

### Oxygen and water transport in EVOH/graphene thin films

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We investigated the barrier properties of ethylene vinyl alcohol (EVOH)/graphene nanocomposite. EVOH/graphene nanocomposites were prepared by a solvent mixing method and casted on PET film. XRD revealed that graphene nearly exfoliated in EVOH. We performed the thermal analysis to EVOH/graphene composites by using DSC. The melting temperature of EVOH/graphene nanocomposites was decreased with increasing graphene content. We also demonstrated that the gas-barrier property of EVOH/graphene composite film is greatly improved compared to that of EVOH film and has high light transmittance.