



DISTILLATION

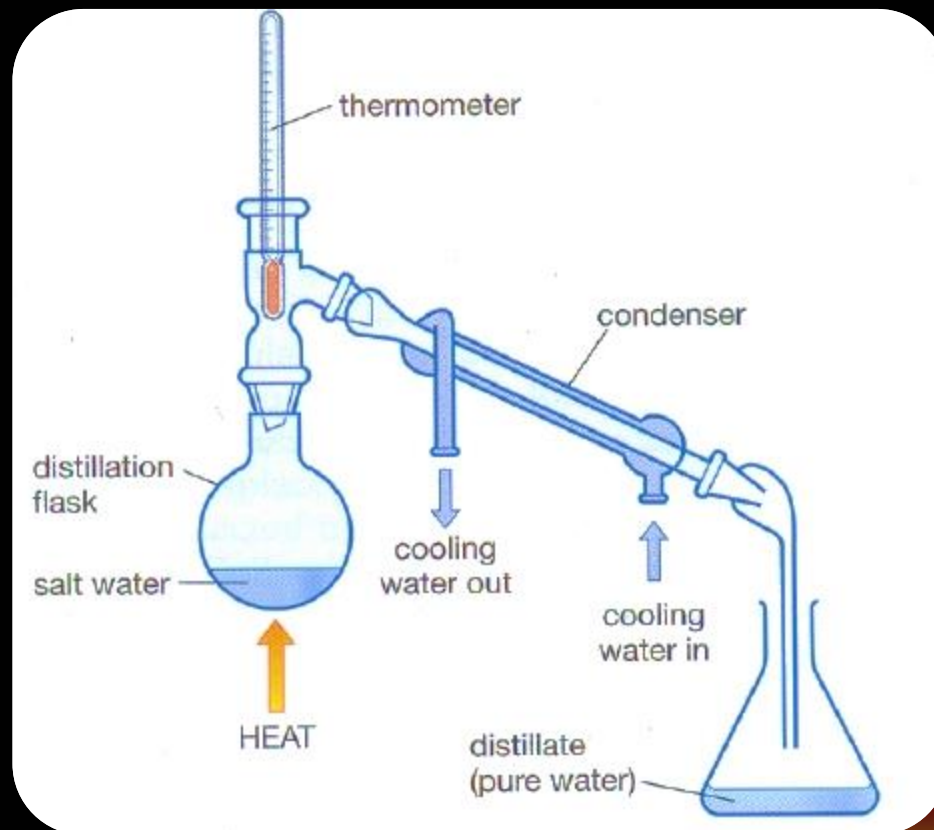
*Assistant Lecturer :Saba Abd Ul-munemHabeeb
2017 - 2018*

your name

DISTILLATION

- Distillation is method for *separating* and *purifying* a mixture of liquids by heating the liquids to boiling at different temperatures to transform them into the vapor phase. The vapors are then condensed back into liquid form in a sequence from lower to higher boiling points. Distillation is used for many industrial processes, such as production of gasoline and kerosene, distilled water, organic solvents, and many other liquids.

Distillation Requirements



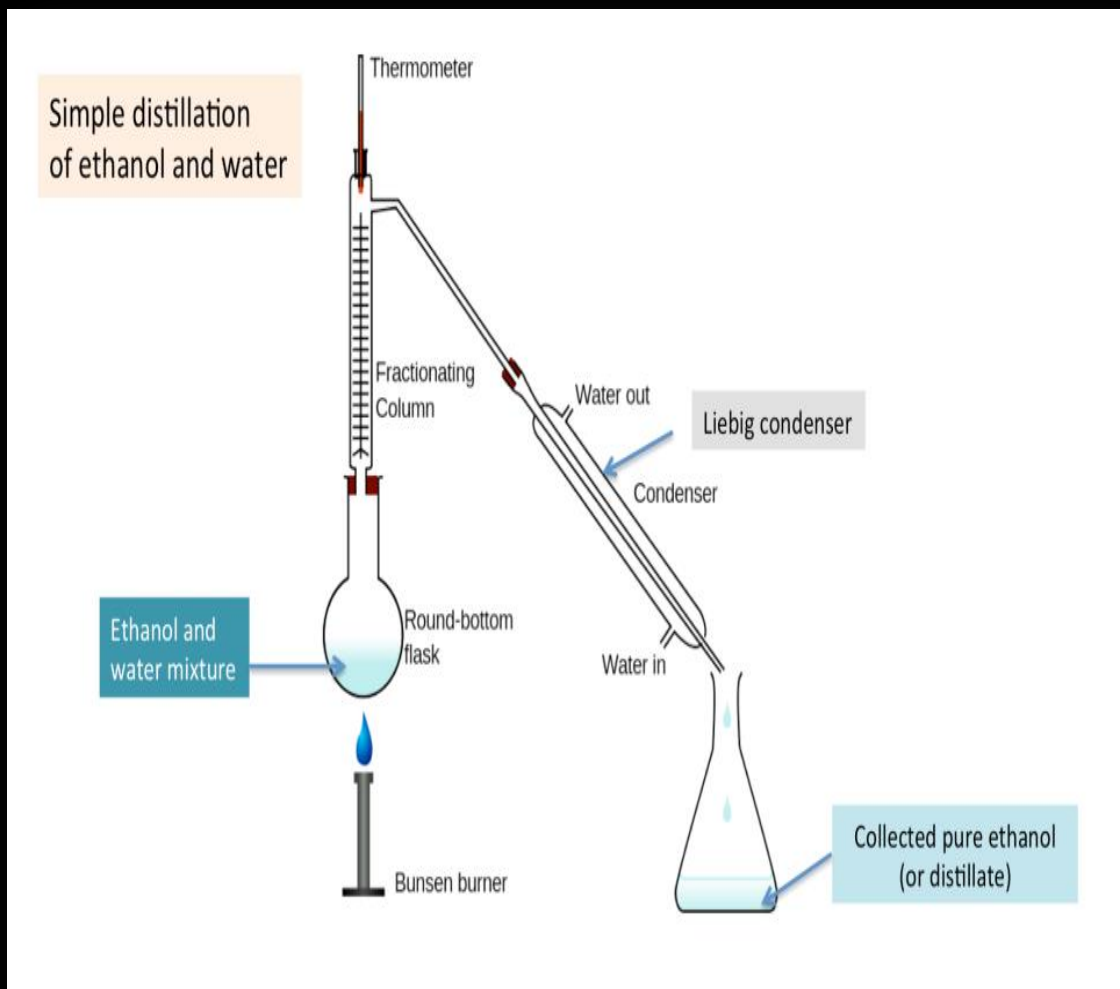
Sunday, June 24, 2018

your name

Types of Distillation

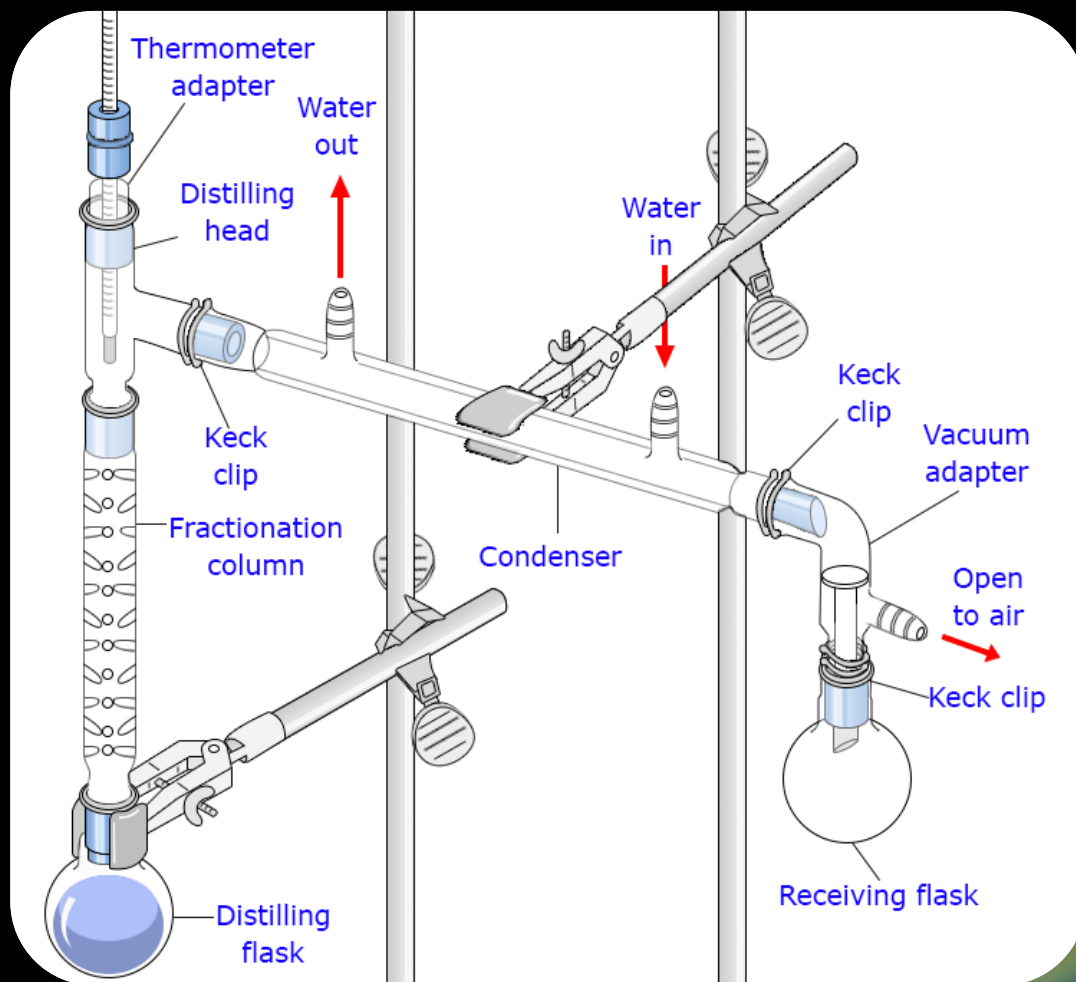
simple distillations

all the hot vapors produced are immediately passed into a condenser to cool and condense the vapors back to liquid. Therefore, the distillate may not be pure depending on the composition of the vapors at the given temperature and pressure



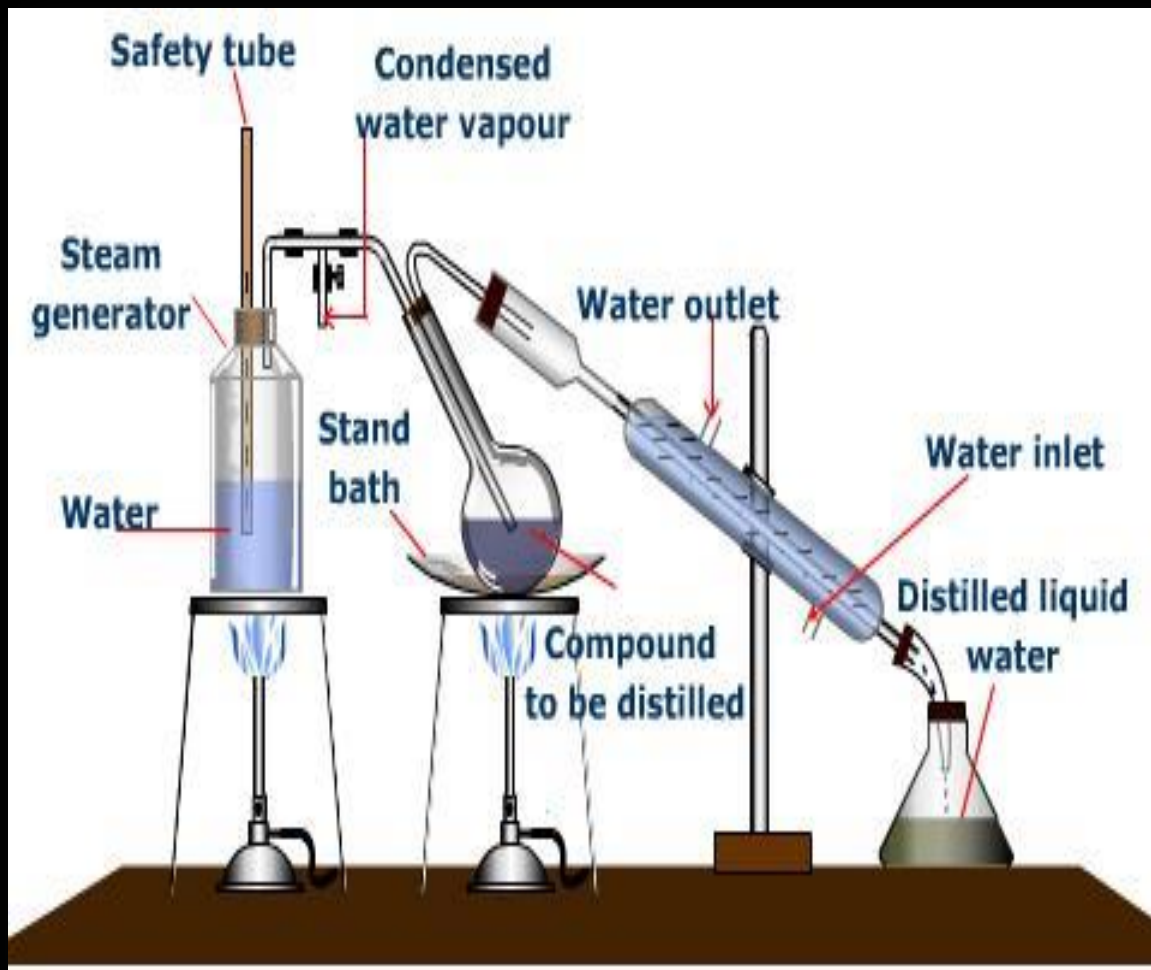
Fractional Distillation

In case of very close boiling points, fractional distillation must be used in order to separate the components well by repeated vaporization-condensation cycles within a fractionating column



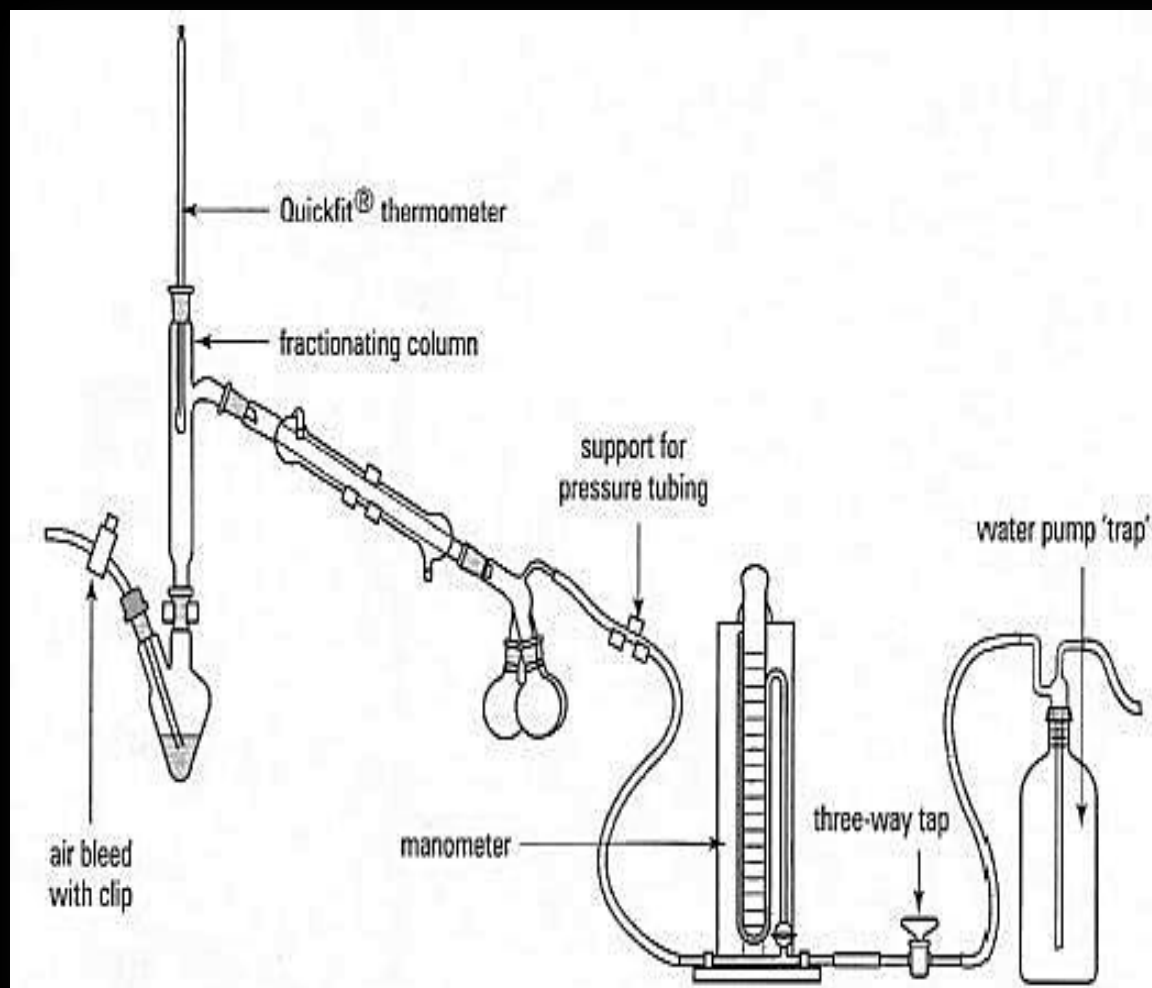
Steam distillation

. is a method for distilling compounds which are heat-sensitive by bubbling steam through a mixture. After the vapor mixture is cooled and condensed, a layer of oil and a layer of water are usually obtained



vacuum distillation

Some compounds have very high boiling points and may boil beyond their decomposition temperatures at atmospheric pressure. It is thus better to do vacuum distillation by lowering the pressure to the vapor pressure of the compound at a given temperature at which the compound is boiled, instead of increasing the temperature.



PROCEDURE

Simple distillation

1. Place 10 mL of alcohol in 25-mL round bottom flask.
2. Add a boiling stone.
3. Assemble the apparatus for simple distillation as shown below.
4. (Connect a round bottom flask with a thermometer adapter fitted with a thermometer on top and a condenser at a side arm.
5. Position the mercury bulb of thermometer adjacent to arm of the thermometer adapter.
6. Connect the end of condenser with a receiving adapter attached with an appropriate container) as you seen in fig (1).
7. Obtain an unknown solution and repeat steps 1-6.

• ***Data and Report Sheet***

Name:

Group:

Date:

Title of experiment:

aim of experiment:

devices and tools:

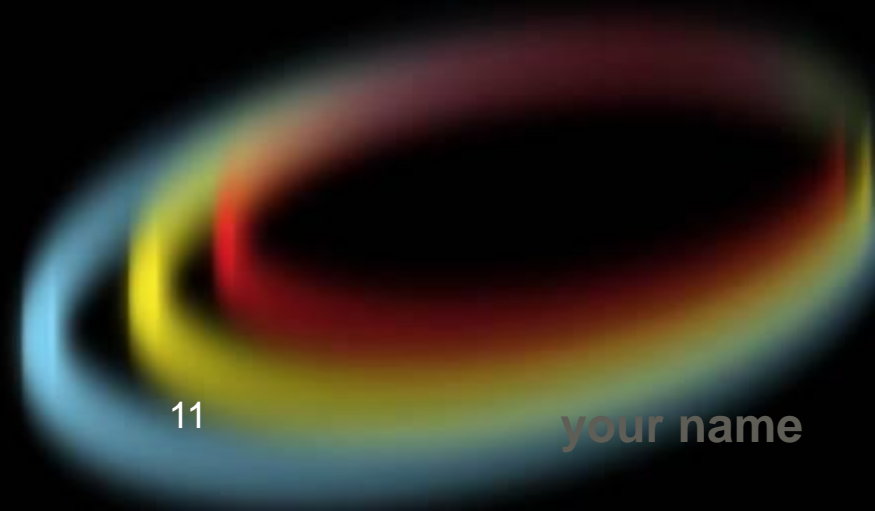
Table:

solution	Volume before distilled (mL)	Temperature distilled	Volume distilled (mL)
Sunday, June 24, 2018		9	

quiz D

Explain the melting point ?
then mention three
physical properties for
your sample ?

quiz E
which one the best
water or oil bath ,
why ?



Quiz F

which one the best
glycrine or paraffine
as oil bath? why ?

Quiz A

- Please what the range temp. Boiling point, then explain (T_2)?

Quiz C

- Briefly explain effect NaCl on boiling point for D.W?

quiz B

- which one the best water or oil bath , why ?

