

Name: _____

Date: _____

Lab # _____:

Melting Point of Lauric Acid

Minutes: _____

Your task is to use your knowledge of phase changes to find the melting/freezing point of Lauric Acid. You will include a phase change diagram (liquid to solid) based on your data.

Aim:

Define:

- Melting Point:
- Freezing Point:
- Fusion:
- Solidification:

Materials:

Method:

1. Heat the test tube with the Lauric acid sample in a hot water bath until all the sample is in the liquid state.
2. Remove the test tube from the heat source and start recording temperature and phase of the sample every 60 seconds. Record data in a data table (use separate paper).
3. Continue recording data every 60 seconds until the sample reaches room temperature (25°C).
4. Graph the data, being sure to include all the requirements for a quality graph (see graphing worksheet from, unit 1); also label phases and phase changes.
5. Use the graph to determine the melting point (freezing point) of Lauric Acid.

Calculations:

Compare (use percent error) melting point to accepted value of _____°C.

Conclusion: (use separate piece of paper) **R-E-R-U-N**

Consider the following while writing your conclusion:

1. The conclusion must answer the aim of the lab. What is the aim of this lab?
2. This lab involves phase changes, potential and kinetic energy, a sample and its surroundings, and heat flow. Properly applying these topics/terms to this lab activity will help to answer the new learning and uncertainties portions of your conclusion.

USE THIS SECTION OF THE LAB TO TAKE NOTES DURING THE POST LAB DISCUSSION:

SCORE	SCORE	SCORE	SCORE	SCORE	SCORE	SCORE	SCORE	SCORE
Vocabulary	Materials	Method	Data	Graph	Calculations	Conclusion	Presentation	Timeliness
10 pts- Vocabulary clearly listed and defined using a textbook or other reference. All vocabulary words included. With source cited.	5 pts- All materials clearly listed	5 pts-Method for completing the lab is clearly written with numbered steps. No use of pronouns i.e. I, we, our, they..	10 pts-Data are presented in Table form. Table is neat and clean (either printed, or drawn with ruler). Minimum of ten measured values included with correct use of precision and units.	20 pts- Graph is neat and easy to read. Lines are clearly drawn correctly and labeled or a key is provided. Graph has a proper title. Axes are clearly labeled with a proper scale.	5 pts- Includes a calculation of percent error. All work shown, formula is copied from reference table; values plugged in and solved with answer boxed or underlined and with correct precision and units	30 pts All points addressed 1) Restate 2) Explain 3) Results 4) Uncertainties 5) New Learning. 6) No pronouns. No opinions. Contains a comparison between the measured value and the accepted value.	10 pts- All sections addressed fully. Lab follows given format and is easy to read. Completely typed. No spelling or grammatical errors. Sentences start with capitals and end with periods. Header is complete and follows given format. Aim is clearly stated. Rubric is submitted with lab, with each section self-graded.	5 pts – Handed in on time.
8pts- One requirement missing or error.	.		8 pts- One of the above requirements is missing or incorrect (e.g. No table, table poorly drawn, missing units...)	15 pts- Missing one requirement. (no title, no key, no lines...)	4 pts- One missing requirement	25pts- Any one of the factors unsatisfactory.	8pts- One section missing or blank. Any words not typed up to 1 sentence. 2 or less spelling / grammatical errors.	0 pts – not handed in on time.
						20pts- two of the factors unsatisfactory.		
5pts- Two requirements missing or error	3 pts- Listed but incomplete	3 pts - Method included but incomplete	5 pts Two requirements are missing or incorrect	10 pts Missing two requirements.	3 pts- Two missing requirements	15pts- 3 of the factors unsatisfactory.	5 pts- two sections missing or blank. more than one sentence not typed. 4 or less spelling / grammatical errors.	<i>If lab is more than one week late, it is graded as P -65 or F-0</i>
2 pt- Three or more requirements missing or error.			3 pts Three or more requirements missing or incorrect	5 pts- Missing three or more requirements	2 pts- Three or more missing requirements	10pts- 4 of the factors unsatisfactory.	2 pts- three or more sections missing or blank. more than one sentence not typed. 4 or less spelling / grammatical errors. Lab hard to follow for reader.	+5 pts-Completed lab submitted early (by 3pm of day before due date. Lab not to exceed 99 pts with extra credit.
						5 pts- 5 of the factors unsatisfactory		
0 pts- Vocabulary missing	0 pts- not listed.	0 pts- No Method or most method missing.	0 pts- No Data included.	0 pts- No graph included	0 pts- No Calculation included	0 pts- No conclusion or conclusion does not show understanding of concept.	0 pts- all sections missing or blank or no conclusion. Lab write up shows no understanding of concept. Many spelling & grammar errors.	TOTAL SCORE