

Chemistry 471/671
Introduction to Green Chemistry

Problem Set #1 (6 points)
Due Tuesday, September 11, 2007

Due to the abstract nature of this week's lecture material, we present an abstract problem set. For this assignment only, no answer can truly be wrong, so long as you can back up your answer with a logical argument. However, answers presented without the "work" of a logical thought process can be considered wrong. Show us how you arrived at the answers you have given.

- 1) Approximately how much fuel (in gallons or liters, your choice) is consumed during the morning rush hour for an American city of approximately 1 million people? How does your answer change if we name a specific city, rather than a generalization? How does your answer change if the city isn't American?
- 2) Approximately how many liters of organic solvent waste are produced each semester during undergraduate chemistry labs at Boston's colleges and universities?
- 3) Choose ONE of the two scenarios above. Discuss the ways in which this use of resources is a poor example of Green Chemistry. Be specific: which principles are being violated? What might be done to remedy the situation? Consider that any changes will need to be economically as well as philosophically sound if they are to be implemented.