amer. Chem. Soc. 76, 2618 [1954].

Berichtigungen


This is to correct some printing errors in the above mentioned article.

Equation (3c) should read: $\tilde{H}(t) = L_1^{-1}(t) ~ \mathcal{H}_{\text{int}} L_1(t)$.

Equation (16a) should read:

$$D_0 = \frac{3}{2} \cos \beta_1 \left[ \frac{k(1-\delta)}{1+k} \cos \beta_1 + \delta \sin \beta_1 \right] \frac{1 + (1-k)(1-(3/2)\delta)}{2 \beta_1}.$$

In Eq. (20a) and Eq. (20b) $a \delta$ is missing in front of the expression $\sin \beta_1/\beta_1$.

Thus $\sin \beta_1/\beta_1$ in both equations has to be replaced by: $\delta (\sin \beta_1/\beta_1)$.

In Eq. (20d) the term $\frac{3}{2} (1-\frac{3}{2} \delta)$ has to be replaced by: $\frac{1}{2} (1-\frac{3}{2} \delta)$.

Zu E. Engel, P. John und B. Reuse, Messungen von Lebensdauern für den Fall untrennbaren Energien der $\gamma$-$\gamma$-Kaskade, Z. Naturforsch. 27a, 1368 [1972].

Formel (2) muß richtig heißen:

$$\frac{d}{dx} \ln F(x) = - \frac{1}{\tau} \left[ 1 - \frac{P(x)}{F(x)} \right].$$

(2)