

## 유연성 전자소자 적용을 위한 BNO박막의 저온화학기상증착

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### **Low Temperature Chemical Vapor Deposition of BNO Thin Films for Flexible Electronic Device Applications.**

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**Abstract :** In the future, electronic components will be integrated on flexible polymer substrates and then miniaturized by thin films using suitable thin film technologies. In this article, the concept of a room temperature CVD is demonstrated using  $\text{Bi}_3\text{NbO}_7$  (BNO) films with a cubic fluorite structure and their structural and electrical properties were investigated in films deposited without substrate heating. Effects of substrate temperature on electrical properties of BNO films were also studied. Films deposited without substrate heating (real temperature of 50°C) show partially crystallized BNO single phases with grain size of approximately 6.5 nm. Their dielectric and leakage properties are comparable to those of films deposited by pulsed laser deposition at room temperature. The concept of room temperature CVD will become a new paradigm in the deposition of dielectric thin films for flexible electron device applications.

**Key Words :** MOCVD, Embedded Capacitor, Flexible display