

Alkanoic Acids (Carboxylic Acids)

This article on Alkanoic acids describes the preparation of Alkanoic acids. Physical and chemical properties of Alkanoic acids and its uses are also explored. Read on.....

Introduction

Alkanoic acids are a class of alkanes which are special with additional of OOH. They are organic acids found mostly in fruits and other vegetable. They have all the characteristics of acids. Some of the acids are found in milk especially sour milk. They belong to a homologous series of organic compounds that contains a carboxyl group (COOH) as a functional group which has a formula .They all conform to general formula $C_nH_{2n+1}COOH$ where n is 0,1,2,3.....

- Alkanoic acids are naturally found in fruits such as oranges, lemon and pepper. It is also found in nettle leaves and insects stings such as bees and wasps.
- Ethanoic acid is vinegar, Butanoic acid is found in bee fat (butter), Hexandioic acid is found in palm oil and olive oil.

Nomenclature

Alkanoic acids are named by replacing e` in alkanes by the suffix –oic. The simplest member of the alkanoic acid series when n=0 is HCOOH (methanoic acid) and when n=1 is CH₂COOH (ethanoic acid).

Preparation of ethanoic acid

- It is prepared by acidifying potassium manganate(vii) then added ethanol solution to It then heated. On heating the acidified potassium manganate(vii) oxidizes ethanol to ethanoic acid.



- During the reaction purple solution of Mn O₄ ions turns to colorless due to oxidation of MnO₄⁻ to manganese Mn²⁺ ions. Acidified orange chromate Vi is used after heating it turns green. The chromate (Vi) ions are reduced to green chromium ii ions.