

UNIT 4: MISCELLANEOUS COMPOUNDS

EXPECTORANTS

EMETICS

Haematinics

Poison & Antidote

Astringents

EXPECTORANT

These are the agents which enhance the secretion of sputum from trachea, bronchi or lungs and hence they are used in treatment of cough.

OR

They are also defined as agent that facilitates the removal of broncho-pulmonary mucus secretion membrane.

OR

These are drugs, eliminate the secretions of respiratory tract by inducing cough.

DEFINE

- Expectorants are “Drugs that help in removing sputum from the respiratory tract either by increasing the fluidity (or reducing the viscosity) of sputum
Or □
- increasing the volume of fluids that have to be expelled from the respiratory tract by coughing.”

CLASSIFICATION OF EXPECTORANTS

Based on MOA they are categorized into two types:

1. Sedative expectorants
2. Stimulant expectorants

1. SEDATIVE EXPECTORANTS

These are stomach irritants which are able to produce their effect through stimulation of gastric reflux. E.g. bitter drugs as Ipecac, senega, and compounds such as antimony potassium tartarate, ammonium chloride, potassium iodide.

2. STIMULANT EXPECTORANTS

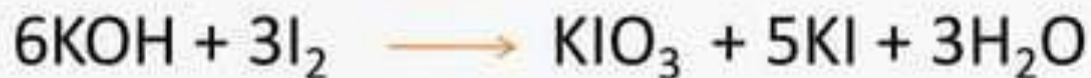
Expectorants which bring about stimulation of secretory cells of the respiratory tract directly or indirectly since these drugs stimulates secretion , more fluid gets produced in respiratory tract and hence sputum is diluted. E.g. Eucalyptus oil, Lemon, Anise and Terpine oil.

POTASSIUM IODIDE

- **Mol. Formula_** KI
- **Mol. Weight_** 166 gm
- **Synonyms_** Potide, Kalli Iodidum
- **Standard_** It contain not less than 99% KI with reference to a dried basis
- **MOP_**
 - a) Laboratory Method
 - b) Industrial Method

A) LABORATORY METHOD

Prepared by treating slight excess of iodine with a hot aqueous solution of Potassium hydroxide. The pale yellow solution is evaporated to dryness and residue is heated with charcoal to reduce iodate to iodide.



B) INDUSTRIAL METHOD

It can be prepared by using potassium carbonate and iron fillings. Iron filling are agitated in the iodine solution to form ferro ferric iodide which on further boiling with conc. solution of potassium carbonate gives potassium iodide.



PHYSICAL PROPERTIES

- White granular powder
- Slightly hygroscopic in nature
- Taste is saline and slight bitter
- Soluble in water, glycerin and alcohol
- On exposure to air, it become yellow

CHEMICAL PROPERTIES

1. With silver nitrate it gives yellow ppt of silver iodide



2. Iodine ion gets oxidised to iodine when treated with oxidising agents



Storage condition-

It should be stored in well closed container

Incompatibility-

It is incompatible with salt of iron, bismuth, mercury, potassium chlorate and alkaloidal salts.

Uses-

1. As an expectorant
2. Act as source of iodine and potassium
3. In treatment of goiter
4. Use as saline diuretics
5. As anti-fungal agent in veterinary practices

AMMONIUM CHLORIDE

- **Molecular Formula**- NH_4Cl
- **Molecular weight**- 53.49g
- **Synonyms**- Salmiac, Amchlor, ammonium muriate
- **Standard**- contains NLT 99.5% of ammonium chloride calculated with reference to dried substance
- **Method of Preparation**-

1. By neutralizing hydrochloric acid with ammonia



2. By ammonium sulphate with sodium chloride



It is the Product of solvay process used to produce Ammonium chloride & sodium carbonate

Physical Properties-

1. White, fine crystalline powder
2. Odourless and cooling saline taste
3. Hygroscopic in nature
4. Freely soluble in water but slightly soluble in alcohol

Chemical properties-

In its vapour form, it dissociate in ammonia and hydrochloric acid



Storage condition-

It should be stored in well closed container

Uses-

1. As Expectorant
2. As Diuretics
3. As systemic Acidifier

**THANK
YOU**

Friday, April 9, 2021