

UNION CARBIDE CORPORATION
DISPERSION PVC RESIN PROCESS

I. DESCRIPTION OF PROCESS

Union Carbide's Dispersion PVC process consists of four major sections - polymerization, unreacted monomer recovery, resin drying, and monomer storage.

An agitated premix vessel is charged with accurately metered amounts of water, VCM, surfactants, and organic peroxide catalysts. The components are carefully mixed to a water-borne dispersion; then, charged batchwise to a reactor. After the premix is completely charged to the reactor, heat is applied to bring the reaction mass up to the desired reaction temperature (40 to 50°C). Once heated up to reaction temperature the reaction is exothermic. The heat of reaction is removed by chilled water which is circulated through the autoclave jacket as well as through an external condenser. When the polymerization is complete (about 78% yield), the unreacted VCM is stripped off through a compressor and condensers to a recovery tank for reuse. The remaining polyvinyl chloride is transferred by nitrogen pressure to a large blend tank where it is stored. When the blend tank is full, the latex is then fed to a spray dryer where the water is removed from the resin. The dried resin is fed through a rotary mill to a packaging bin and subsequently packaged in 40-pound bags. These bags are automatically palletized to make a 2,000-pound pallet load. The pallets of resin are then loaded into a trailer and taken to a warehouse for final storage.

The average weight per month of vinyl chloride monomer processed over the last 12 months, preceding the date of this report, is approximately 1.9 MM pounds per month.

Nominal capacity of this facility is approximately 40 MM pounds per year. However, actions required to achieve compliance with OSHA regulations for vinyl chloride have resulted in a decrease in capacity, to approximately 20 MM pounds per year.

The above plant will be shut down and out of operation by December 31, 1976. Please see attached letters.

UCC 102593