

Abstract

The earliest kinetic studies were carried out under isothermal conditions. But since in reality no reaction takes place isothermally, so later it was realized that non-isothermal studies are most important in present days. The traditional methodology of kinetic analysis include model fitting approach which is based on fitting data to reaction models ,dates back to the very first isothermal studies .The model fitting approach suffers from an inability to reaction model quickly. In non-isothermal kinetics, the use of traditional methodology results in highly uncertain values of Arrhenius parameters that can not be compared meaningfully with isothermal values. An alternative model free approach is based on the isoconversional method which is used in both isothermal and non-isothermal kinetics. This method is build around the dependence of the activation energy on the extent of conversion. But the extent of conversion or fractional conversion depends on time and temperature. So a better approach, towards non-isothermal analysis is then find out depending on the fact that fractional conversion depends on time and temperature. This also shows some serious discrepancy between experimental and theoretical results .All these analysis are carried out by using DSC and DTA. Finally another method is used in which fractional conversion is taken to depend upon heating rate and temperature which explains the cause of discrepancy.