Date:……

Name:……..

1. INTRODUCTION TO THE LABORATORY SAFETY, LABORATORY EQUIPMENT, GAS BURNERS

Objectives

Overview of the general and safety rules of working in a chemical laboratory. Introduction to the most important laboratory equipment.

Introduction: Laboratory safety

Textbooks and the supplementary material provide abundant information on how to work in a chemical laboratory in a safe and scientifically sound manner. During the first lab session, the instructors will re-emphasize all the important points. However, simply knowing the rules is not enough to guarantee laboratory safety. It is the experimenters' duty and responsibility to work always in a way that does not endanger either themselves or others working in the same laboratory.

Pre-lab Assignment

Read the introduction chapter of this lab manual.

1.1. Safety Training

Date: .....

1. General safety rules in a chemical laboratory: (summarize the most important information briefly!)

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2. What are the most important rules of **fire safety** in a chemical laboratory?

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3. What are the relief measures for the following laboratory accidents?

	acid	**base**
poured over a hand	.....	.....
	.....	.....
splashed into eyes	.....	.....
	.....	.....
accidentally ingested	.....	.....
	.....	.....

4. List the most often used chemicals which pose a safety hazard and should be dealt with special care. What safety rules must be observed when working with these chemicals?

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Review Exercises and Problems

1. Are the following statements true (T) or false (F)?

A ..... Only injuries requiring treatment should be reported to your laboratory instructor.
B ..... Changes in laboratory procedures are encouraged without authorization to heighten student interest.
C ..... Working alone in the laboratory is *not* permitted under any circumstances.
D ..... Do not return excess, unused chemicals to the stock bottle.
E ..... Always wash your hands before leaving the laboratory.
F ..... Smoking, drinking, eating, and chewing are permitted outside of the laboratory only.
G ..... Before dispensing a chemical, read its label twice.
H ..... Always dispense twice as much chemical from a reagent bottle than the amount suggested in the experiment outline.
I ..... When mixing solutions, always add the dilute solution to the concentrated one.
J ..... Never taste a chemical.
K ..... Gas burners temporarily not in use should be adjusted to produce yellow, luminous flame.
L ..... Everyone must wear a labcoat in the laboratory at all times.

1.2. Laboratory equipment

Date: .....

1. List the most important pieces of laboratory equipment using the scheme below.

Porcelain equipment **Metal equipment** **Wooden equipment**

2. Draw the cross section of a beaker, an Erlenmeyer flask and a volumetric flask.

beaker Erlenmeyer flask volumetric flask

1.3. Use of Gas Burners

Date: .....

1. List the steps of installing and lighting a *Bunsen* burner:

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