HELLENIC REPUBLIC

UNIVERSITY OF CRETE

Academic English

Section: Formal Chemistry Lab reports

Kallia Katsampoxaki-Hodgetts
School of Sciences and Engineering

Formal Chemistry Lab Reports

In writing laboratory reports, follow the outline listed below, making sure to write reports in a concise, yet complete and clear manner.

Important Notes:

*Be sure to use third person, past tense, passive voice, and proper grammar!

e.g.-the solution was prepared by…or The solutions were made using…

**Don't use acronyms until you have first named the substance or technique and cited its acronym.

e.g. – *potassium acid phthalate (KHP)*

* Typed reports should be single-spaced; handwritten reports should be done clearly in ink on a non-spiral edged paper (preferably on a a carbon-copy laboratory research notebook).

The Report

Title: List the title of the experiment as given at the top of the cover page of the laboratory procedure packet for that experiment.

Objective (or Purpose): Use a single sentence to state explicitly the specific goal of the experiment and the analytical method used.

e.g.- *The objective of this experiment was to use Beer's Law to determine the concentration of Cr(III) in an unknown.*

* **Instrumentation** (if applies): List the manufacturer, model number, and general type(s) of all the instruments employed in the experiment.

e.g. – *Spectronic- 21 vis spectrometer*

Procedure: Briefly but thoroughly describe the following in a general manner:

- How solutions were obtained or prepared and used in analysis
- Amount(s) of substance(s) used
- Volume and concentrations of solutions if required by instructor
- Measurement process

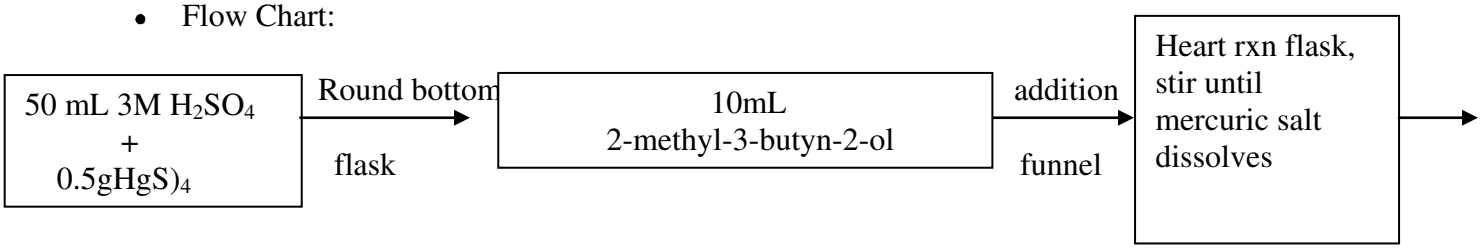
- Other pertinent experimental aspects

*the procedure can be in a written out or flow chart format, depending on instructor preference.

- Written Out:

Standard solutions were made by appropriate dilutions of an aliquot of…

- Flow Chart:



Data and Observations: List the data and computed results in a simple, concise, yet very clear form (usually in a well-labeled form).

- Calculations- submit only one set of detailed mathematical manipulations of each type. There is no need to show every single calculation – all other values appear in data tables.

• Data tables- list calculated values in their appropriate format as below.

Single entry

Weight of KH 2 PO 4 = 0.4374 g

Molarity of NaOH = 0.1000 M

- Measurements of a series of solutions

Cr (III) Concentration, M	Absorbance
0.0100	0.100
0.0200	0.196
0.0300	0.304
0.0500	0.496
Unknown #3	0.234

- A series of Visual Titrations

	(1)	(2)
Final Volume (mL)	23.62	47.29
Initial Volume (mL)	0.00	23.62
Volume Used (mL)	23.62	23.67

- A pH Titration:

e.g. – The titration of vinegar with NaOH

mL NaOH added	pH
0.000	3.45
0.200	3.85
0.400	4.12

- Plotting- plots should:

• be adjusted to fill the largest portion of space available with reasonable scaling

• have clearly labeled axes (what was plotted & what units used)

• have clearly located points (labeled both x & y values)

• be smoothly drawn (Use ruler or graphical analysis)

Critical Evaluation: List major sources of potential sources of error in both the chemistry and human aspects of the experiment.

Questions : Answer any questions posed in the experiment sheet.

Conclusion: Discuss your results based n what you expected to happen. For example, if theoretical or literature clues exist for a substance or product, look them up and compare to your experimental results- don't forget to comment.

DO NOT MERELY REWRITE RESULTS!

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Notes

Reference Note
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