Errata Sheet

Chemical Process Safety, Fundamentals with Applications, 2nd edition

1st printing

June 2, 2004

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Page xiv — End of 4th paragraph from bottom. Change "and R. Darby of Texas A&M University" to "R. Darby of Texas A&M; and T. Spicer of the University of Arkansas."

Page 52 — Example 2-2. In second line of numerical calculation, -0.61 should be 0.61.

Page 68 — 4th line below heading "OSHA: Process Safety Management." Date of Bhopal accident is 1984, instead of 1985 as shown.

Page 134 — Table 4-3. Chlorine chemical formula should be Cl_2 instead of just Cl.

Page 140 — Item 4 in numbered list. Equation 5-64 should be 4-64.

Page 141 — Sentence prior to Equation 4-69. Equation 4-66 should be 4-59.

Page 142 — Figure 4-13. Upper and lower functions are reversed labeled. The lower function should have $\gamma = 1.2$, the upper function should have $\gamma = 1.67$.

Page 143 — Table 4-4. Constant D for expansion factor should be -0.5304, not 0.5304

Page 148 — Numerical calculation at top of page, first line. Square root should extend to include (0.335).

Page 149 — Calculation at bottom of page. "28 lb/lb-mol" should be "28 lb_m/lb-mol". "1.037 lb/ft^3" should be "1.037 lb_m/ft^3".

Page 150 — Formula at top of page. ρ should be ρ_1

Page 187 — Stability classes at bottom of table. "C, slightly stable" should be "C, slightly unstable."

Page 188 — Table 5-2. Under urban conditions two class D's are listed. Upper most stability class D should be C.

Page 206 — Table 5-9. Upper ERPG-3 should be ERPG-1.

Page 210 — Example at top of page. Equation should be

$$0.326 = \exp\left[-\frac{1}{2}\left(\frac{x-5000}{39.2\text{ m}}\right)^2\right]$$

Note exponent 2 outside of inner parenthesis. Following text should read:

x - 5000 = 58.7

The cloud is 2 x 58.7 = 109.4 m wide at this point, based on the ERPG-1 concentration. At 2 m/s it will take approximately

$$\frac{109.4\text{ m}}{2\text{ m/s}} = 58.7\text{ s}$$

to pass.

Page 216 Problem 5-11. 15 minutes should be 10 minutes.

Page 217 Problem 5-13. ERPG-1 should be ERPG-3.

Page 217 Problem 5-14. 10,000 lb should be 500 lb.

Page 221 Problem 5-29. Add to list of conditions: "Wind speed is 2 m/s"

Page 237 2nd line above Equation (6-12). "30 organic compounds" should be "123 organic compounds".

Page 244 Figure 6-8 caption. "dissertation (Michigan" should be "dissertation, Michigan"

Page 245 Figure 6-9 caption. "dissertation (Michigan" should be "dissertation, Michigan"

Page 250 Example 6-6. 487 in the calculation should be 37.8. Answer is 851 K = 578°C. Conclusion is the same.

Page 275 Example 6-9. First line in solution to part a. "hexane" should be "methane."

Page 296 First part of solution at bottom of page should be deleted. Solution begins at top of page 297. Numerical answer is different. Replace second line in calculation with:

$$j = \frac{\ln(10^{-6}/0.21)}{\ln\left[14.7\text{ psia}/(80+14.7)\text{ psia}\right]} = 6.6$$

Replace following text with:

"The number of purge cycles is thus 7. Thus seven pressure purges are required, compared to four for the vacuum purge process. The quantity of nitrogen used for this inerting operation is determined using Equation 7-7"

On following calculation, replace "6" with "7". Answer is "12.9 lb-mol = 363 lb of nitrogen"

Page 298 Figure 7-3 caption. "evacuation" should be "pressurization"

Page 349 Problem 7-13. "$$$" should be deleted in two places.

Page 357 Figure 8-3. y-axis is missing. y-axis caption is "Pressure"

Page 409 Equation 9-30. P_{red}, P_{stat} are in bar gauge, not bar. Also change units elsewhere on page.

Page 410 Equation 9-32. P_{max}, P_{red} and P_{stat} are in bar gauge, not bar. Change units for same quantities elsewhere on page.

Page 422 Problem 9-8. Insert below dust table "Maximum pressure during combustion, P_{max} is 100 psia" Everything else in table is OK.

Page 423 Problem 9-15. Last sentence should read, "...0.5 bar gauge and the maximum pressure during combustion is 7 bar gauge.

Page 427 Problem 9-30. Last sentence should read "Assume a vent release pressure of 0.15 bar gauge and a maximum pressure during combustion of 8 bar gauge.

Page 466 Provide footnote for Problem 10-21. "Problem provided courtesy of Rajagopalan Srinivasan of the University of Singapore."

Page 469 Provide footnote for Problem 10-30. "Problem provided courtesy of Alvin Yee of the University of Singapore."

Page 483 Equation 11-23. $e^{\mu\tau_1}$ should be $e^{-\mu\tau_1}$.

Page 505 Table 11-4: Correct reference title is *Layer of Protection Analysis, Simplified Process Risk Assessment*. Book is now in print, with date of 2001.

Page 506 Table 11-5: Correct reference title is *Layer of Protection Analysis, Simplified Process Risk Assessment*. Book is now in print, with date of 2001.

Page 563 Add additional value at bottom of Ideal Gas Constant table as follows:

8.314×10^3 kg m^2/kg-mol s^2 K

Page 563 Under "Miscellaneous" "2.4191 lb/ft-hr" should be "2.4191 lb_m/ft-hr" and "6.7197 x 10^{-4} lb/ft-s" should be "6.7197 x 10^{-4} lb_m/ft-s".

Page 571 Reference at bottom of page should be: "D. A. Crowl, *Understanding Explosions*, (New York: American Institute of Chemical Engineers, 2003). Used by permission.

Page 572 Line at bottom of page. "A mass balance" should be "A mole balance".

Page 607 Index entry. "Gior, M., 310" should be "Glor, M., 310".