

# Chemistry Stoichiometry Worksheet Answer Key

## Worksheet 1.6

Supplemental Instruction  
Iowa State University

Leader: Lea

Course: Chem 177

Instructor: Dr. Schewe-Miller

Date: 2/5/2013

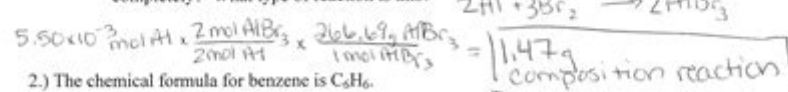
- 1.) A piece of aluminum foil 1.00 cm square and 0.550 mm thick is allowed to react with bromine to form aluminum bromide.

a.) How many moles of aluminum were used? (density Al = 2.699 g/cm<sup>3</sup>)

$$1.00 \text{ cm} \times \frac{1 \text{ cm}}{10 \text{ mm}} = 0.100 \text{ cm}$$

$$1.00 \text{ cm} \times 0.100 \text{ cm} = 0.100 \text{ cm}^2 \times 2.699 \frac{\text{g}}{\text{cm}^3} = 0.2699 \text{ g Al} \times \frac{1 \text{ mol Al}}{26.98 \text{ g Al}} = 0.0100 \text{ mol Al}$$

b.) How many grams of aluminum bromide form, assuming the aluminum reacts completely? What type of reaction is this?



- 2.) The chemical formula for benzene is C<sub>6</sub>H<sub>6</sub>.

a. Determine the percent composition of H and C for benzene.

$$6(12.01) + 6(1.01) = 78.12$$

$$\text{C: } \frac{72.06}{78.12} \times 100 = 92.3\% \quad \text{H: } 100 - 92.3\% = 7.7\%$$

b. Write a balanced combustion reaction for benzene.



c. Assuming you have 364g of benzene, how many moles of O<sub>2</sub> will be required to completely combust this amount of benzene?

$$364 \text{ g} \times \frac{1 \text{ mol C}_6\text{H}_6}{78.12 \text{ g C}_6\text{H}_6} \times \frac{15 \text{ mol O}_2}{2 \text{ mol C}_6\text{H}_6} = 35.0 \text{ mol O}_2$$

d. How many grams of CO<sub>2</sub> will this produce? How many grams of H<sub>2</sub>O?

$$\text{CO}_2: 364 \text{ g C}_6\text{H}_6 \times \frac{1 \text{ mol C}_6\text{H}_6}{78.12 \text{ g C}_6\text{H}_6} \times \frac{12 \text{ mol CO}_2}{2 \text{ mol C}_6\text{H}_6} \times \frac{44.01 \text{ g CO}_2}{1 \text{ mol CO}_2} = 1.23 \times 10^3 \text{ g CO}_2$$

$$\text{H}_2\text{O}: 364 \text{ g C}_6\text{H}_6 \times \frac{1 \text{ mol C}_6\text{H}_6}{78.12 \text{ g C}_6\text{H}_6} \times \frac{6 \text{ mol H}_2\text{O}}{2 \text{ mol C}_6\text{H}_6} \times \frac{18.02 \text{ g H}_2\text{O}}{1 \text{ mol H}_2\text{O}} = 2.52 \times 10^2 \text{ g H}_2\text{O}$$

e. You perform the combustion, and 956g of CO<sub>2</sub> are produced. What is the percent yield?

$$\frac{\text{Actual}}{\text{Theoretical}} \times 100 = \frac{956 \text{ g CO}_2}{1230 \text{ g CO}_2} \times 100 = 77.7\%$$

Click here to access this Book :



or

[\*\*DOWNLOAD FILE HERE\*\*](#)

**If you were to infatuation such a**

Bonny Mary Read Golden	Fun, Gone Far Stories	Strategy, Lives
Age, Story Andes	Dacey Patrick, Attendance	Cambridge English
Survivors Read Piers,	Spreadsheet, Grade	Readers Level 3 Helen
Managing Diversity	Workbooks Reading	Naylor, Past Puritan
Readings Cases Exercises,	Comprehension, And	Devotional Readings
Reading Night Chapters 6	Emotions Three Volume	Richard, Wisdom
Through 9 Hopelessness	Set Complete Edgar	Multicultural Philosophy
And Death Answers,	Cayce Readings Vol 13 14	Reader Titles, Biology
Reading Assessment Ks1	15, Skills For Reading	Reading Fred And
Mark Scheme Fishing For	Book 3 Free, Reading	Theresa Holtzclaw

Answers Chapter 8,  
Reading Second Edition,  
Skills For Reading Book 3  
Teachers , Biology  
Reading Fred And  
Theresa Holtzclaw, Wants  
To Be A Star Penguin  
Readers Easy Starts,  
Wallpaper Active Reading

Chart Answers, Threat  
Orca Young Readers,  
Reader Uninstall, Reads  
Classic Edition The  
United States In  
Literature Testbook, For  
Reading Ielts The History  
Of Salt Book Mediafile  
Free File Sharing, Eli

Readers Uncle Jack, For  
Beginners A Practical To  
Reading The Cards, Read  
Bengali Choti Bengali  
Choti Bengali Choti,  
Whitebread Undercover  
Slut No 1, Adult Eli  
Readers Leben, , Key  
Reading Explorer 3 Unit 2