
Last Update: September 19, 2022

**Page 70.** Exercise 2.26. Hydrolysis reaction: H2O should be H2O.

**Page 74.** Exercise 2.31. Replace ‘water’ with ‘hydrogen peroxide’ in the sentence “Design a process …”

The corrected statement is “Design a process to produce adipic acid from cyclohexane, oxygen, hydrogen peroxide, and sodium borohydride, using platinum and phosphoric acid as catalysts.”

**Page 87.** Table of Physical Properties at 1 atm. NH4Cl, ammonium chloride, sublimes at 338°C.

**Page 125.** Equation 3.137. The right-hand side should be multiplied by a factor of $F$.

$$q_2 - q_1 = F \times \left[ a(T_2 - T_1) + \frac{b}{2} (T_2^2 - T_1^2) + \frac{c}{3} (T_2^3 - T_1^3) + \frac{d}{4} (T_2^4 - T_1^4) - \frac{1}{T_2} + \frac{1}{T_1} \right]$$

**Page 200.** Table of Thermodynamic properties for compounds at 1 atm. The heat capacity for Air is incorrect. The correct value is 29 J/(°C mol), not 42 J/(°C mol).

**Page 226.** Exercise 3.121. The arrow in the third reaction should be double-headed:

$$A + R \leftrightarrow 2X$$

**Page 227.** Exercise 3.122. The arrows in the two reactions should be double-headed:

$$B \leftrightarrow Q$$

$$2P \leftrightarrow X + Y$$

**Page 229.** Exercise 3.124. The arrows in the second and third reactions should be double-headed:

$$H + B \leftrightarrow P + Q$$

$$M + B \leftrightarrow P + R$$

**Page 234.** Exercise 3.128. The arrow in the reaction should be double-headed:

$$A + B \leftrightarrow P + X$$

**Page 235.** Exercise 3.128. In the second paragraph of part (B), replace the specification “For excess $U$, (mol $Y$)/(mol $Z$) = 10 in the reactor effluent.” with “For excess $U$, the reaction to create $Y$ is 10 times as fast as the reaction to create $Z$.”

**Page 319.** Exercise 4.28. The temperature in the title for the ternary diagram should be 45°C, not 20°C:

Ternary diagram for MCP+hexane+aniline mixtures at 45°C and 1 atm.

**Page 371.** Exercise 4.70. The labels for the two streams after the splitter in distillation column F should be reversed. The correctly labeled distillation column F is -
Page 397. Exercise 4.98. The pressure for the two temperature-composition phase diagrams is 10 atm, not 1 atm.

Page 402. Exercise 4.101. In the first Design Goal ‘produce’ should be ‘product’:

• Produce a product with at least 98 wt% P.

Page 444. Equations 5.82 and 5.83 are wrong; the factor of 1/弗 in equation 5.81 should be replaced with \( \frac{dg}{v^2} \), not \( \frac{v^2}{dg} \). The correct equations are

\[
\text{For } \Re > 1000, \quad F \approx 0.44 = \frac{4 \rho_{\text{sphere}} - \rho_{\text{fluid}}}{3 \rho_{\text{fluid}}} \frac{dg}{v^2} \tag{5.82}
\]

\[
v \approx 1.7 \left( \frac{dg \rho_{\text{sphere}} - \rho_{\text{fluid}}}{\rho_{\text{fluid}}} \right)^{1/2} \tag{5.83}
\]

We are grateful to Professor Woo-Seok Choe for reporting this error.

Page 446. In the paragraph after equation 5.90, the Reynolds numbers for 100-μm and 1-mm particles are incorrect. The paragraph should read -

The Reynolds number is less than one, so it was legitimate to apply Stokes’s law. The Reynolds number for a 100 μm particle is 4, slightly outside the valid range for Stoke’s law, but the air flow around the particle is likely still laminar. However, for a particle of diameter 1 mm, the Reynolds number using \( v \) predicted by Stokes’s law is 4000, far outside the valid range of Stokes’s law. So, will a 1 mm particle fall faster or slower than predicted by Stokes’s law?

We are grateful to Professor Woo-Seok Choe for reporting this error.