



Emetics

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Definition

- An emetic is a drug which induces vomiting. Emetics act either directly by stimulation of the chemoreceptor trigger zone, located in the area of medulla oblongata located in the brainstem in cerebellum or by inducing irritant action on gastrointestinal tract.
- Emetics takes a valuable part in poisoning cases.
- Emetics are added to cough preparations in low doses to stimulate flow of respiratory tract secretions.
- Inorganic compounds such as copper sulphate, sodium chloride, zinc sulphate and sodium potassium tartarate are used.



Copper sulphate

Properties

- Molecular Formula (**$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$**)
- Molecular Weight -249.7
- Colour: Deep blue, crystals of pentahydrate or as blue crystalline granules or powder
- Solubility: Soluble in water and very soluble in boiling water, slowly soluble in glycerol and almost insoluble in alcohol.
- Stability: The salt has been stable to heat up to 60°C.

Copper sulphate

Preparation

- It is obtained by roasting copper containing sulphide ore in presence of air or by heating copper in a furnace with sulphur. The mixture of copper sulphate and CuO formed in the above process is treated with dilute sulphuric acid. The resulting solution is filtered, concentrated and allowed to crystallise when crystals of copper sulphate separate out.
- It is also obtained by treating granulated copper in the presence of air with sulphuric acid.



- The solution is filtered and evaporated to crystallisation when crystals of copper sulphate separate out.





Copper sulphate

Uses

- It finds use as an emetic in a dose of 300mg in 30ml of water. But its use as an emetic can be dangerous because of large and corrosive doses.
- It is used as chemical antidote in phosphorous poisoning.
- It is used as fungicide.
- It is an ingredient of Benedict's and Fehling's solution.

Copper sulphate

Assay

- An accurately weighed quantity of copper sulphate is dissolved in water. To this a slight excess of potassium iodide is added followed by acetic acid.
- The liberated iodine is titrated with standard sodium thiosulphate solution by using starch as an indicator.
- The titration is continued until faint blue colour persists. 2g of potassium thiocyanate is then added and the titration is continued until the blue colour disappears.



Sodium potassium tartarate (Rochelle salt)

Colour:

Solubility:.

Stability:

Properties-

Molecular formula- $C_4H_4KNaO_6 \cdot 4H_2O$

Mol wt-283.23

Colour: White colourless crystalline powder

Odour: Odourless

Solubility:. Freely soluble in water and insoluble in alcohol

Taste: Saline





Sodium potassium tartarate (Rochelle salt)-

Preparation

- The starting material is tartar with a minimum tartaric acid content 68 %.
- This is first dissolved in water. It is then saponified with hot caustic soda to pH 8, decolorized with activated charcoal, and chemically purified before being filtered.
- The filtrate is evaporated at 100 °C and salt is separated.



Sodium potassium tartarate (Rochelle salt)

Uses:

- It is used as emetics
- It is used in effervescent powder.
- It is also used as laxative to relief from constipation