

Product Name :
Emulsion Polymerization Reactor

Product Code :
NLAB-EDUCATIONTVET16034

Description :

Emulsion Polymerization Reactor

Technical Specification :

Emulsion Polymerization Reactor -

Polymerization is carried out under the atmosphere of air free nitrogen.

Apparatus can be used to generate the kinetic data for emulsion polymerization under various operating conditions like temperature, emulsifier concentration etc. The emulsion is of the type: oil in water, the monomer is oil soluble & the initiator is water-soluble & an emulsifier is used to create a stable emulsion. Air has to be evacuated using a vacuum pump to create vacuum up to 30mm of Hg before passing the nitrogen supply. Initiator from the reservoir is supplied to the reactor under pressure.

The set-up is used to carry out the emulsion polymerization involving polymerization of an unsaturated monomer like Styrene.

Metered quantity of nitrogen gas from a cylinder passes through a de-oxygenation column & allowed to enter the reactor. The set-up is complete & self-contained with sampling ports.

The set-up consists of jacketed type SS reactor fitted with a variable speed agitator & baffles.

Hot water from a digitally controlled water bath is circulated in the jacket using a pump.

Experimentation:-

Effect of RPM on conversion

Effect of emulsifier concentration.

The parameter studies are conducted involving studies of:

Effect of Initiator concentration.

Effect of monomer concentration

Utilities Required:-

Electricity-1.5kw, Single.

Vacuum Pump.

Water Supply.

Floor Drain.

High purity N2 gas.s.

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