

## Reducing Water Content in PGDN/DBS Solution by Spraying Method

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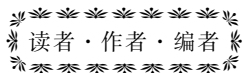
**Abstract:** To reduce the water content in PGDN(1,2-propanediol dinitrate)/DBS(dibutyl sebacate) mixed solution, the effect of pressure, spraying times, material temperature and ventilation condition on dewatering effect were investigated using spraying method. The stability test was done. The results show that the water content in mixed solution can be reduced from 0.2428% to 0.0614% under the conditions of 100 g mixed solution, pressure of 0.08 MPa, material temperature of 71 °C and ventilation. The mass recovery of mixed solution after spraying is 100%. Abel value of mixed solution after heating for 15 min in water bath at 80 °C does not change, indicating that the water content in mixed solution can be reduced greatly according to the optimized parameters and this spraying method does not cause material loss or reduction of the stability of the mixed solution.

**Key words:** organic chemistry; spraying; dewatering; 1,2-propanediol dinitrate; dibutyl sebacate

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