

Ministry of Higher Education and Scientific Research  
Al-Mustaqbal University  
Faculty of Pharmacy



# *Pharmaceutical Calculation*

## *Lab - 4 -*

# *Preparation of Aromatic Water*



miss bees balms

**aromatic  
water  
skin tonic**

camomile & lavender

to calm, refresh  
& hydrate

wood

- The British Pharmacopoeia (BP) defines aromatic waters as clear, saturated aqueous solutions of volatile oils or other aromatic or volatile substances.
- Naturally, they possess an odor and taste similar to that plant or volatile substance from which they are prepared.
- **Uses of Aromatic water:**
  1. Used as a vehicle (A carrier or inert medium used as a solvent or diluent in which the drug is formulated).
  2. To mask the undesirable taste or odor of some pharmaceutical preparations.

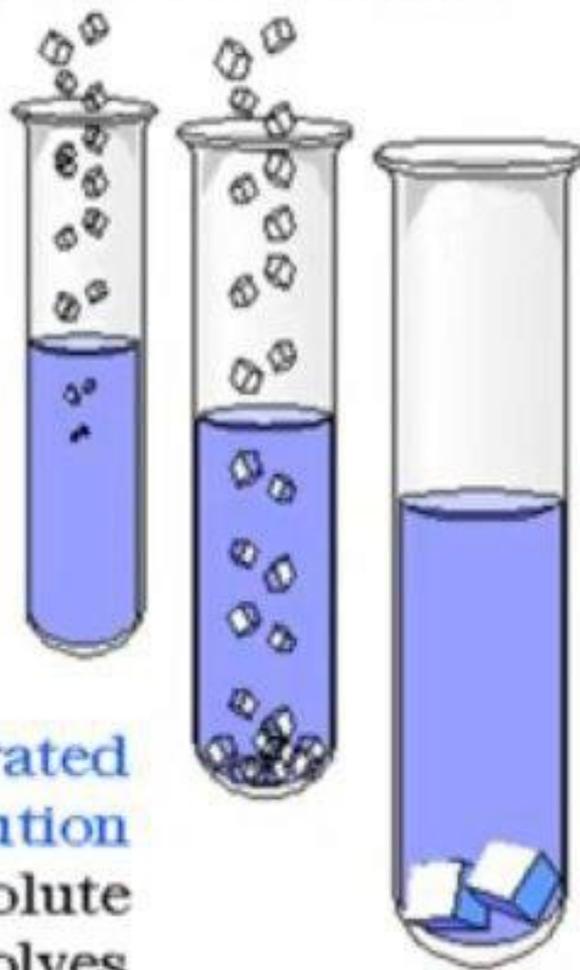
## • **Therapeutic Uses**

- **Camphor water**: has been used as the vehicle in ophthalmic solutions due to the refreshing and stimulating effect to the preparation.
- **Rose water**: has an antioxidant activity. The Rose water cleanses, tones and protects skin from harmful environmental impacts.
- **Chloroform water**: Chloroform water is used mainly for perfuming, flavoring and also used as vehicle and preservative.
- **Hamamelis water**: known as witch hazel is used as a rubbing agent, perfume and astringent in various cosmetic preparations, particularly in after-shave lotions.

- Aromatic waters are clear and free from solid impurities. (as they are saturated).

## Saturated Solutions

unsaturated  
solution  
more solute  
dissolves



saturated  
solution  
no more solute  
dissolves

supersaturated  
solution  
added crystals  
grow

## Aromatic waters can be categorized in 2 types:

- 1. Simple aromatic waters:** They contain purified water as a solvent but do not contain alcohol. e.g. Chloroform water.
- 2. Concentrated aromatic waters:** They contain alcohol as solvent for the volatile constituents. Examples of concentrated aromatic waters are Camphor Water BP, Concentrated Peppermint Water BP.

# Methods of Preparation

- 1. Distillation method**
- 2. Solution method**
- 3. Alternative solution method**

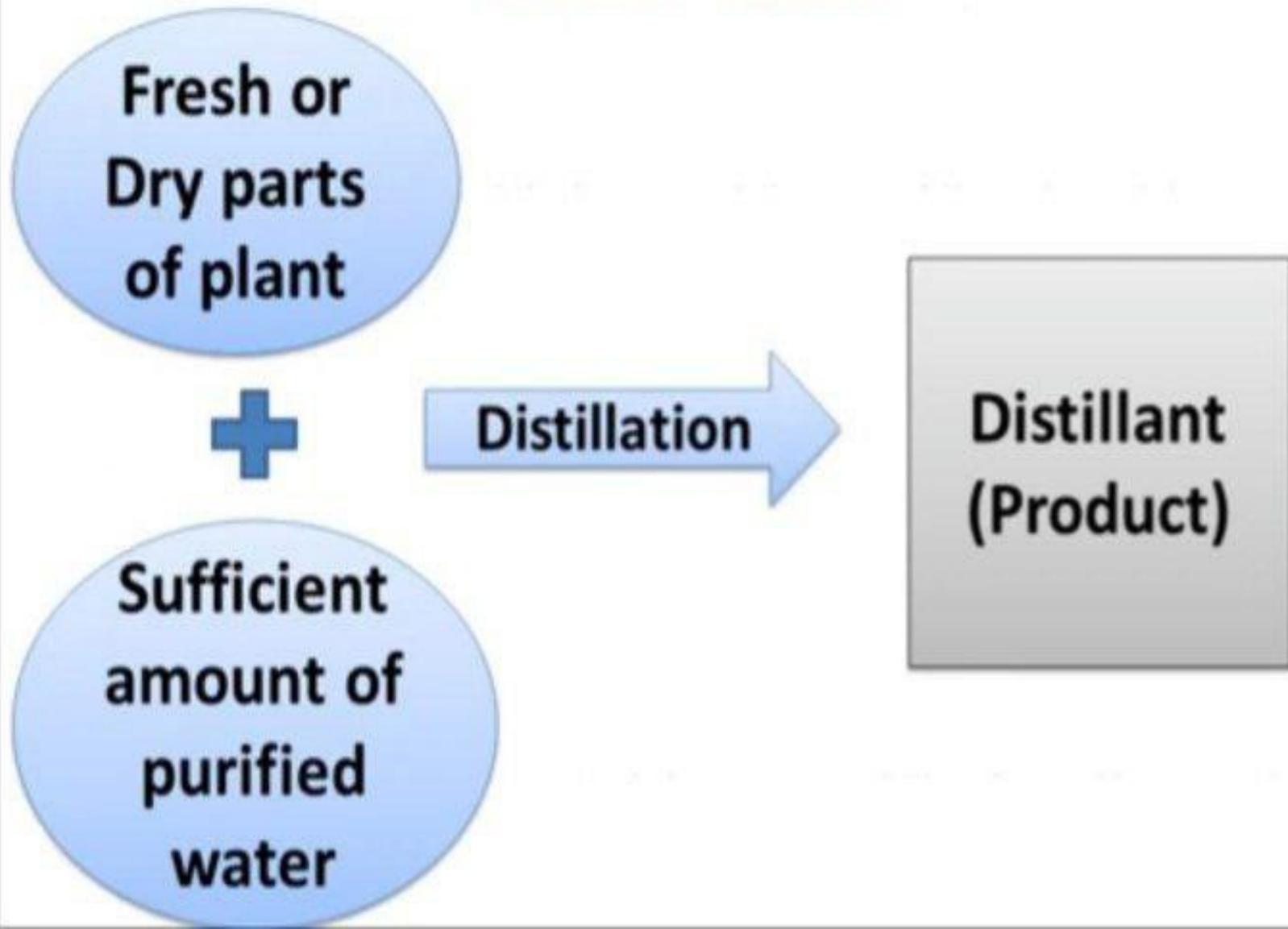
## 1. Distillation Method:

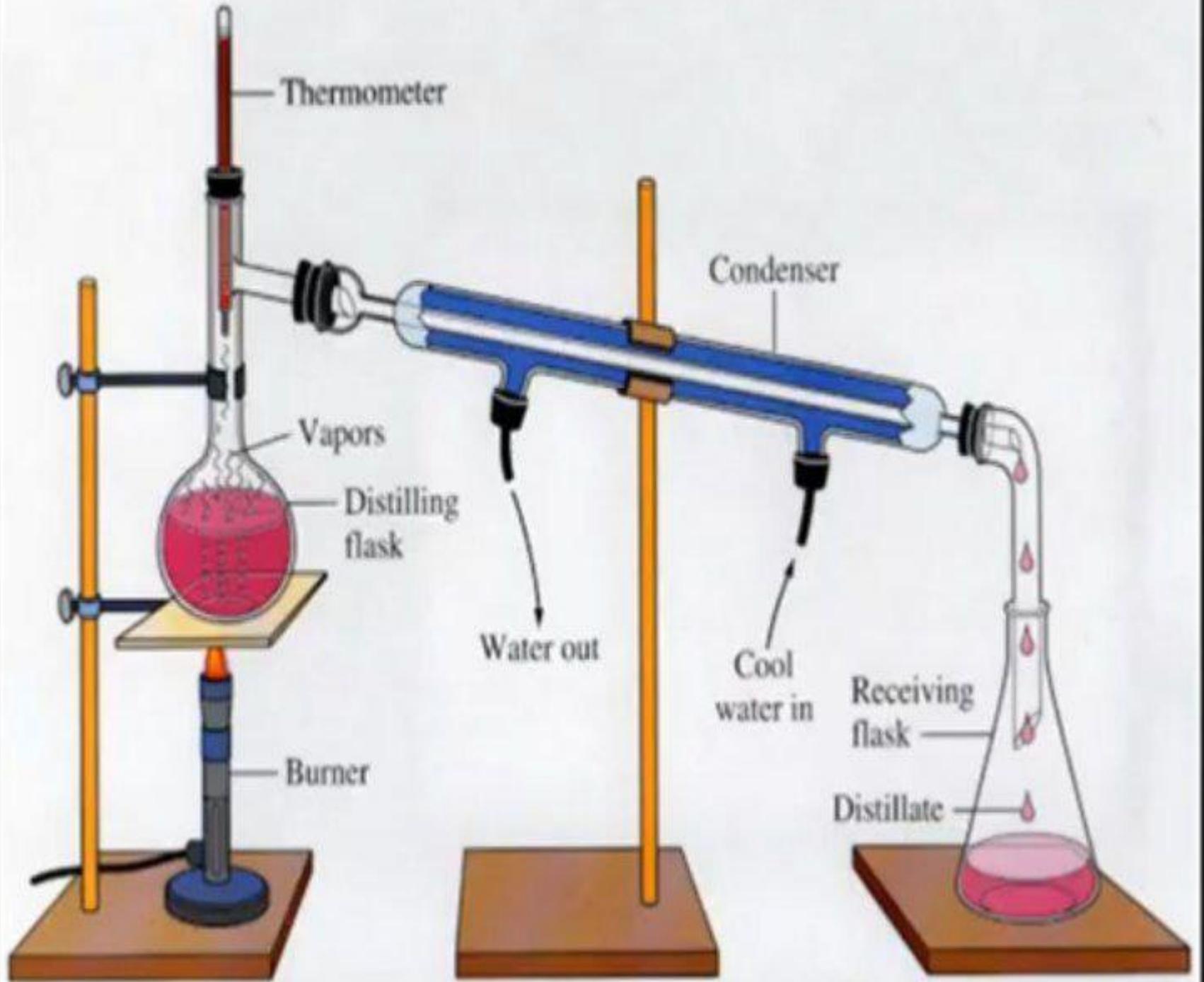
It involves the placing of a portion of the plant or drug from which the aromatic water is to be prepared, with sufficient amount of purified water. Most of the volume of water is then distilled.

The excess oil is collected with the distillate rises to the top of the aqueous product and is removed.

This is the common method of preparation of aromatic waters although it is slow and expensive one, e.g. Rose Water .

# Distillation method: e.g. rose water, organ flower water





• 2-Solution method:

2 g or 2 mL of  
volatile  
substance

+

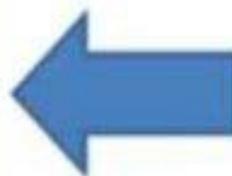
1000 mL of  
purified  
water



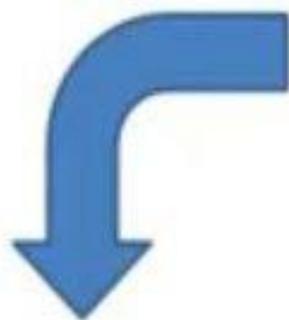
15 min  
shaking



Filter through  
filter paper



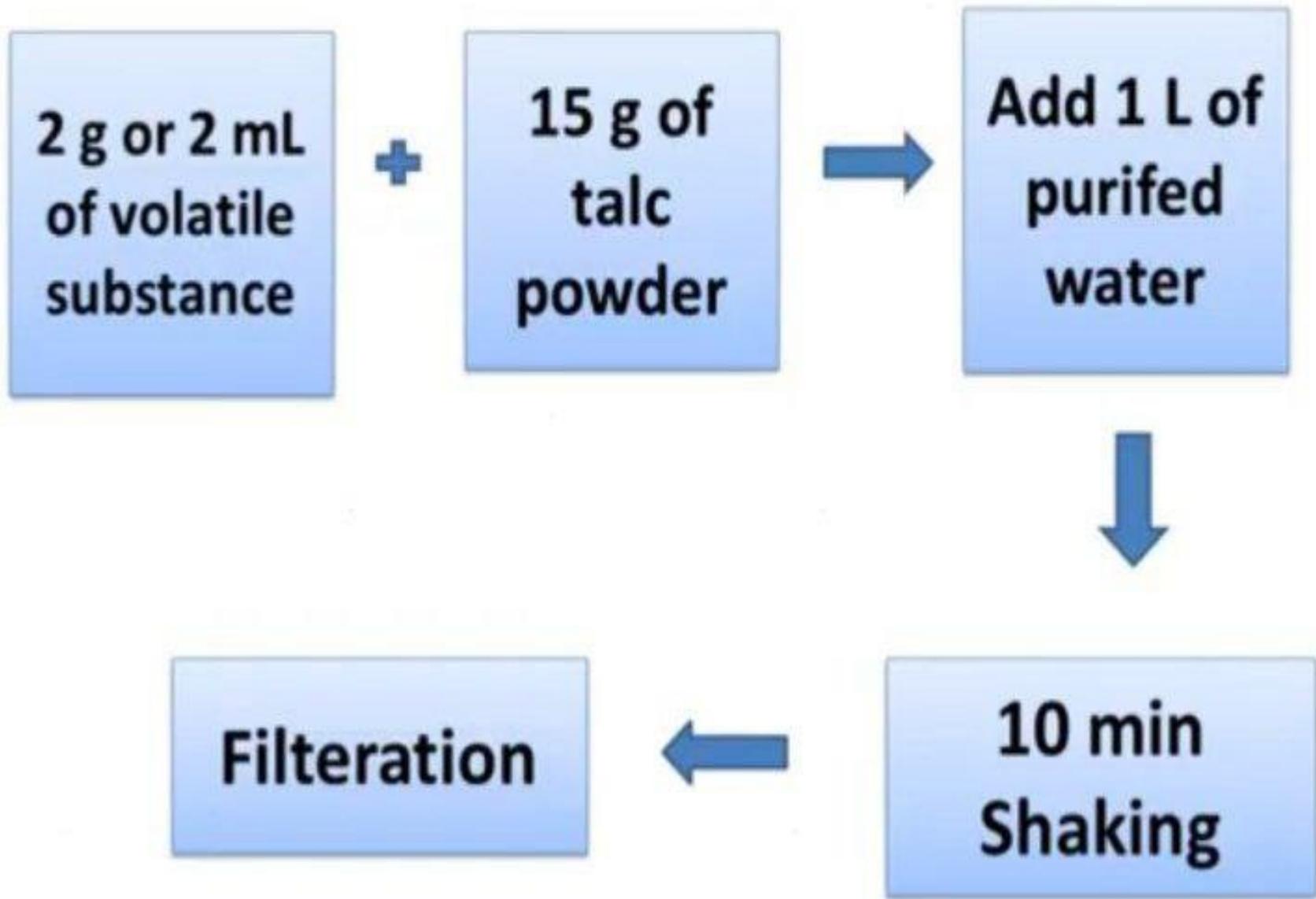
Complete the volume to the final  
volume by adding Purified water  
through the Filter Paper



### 3. Alternative Solution Method:

- This method has been developed to **overcome difficulties** in the simple solution method: amount of time consumed and the final product being not clear.
- In this method the volatile material is mixed with 15g of purified talc, this mixture is agitated with a liter of purified water for 10 minutes, prior to filtration.
- The talc or other inert material functions as both a filter aid and a distribution agent.

### 3. Alternative solution method:



# Stability of Aromatic Waters

- In general, aromatic waters are not permanently stable preparations and should be stored properly.
- Excessive exposure to light and to changes in temperature cause aromatic waters to lose some of their desirable characteristics.
- Also, instability may occur because of the chemical nature of the solutes. Many of the solutes is oxidisable compounds.

*Thank You For  
Listening*

