

Errata

CHAPTER 3

p. 111, table 3-15

- Under Reactor - volume, m should be volume, m³.

CHAPTER 4

p. 194, problem 4-14

- Replace first four words with "For a second."
- The sentence beginning, "100 percent separation of all ethylbenzene..." should read, "100 percent separation and recycle of all ethylbenzene from the reactor exit stream."
- The stated catalyst life of 1100 h is actually the period between regenerations. Assume the catalyst life is 1 year.
- Due to lack of thermodynamic data for several components, heat integration should not be attempted.

p. 195, problem 4-18

- There should be 2 g of metal catalyst per unit, not 0.5 kg.

CHAPTER 6

p. 258, Method G: Turnover Ratio section

- Last line should read, "the ratio can be approximated as 1.‡" (rather than 0.5).

p. 275, problem 6-1

- The 100 m² in the first sentence should be 10 m².

CHAPTER 9

p. 405, equation 9-80

- The coefficient 7.61×10^{-5} must be replaced by $(0.0145)(0.0254)^n$.

p. 406, table 9-4

- There are corrections in first two columns in table 9-4, indicated by the underlines. The first two columns should read as follows:

By Eq. (9-81)	By Eq. (9-76)
<u>0.22</u>	0.25
0.12	0.14
<u>0.70</u>	<u>0.088</u>
<u>0.037</u>	0.049

p. 435, problem 9-3

- The first coefficient of the total variable operating costs should be 1.22×10^{-3} (i.e. 0.00122), not 9.78×10^5 .

CHAPTER 12

p. 501, equations 12-15 & 16 not in publisher's errata = found by 453 students & D.C. Drown
turbulent flow eqn wrong = missing viscosity term. {see equation 9-76 page 404 }

➤ (12-15) should be $D_{i, \text{opt}} = 0.363 \text{ m}^{0.45} \rho^{0.13} \mu^{0.025}$

laminar flow eqn wrong = decimal order of magnitude low. {see equation 9-79 page 404 }

➤ (12-16) should be $D_{i, \text{opt}} = 1.33 \text{ m}^{0.40} \mu^{0.20}$

p. 507, figure 12-12 not in publisher's errata = found by 453 students & D.C. Drown
right hand \$/ft axis is wrong = should be unit conversion from left hand \$/m axis.

➤ LOW by an order of magnitude, 10^{-1} should be 1 and 1 should be 10.

p. 554, table 12-10
for spherical shells (3rd equation on left from the top)

- Add a 2 before SE_j in the denominator.

CHAPTER 13

p. 639, problem 13-8

- Add that the ethanol yield is 0.47 kg ethanol/kg of glucose consumed. The correct unit for the rate coefficient, k, is 1/s, not kg/m³ s.

p. 639, problem 13-10

- The heat of reaction is 89.98 MJ/kg mol CH₃OH, not kJ/kg mol.
- The symbol p_i represents fugacity, in kPa, of component i , which equals the partial pressure, $p_i = P y_i$, in kPa, when the fugacity coefficient is 1.

p. 640, problem 13-12

- The third sentence should read, "In the proposed recovery process, each kg of catalyst-containing ceramic is mixed with two kg of aqueous sodium cyanide solution, and the Pt is dissolved by complexing with the cyanide."

CHAPTER 14

p. 657, equation 14-18

- Coefficient should be 0.023, not 0.23.

p. 751, problem 14-11

- Equation should read $\mu L = \mu W = 4 \times 10^{-4} \text{ Pa}\cdot\text{s}$ NOT $4 \times 10^{-6} \text{ Pa}\cdot\text{s}$

p. 752, problem 14-14

- 30°C should be 20°C
- 21°C should be 20°C
- 0.0082 should be 0.082

p. 752, problem 14-15

- 2944 kPa should be 1944 kPa

CHAPTER 15

p. 784, figure 15-7

- Ordinates should be 10^{-1} , 10^{-2} , 10^{-3} , not 1, 10^{-1} , 10^{-2} respectively

p. 867, figure 15-46

- Figure caption should read "Purchased cost of centrifugal basket separation."

p. 822, bottom line equation

- Should read nF , not nP .

p. 874, problem 15-5

- Should read absorption, not adsorption.

APPENDIX A

p. 880, table A-1

- The quantity of Pa should read "Pressure or stress," not "Pressure of stress."

APPENDIX C

p. 943, problem 24

- In first paragraph, should read $5 \times 10^{-11} \text{m}^2 / \text{s}$ NOT $5 \times 10^{-9} \text{m} / \text{s}$.

REFERENCE INDEX

p. 978

- Reference should read Treybal, not Treyal.