

## CHEM 102 Review Guide

### Chapter 17 - AIR POLLUTION

1. What is the composition of clean air in terms of the most abundant gases in the atmosphere?
2. (a) Define air pollutants. (b) Identify 3 major contributors of air pollutants in the US.
3. (a) What is the relationship between parts-per-million (ppm) and percent? (b) If air contains 0.0007 % by volume of ozone, what is its level in ppm?
4. Identify three types of fuels used to generate electricity.
5. (a) Aside from C and H, what other elements are in coal? (b) Based on your answer in (a), name two air pollutants produced from the burning of coal.
6. For each of the following pollutants, give the (a) source(s), (b) biological effect and (c) environmental effect if any. CO, SO<sub>2</sub>, NO<sub>x</sub>, O<sub>3</sub> and Hg.
7. Be able to name given the chemical formula (and vice versa) of each pollutant in #6.
8. (a) What is a smog and how is it related to ozone? (b) Why is smog a problem?
9. (a) Differentiate between *ground-level ozone* and *stratospheric ozone*. (b) What is the effect or function, whichever applies, of each type of ozone?
10. Name three conditions that favor the formation of ground-level ozone.
11. Name two air polluting gases present in automobile exhaust.
12. Name 2 air pollutants that cause *acid rain*.
13. Name 3 pollutants that cause irritation of the respiratory tract.
14. Briefly discuss 3 ways by which we can minimize or prevent air pollution.