

### Comparison of CNT yarns produced from acetone and methane

이성현, 박준범, 이진홍\*

포항공과대학교

(ce20047@postech.ac.kr\*)

In this work, we fabricate CNT yarns using direct spinning method. CNT yarns are consisted of many CNTs twisted each other. Carbon nanotubes (CNTs) have very excellent properties such as high tensile strength, thermal and electrical conductivity. Physical properties of the CNT yarn are influenced by the properties of the CNT constituting it. If the carbon source is changed, type and properties of the CNT are changed. In general, the carbon sources used for the synthesis of CNT are liquid hydrocarbons (such as acetone and ethanol) and gas hydrocarbons (such as methane, ethylene). When acetone is used as carbon source, catalyst precursor and promoter are injected into the reactor using a syringe after dissolved in acetone. In case of methane, catalyst precursor and promoter will be evaporated in the pre-heat furnace and inserted into the main reactor by carrier gas.

• References

1. J. B. Park and K. H. Lee, Korean J. Chem. Eng., 29(3), 277-287 (2012).