

Preparation of Porous anti-Insect Repellent Powder using Spray Drying of Medicinal Herbal Extracts anti-Insect Repellent Silica Sol

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Anti-insect repellent silica sol with mixture from silica and anti-insect repellent solution extracted from medicinal herbs was prepared. The micron size porous sphere powder with anti-insect repellent solution from anti-insect repellent was prepared sol by spray drying method. The characteristic of anti-insect repellent powder by spray drying method was analyzed by FE-SEM, PSA, TGA with the concentration of anti-insect repellent sol (anti-insect repellent solution and silica) and conditions of spray drier. The average particle size of 4 wt%, 7 wt% and 10 wt% of anti-insect repellent sol concentration were 8.3 μm , 9.5 μm and 11.7 μm , respectively. The particle size is increasing with high concentration of anti-insect repellent sol. Other hands, the particle sizes as the temperature of inlet nozzle and velocity of sol injection were nearly same at state of high velocity of gas injection. Also, Anti-insect repellent impregnation in porous sphere powder were confirmed by TGA method and its thermal property was stable up to 200 . We expect that anti-insect repellent powder is applied for plastic compound and process of film manufacture.