

**Title** Release characteristics of SO<sub>2</sub> from microencapsulated sulphite as an anticorrosion preservative agent of grape

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**Keyword** grape; microencapsulated sulphite

### **Abstract**

The microencapsulation of sulphite was studied by phase separation method and dissolve dispersible condensation method, using sodium pyrosulfite as core material, ethylcellulose (EC) and paraffin & polyethylene (PE) as capsule materials. The release characteristics of SO<sub>2</sub> from microencapsulated sulphite were evaluated at different type and quantification of wall material and under different relative humidity. The structures of wall materials were characterized by scanning electron microscopy (SEM). The release rates of SO<sub>2</sub> from microencapsulated powder various relative humidity were analyzed using Avrami's equation, which were not only dependent on the type of capsule material but also on the relative humidity in the microenvironment around the microencapsulated powder. The release rate of SO<sub>2</sub> increased upon elevation of relative humidity, the release rate of SO<sub>2</sub> under 85%RH was 1.3 times 43%RH when microencapsulation use the same wall material. Additionally, the release of SO<sub>2</sub> fitted well to Avrami's equation.