UNIVERSITY of SAN CARLOS SCIENTIA • VIRTUS • DEVOTIO	**Department of Chemical Engineering**	

Experiment Plan

(Form CHEL-1)

Laboratory Course	:	ChE2204L
Experiment Title	:	Melting Point Determination Using the Thomas-Hoover Melting Point Apparatus
Group Code	:	ChE2204LW01
Students' Name & Signature	:	Cabo, Michelle
		Sumarago, Erwin
		Talandron, Rhoel
Scheduled Date	:	April 15, 2020
Submission Number	:	1
Teacher	:	Engr. May V. Tampus
Term & Academic Year	:	2nd Sem, 2019-2020

Teacher's Approval

This is to attest that the students have passed the pre-lab interview and are deemed prepared to conduct the experiment.

Assessed and Evaluated By:	Engr. May V. Tampus
	(Signature over printed name)
Date and Time	

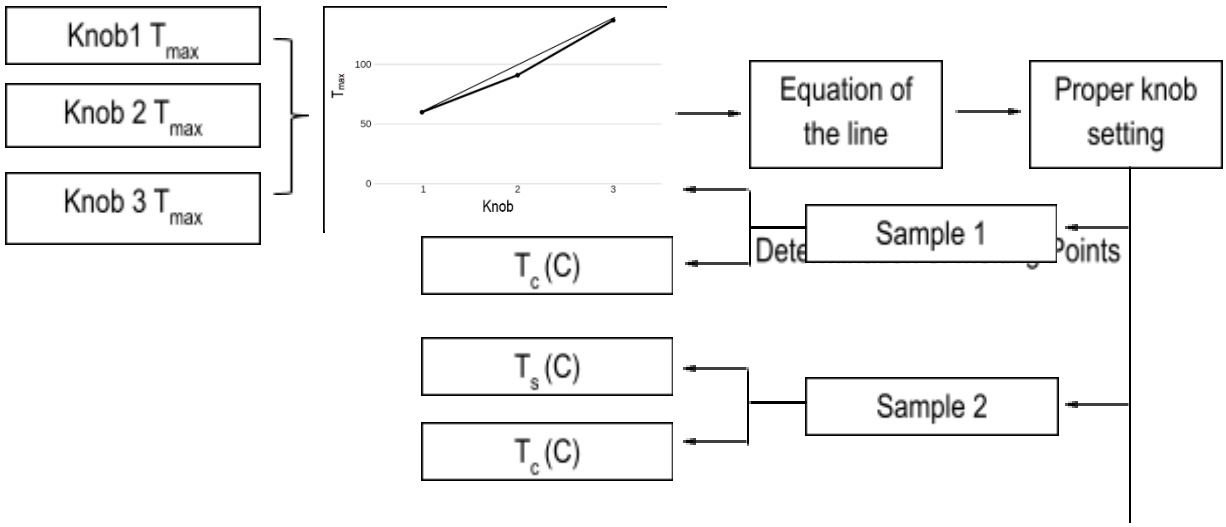
Objectives of the Experiment

1. To determine the melting point of several compounds using the Thomas-Hoover melting point apparatus; and
2. To evaluate the purity of these compounds.

Information Flow Diagram

Objective 1: To determine the melting point of several compounds using the Thomas-Hoover melting point apparatus.

Calibration of Thomas-Hoover Melting Point Apparatus



Objective 2: To evaluate the purity of these compounds.

$T_c(C) - T_s(C)$

Legends:

T_{max} = maximum temperature
T_s = temperature at start of melting
T_c = temperature at complete melting

Work Plan

Time	Task	Person Responsible
8:30 – 9:00	Log-in and Questioning	Cabo
		Sumarago
		Talandron
9:00 – 9:10	Borrowing, cleaning and preparing of materials to be used in the experiment	Cabo
	Preparing the sample.	Talandron
	Checking the oil bath and preparation of the Thomas-Hoover melting point apparatus	Sumarago
9:10 – 9:15	Preparing the new capillary tubes and making sure of proper sealing and are clean and dry.	Talandron
	Noting the model number of the melting apparatus.	Cabo
	Turning on the stirrer and adjusting until optimum seeting is determined.	Sumarago
9:15 – 10: 00	Turning on the transformer knob setting and starts the timer.	Cabo
	Taking the temperature readings.	Sumarago
	Recording the temperature readings.	Talandron
10:00 – 10:05	Plotting the temperature against time for calibration curve.	Sumarago
10:05 – 10:20	Loading the sample to the capillary tube.	Cabo
	Placing the sample into the sample compartments drilled into the cap of the bath.	Sumarago
	Determining the heater transformer knob setting and records it.	Talandron
10:20 – 10:21	Starts the timer.	Cabo
10:21 – 10:35	Observing the sample until it completely melts.	Sumarago
	Records the temperature reading.	Talandron
	Turning transformer knob to zero and allow bath to cool.	Sumarago
10:35 – 11:20	Create a duplicate run.	Cabo
		Sumarago
		Talandron
11:20 – 11:30	Housekeeping	Cabo
		Sumarago
		Talandron

Table 1. Thomas-Hoover Melting Point Apparatus Data

Model Number	

Table 2. Data for the Calibration of Thomas-Hoover Melting Point Apparatus

Time (min)	First Setting Temperature (°C)	Second Setting Temperature (°C)	Third Setting Temperature (°C)

Table 3. Transformer Knob Setting

Knob Setting	Temperatue Maximum (°C)
1	
2	
3	

Table 4. Data for Determination of Melting Point using Thomas-Hoover Melting Point Apparatus

Time (min)	Sample 1 Temperature (°C)		Sample 2 Temperature (°C)		Notes
	Trial 1	Trial 2	Trial 1	Trial 2	

Table 5. Melting Point of Samples

Sample	Trial	Temperature (°C)	
		Started to Melt	Completely Melted
1	1		
	2		
2	1		
	2		

Observations: