Grossmont College Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chemistry 142

Spring 2015, Quiz 5 Date: \_\_\_\_\_\_\_\_\_\_\_\_

1. Suppose thiosulfate titrant is made as described below and standardized again a 0.0500 M solution of potassium iodate, also as described below. If the initial burette reading is 0.15 mL and the final reading is 29.52 mL, what is the molarity of the sodium thiosulfate titrant?

The Thiosulfate titrant solution itself must be standardized against primary Potassium Iodate

IO3- (aq) + 8 I- (aq) + 6 H+(aq) 3 I3-(aq) + 3 H2O

I3- (aq) + 2 S2O32-(aq) 3 I-(aq) + S4O62-(aq)

1. What is the solubility of Magnesium Hydroxide in a neutral solution (pure water)? (Ksp= 1.8×10-11)
2. What is the solubility of Magnesium Hydroxide in a solution buffered at pH=12.50?
3. Why is the solubility different between questions 2 and 3? What happen to the molar solubility of Magnesium Hydroxide if HNO3 was used? Explain why