**Chem 1984 Marathon problem #4**

**Mystery Compound**

**Due Monday 30 September 2013 by 4 PM**

**(no electronic submissions will be accepted)**

**7 points**

I am a compound composed of two elements. I can’t be burned. If introduced into your body I eviscerate its blood cells. One of my elements is from group 7A. The other is from group 5A. A collection of 200 molecules of me weighs 5.645 x 10-8  pg. One molecule of me contains 6 atoms. When 2 molecules of me decompose together, 5 molecules of a toxic yellow, green homonuclear diatomic gas form along with a shiny grey solid at room temperature.

1. Who am I ? (Show work or you receive no credit.)
2. What is the balanced reaction that forms the toxic green gas and shiny grey solid ?

Note: some trial and error and `out of the box’ reasoning is needed here.
