



## **Kinetic Study of Oxidation of Milk Sugar by Ceric Ammonium Sulphate in Acidic Medium**

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### **ABSTRACT**

*The kinetics of uncatalysed and catalysed oxidation of D-galactose by Cerium(IV) has been studied in acidic medium in the temperature range 303-338 K. The reaction has been found to be first order with respect to [D-galactose]. The rates follow first order kinetics in [Ir(III)] catalysed oxidation reaction. The effect of  $[HSO_4^-]$  has also been observed. The increase in ionic strength of the medium decreases the rate of uncatalysed reaction while increases catalysed reaction. 1:2 stoichiometry is observed in the oxidation. From the effect of temperature on the reaction rate, the Arrhenius and activation parameters were calculated. A suitable mechanism was proposed and a rate law explaining the experimental results is derived.*

**Keywords:** Ceric Ammonium Sulphate (CAS), Oxidation of milksugar (D-Galactose,) , Kinetics, Mechanism in Ir (III) catalyst.

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