

Experiment

Synthesis of Tolbutamide

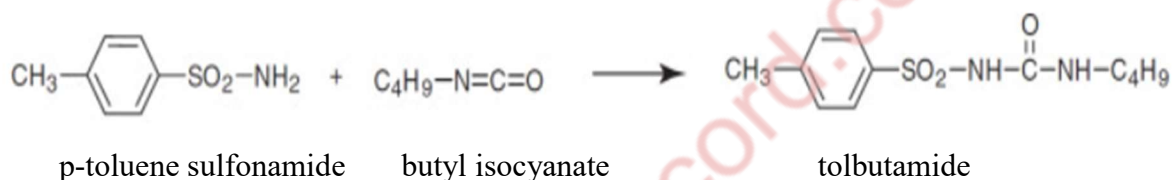
Aim;- To synthesize Tolbutamide and calculate its percentage yield.

Requirement;-

- **Chemicals-** p-Toluene Sulfonamide – 1 g, Butyl isocyanate – 1 g, Triethylamine – 1.2 ml Tetrahydrofuran – 10 ml, Diethyl ether.
- **Glassware-** round bottom, Measuring cylinder, glass rod, ice bath

Principle;-

The synthesis of tolbutamide involves addition reaction of p-toluene sulfonamide and butyl isocyanate in the presence of triethylamine and tetrahydrofuran.



Procedure;-

1. About N-butyl isocyanate (1m mol) and triethylamine (1.2m mol) in a round bottom flask containing 10 ml of tetrahydrofuran, kept in an ice bath.
2. To the above mixture P-toluene sulfonamide (1m mol) was added drop wise at 0°C.
3. After completing the addition, the temperature was suddenly raised to 35-45°C and stirred for 3-4 Hrs.
4. Then the solution was filtered. The product was separated and dried. Then it was recrystallized by using Diethyl ether.

Calculation:-

Theoretical yield :-.....g

Practical yield:-.....g

Formula:- % yield = (Practical yield)/(Theoretical yield)×100

Result:- The Tolbutamide was synthesized & percent yield was found to be%.