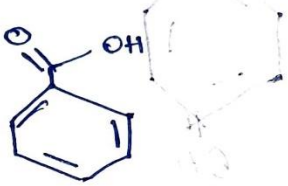
CLASS II PRESEERVATIVES

Class (ii) Preservatives

(i) Benzoic acid & Salts

- Benzoic acid – antimicrobial agent



$C_7H_6O_2$

(or)

C_6H_5COOH

Aromatic Carboxylic acid

↳ Sodium Benzoate – Soda

[E211] [C_6H_5COONa]

↳ Toothpaste, Jam, beverage, jelly, margarines, carbonated beverages, fruit salad, pickles, fruits juices as antimicrobial agent. [0.05 % to 0.1 %] Concentration limit

[effective in less pH ie, increase in acidity]

↳ pH 2.5 – 4.0

ESTERS: [of Benzoic acid]

↳ of p-hydroxybenzoic acid, (i) methyl (ii) propyl parabens

↳ effective at higher pH

↳ Antifungal & active against yeasts.

Esters of p-OH benzoic acids [synthentic parabens]

↳ C_3H_7 – (Propyl paraben)

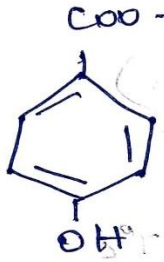
- White crystals
- Melting point 96.97°c
- Soluble in 2000 parts of water i.e, 1g in 2 litres of water
- Freely Soluble in alcohol, either Slightly in boiling water.

↳ CH_3 – (Methyl paraben)

- White needles
- Melting point - 131°c
- Boiling point - 275 ± 5°c with decomposition
- 1g dissolves in 400 ml of water, 40 ml of warm water

To ml of warm glycerine

- Freely soluble in alcohol, acetone ether
- Solubility in water ⇒ 0.25 %. (at 20°C) (w/w)
  ⇒ 0.30 %. (w/w) at 25°C



Common structure of parabens where, R can be either CH_3, C_3H_7 etc.

Anti-oxidants

Antibiotics

- very few are permitted
- Nisin [polypeptide]
- produced by certain strains of Streptococcus lactis
- occurs naturally in milk & cheddar cheese.
- Non-toxic, heat stable.