**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per\_\_\_\_**

**Was it Suicide, Murder or an Accident?**

Analysis of Over-the-Counter Drugs­©

A Forensic Toxicology and Chemistry Lab

**Data Charts and Conclusion Questions**

**Data Table 1: Pain Relievers**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Tests** | **Aspirin** | **Tylenol©** | **Advil©** | **Bufferin©** | **Excedrin©** | **Crime Scene** |
| **Appearance** |  |  |  |  |  |  |
| **Solubility in Water** |  |  |  |  |  |  |
| **Color with pH Universal indicator** |  |  |  |  |  |  |
| **pH value after 10-15 mins** |  |  |  |  |  |  |
| **Reaction with HCl** |  |  |  |  |  |  |
| **pH Value in stomach acid** |  |  |  |  |  |  |
| **Reaction with FeNO3** |  |  |  |  |  |  |

**Data Table 2: Antacids**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tests** | **Alka-Seltzer©** | **Rolaids©** | **Tums©** | **Crime Scene** |
| **Appearance** |  |  |  |  |
| **Solubility in Water** |  |  |  |  |
| **Color with pH Universal indicator** |  |  |  |  |
| **pH value after 10-15 mins** |  |  |  |  |
| **Reaction with HCl** |  |  |  |  |
| **pH Value in stomach acid** |  |  |  |  |
| **Reaction with FeNO3** |  |  |  |  |

 **Analysis Questions: Use your data to support your answers!**

1. **Which of the pain relievers were the most acidic? Which was the least acidic?**
2. **Did the pH (acidity) of any pain relievers change over time? Which? Explain.**
3. **When the “simulated stomach acid- (HCl) was added to the pain relievers, what happened? Did any resist a drastic drop in pH? Explain.**
4. **Compare the pH of the three antacids tested before and after adding the HCl.**
5. **Which antacids seem to be the most effective as an antacid? Which seems to be the least effective? Explain.**

**Conclusion Questions:**

1. **Define and Compare Analgesic, Anti-inflammatory and Antipyretic.**
2. **Look up each of the pain relievers and antacids we tested. Cite your sources in MLA format.**

**And complete the following:**

|  |  |  |
| --- | --- | --- |
| **Drug** | **What are the active ingredients?**  | **Function (Be specific)** |
| **Aspirin** |  |  |
| **Tylenol©** |  |  |
| **Advil©** |  |  |
| **Bufferin©** |  |  |
| **Excedrin©** |  |  |
| **Alka-Seltzer©** |  |  |
| **Rolaids©** |  |  |
| **Tums©** |  |  |

1. **Why are most pain relievers and antacid fairly insoluble? (Look it up and cite your source in MLA)**
2. **What was in the crime scene powder? How do you know?**
3. **Could the presence of any of these be poisonous? Explain. (Look it up and cite your source in MLA)**
4. **What do you think happened? Can you tell if it was a suicide, murder or an accident? What other evidence would you need to make decision?**