〔J. Pharm. Sci., **76**, 471 (1987)〕

Particle Design of Tolbutamide in the Presence of Soluble Polymer or Surfactant by the Spherical Crystallization Technique : Improvement of Dissolution Rate.

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Poorly soluble crystals of tolbutamide were modified in the presence of a soluble polymer or surfactant by the spherical crystallization technique, the objective being to improve the dissolution rate and to transform platelet crystals into spherical agglomerates. An HCI solution was added to a tolbutamide : NaOH solution containing a water-soluble polymer or surfactant. The tolbutamide crystals were agglomerated with ether and were free flowing and spherically compact. The size of the crystals of the agglomerate depended on the viscosity of the solvent and adsorption of the surfactant onto the crystal surface.

〔Pharmaceutical Research, **4**, 70 (1987)〕

Drug Release from Tablets Containing Cellulose Acetate Phthalate as an Additive of Enteric-Coating Material.

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A formulation containing cellulose acetate phthalate for preparing enteric-coated granules was developed with the use of granulation and microencapsulation techniques. Drug release from teblets or tabletted microcapsules was measured in a disintegration apparatus and an *in vitro* variable-pH release simulator of the flow type. The release mechanism for the tablets or tabletted microcapsules was determined with the Higuchi matrix, a first-order kinetic model, and the Weibull distribution function. Adding acetone directly to the mixture of sulfamethoxazole and cellulose acetate phthalate resulted in enteric-coated granules with more prolonged release than other granulation methods. Microencapsulation of the granules significantly delayed the drug release and enhanced the effectiveness of the enteric coating.

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Pluronic Surfactants Affecting Diazepam Solubility, Compativility, and Adsorption from i. v. Admixture Solutions.

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The effect of Pluronics (F-68, F-88, F-108) on the solubility of diazepam in water was studied. How Pluronics affected the compativility and sorption of diazepam from i. v. admixture solutions and PVC containers were analyzed qualitatively and quantitatively. The solubility of diazepam in water at 25°C increase with an increase in the concentration of Pluronics. The more the concentration of Pluronics the higher the solubility of diazepam. The increase of the solubility of diazepam ranked in the order of F-108≫F-88>F-68. Micellar solubilization was responsible for the higher solubility. Turbidity was measured to clarify the compatibility of diazepam injecfion with or without Pluronics diluted with i. v. admixture fields.