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Particle Design of Tolbutamide by the Spherical Crystallization Technique. II. Factors Causing Polymorphism of Tolbutamide Spherical Agglomerates.

AKIMITSU SANO, TAKEO KURIKI, YOSHIAKI KAWASHIMA,*
HIROFUMI TAKEUCHI, TOSHIYUKI NIWA

Tolbutamide (TBM) was agglomerated by several methods of spherical crystallization technique. A mixture of an ethanolic solution of TBM (II) and isopropyl acetate (III : bridging liquid) was added to water (I : crystallization solvent), and crystals were allowed to form. Agglomeration was then allowed to proceed while this system was stirred at 600 rpm. Next, I was added to a mixture of II and III; that is, the order of addition in the initial procedure was reversed, and crystallization-agglomeration was carried out. In addition, after adding I to II and causing the crystallization of TBM, III was added to the system to bring about agglomeration.

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The Development of a Novel Emulsion-Solvent-Diffusion Preparation Method of Agglomerated Crystals for Direct Tableting and Evaluation of their Compressibilities.

YOSHIAKI KAWASHIMA,* HIROFUMI TAKEUCHI, TOSHIYUKI NIWA,
TOMOAKI HINO, MAKOTO YAMAKOSHI, KAZUHIKO KIHARA

A novel Emulsion-Solvent-Diffusion method was developed to agglomerate the crystals of poorly compressible pharmaceuticals during crystallization without using any binder for improving direct compressibility. In this process, crystallization occurred in the dispersed aqueous droplets of the drug in agitated ethyl acetate by the water diffused out of the droplets. The tensile and shear tests of the resultant agglomerated crystals proved that they were easily flowable and packable.

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Flocculation Studies of Granulated Stearyl Alcohol on the Surface of Aqueous Media. III. Changes of Agglomerate Structure in a Two-Dimensional System with Anionic Surface-Active Agent.

HISAKAZU SUNADA, YUMIKO TAKAHASHI, TAKASHI KURIMOTO,
YOSHIKO HIRAI, YORINOBU YONEZAWA, AKINOBU OTSUKA,
YOSHIKI KAWASHIMA*

Granulated stearyl alcohol was dispersed on the surface of aqueous media in the presence of sodium lauryl sulfate (SLS : 0.50 [g/100ml]). The changes of the shape factors, the average contact numbers and the porosities during flocculation were examined. The particles on the surface of the water without SLS formed more dendritic and more porous agglomerates than those on the surface of solutions with SLS (0.25-0.50 [g/100ml]).