

## 5.3: Aspirin Report Sheets

Name (first and last):





Lab Partner (first and last):

Date of experiment:

### Part 1: Synthesis of Aspirin

#### MSDS and GHS

To identify the hazards associated with the chemicals in this lab, complete the following table. The hazard statements in the first line is completed as an example. The MSDS documents you need can be found posted with the labs online.

Materials	GHS Pictograms (Circle all that apply)	Hazard Statements
acetone		Highly flammable liquid and vapor. Causes serious eye irritation. Toxic to aquatic life.
phosphoric acid, 85%		
acetic anhydride		
salicylic acid		

#### Data and Calculations

Show dimensional analysis for all calculations.

	Mass (g)
Mass of salicylic acid used	
Mass of filter paper and watch glass	
Mass of aspirin + filter paper + watch glass	
Mass of aspirin	

1. Initial moles of salicylic acid ( $C_7H_6O_3$ ):

2. Ideal mass of aspirin ( $\text{C}_9\text{H}_8\text{O}_4$ ):

3. Use the following equation to calculate percent yield.

$$\% \text{ yield} = \frac{\text{actual moles of aspirin}}{\text{ideal moles of aspirin}} \quad (5.3.1)$$

### Discussion of Experimental Error

1. Explain two errors that may cause the yield to be below 100%.

2. Explain two errors that may cause the yield to be above 100%.

## Part 2: Melting Point of Aspirin

### Data

Rough Melting Point Range: \_\_\_\_\_ °C to \_\_\_\_\_ °C

Melting Point Range: \_\_\_\_\_ °C to \_\_\_\_\_ °C

Melting Point Range (Repeated): \_\_\_\_\_ °C to \_\_\_\_\_ °C

### Questions

1. Consider your melting point ranges. Is your aspirin sample pure? How do you know?

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