DEFINITIONS IN CHEMISTRY

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1. Definitions in chemistry

1.1. General chemistry.

- species, spe A, a_{A}.
- number of entities (atoms, molecules, compounds, *etc*), nent, n.
- Avogadro constant, kavog, k_{avo}.
- amount (of substance), chemical amount, amount, $\eta_{\mathrm{B}} = n_{\mathrm{B}}/k_{\mathrm{avo}}$.
- mass, mass, m.
- molar mass, mmass, $\zeta_{\mathrm{B}} = m_{\mathrm{B}}/\eta_{\mathrm{B}}$.
- mass fraction, fmass, $w_{\mathrm{B}} = m_{\mathrm{B}}/\sum m_i$.
- amount fraction, famount, $\phi = \eta_{\mathrm{B}}/\sum \eta_i$.
- mixture volume, vol, v.
- density, dens, $\rho_{\mathrm{B}} = m_{\mathrm{B}}/v_{\mathrm{B}}$.
- mass concentration, conc, $c_{\mathrm{B}} = m_{\mathrm{B}}/v$.
- amount concentration, aconc, $\gamma_{\mathrm{B}} = \eta_{\mathrm{B}}/v$.
- stoichiometric number, stoinum, ν.
- reaction extent, rext, $\Delta\xi = \Delta\eta_{\mathrm{B}}/\nu_{\mathrm{B}}$.

1.2. Chemical kinetics.

- rate of change of quantity x, dt x, $\mathrm{d}_t x$.
- rate of conversion, dt rext, $\mathrm{d}_t \xi$.
- rate of concentration change, dt aconc, $\mathrm{d}_t \gamma_{\mathrm{B}}$.
- rate of reaction, rrate (based on amount concentration), $r = \mathrm{d}_t\xi/v = 1/\nu_{\mathrm{B}}(\mathrm{d}_t\gamma_{\mathrm{B}})$.
- rate coefficient, krcoeff, $r = k\prod \gamma_{\mathrm{B}}^{i}$.

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