

# 全固体電池用CNT分散体

## CNT dispersion for all-solid-state batteries

### 特徴 | Characteristics

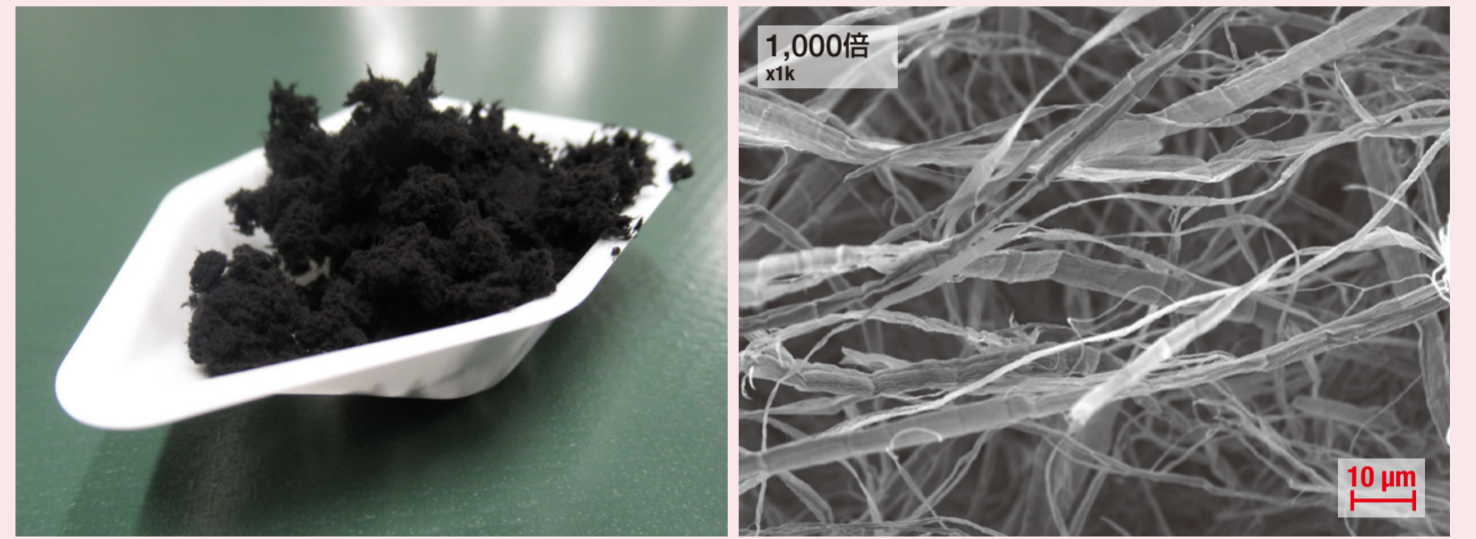
- **長尺CNTを、全固体電池用に乾式で分散**  
Dry dispersion of long CNTs for all-solid-state batteries
- **長距離電子伝導パス形成と、強度向上に寄与**  
Contributes to formation of long-distance electron conduction path and improvement of strength
- **コーティング材としても利用可能**  
TPR CNTs can also be used as a coating material



### 代表物性 | Representative physical properties

項目 Item	未処理 Untreated	粉末分散 Dry dispersion
繊維長さ Fiber length	~2 mm	~2 mm
バンドル径 Bundle diameter	~500 μm	~10 μm
かさ密度 Bulk density	0.01 g/cc	0.0005 g/cc

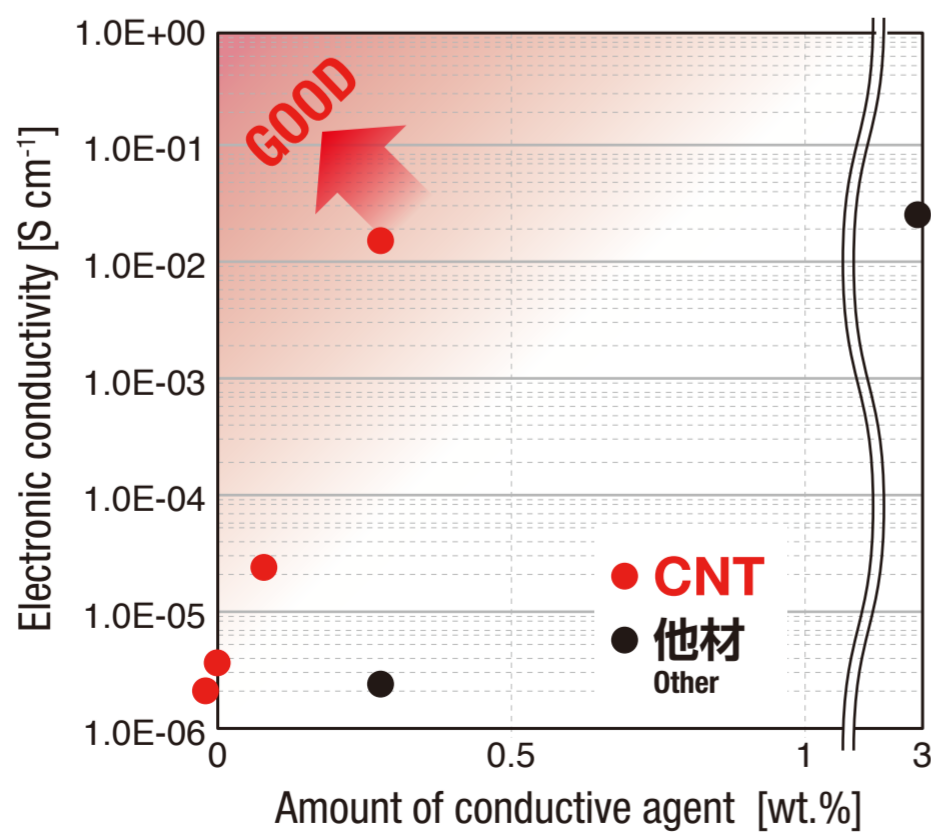
粉末分散体とSEM像  
Powder dispersion and SEM image



### 用途例 | Applications

- **正極複合体 (NMC 正極活物質 / LPSI系固体電解質) への添加効果**  
Effect of addition to NMC / LPSI-based solid electrolyte
- ➔ **微量の添加で電子伝導度が大幅向上**  
Significant improvement in electronic conductivity with the addition of a small amount of TPR-CNTs.

項目 Item	仕様 Specification
活物質 Active material	$\text{LiNi}_{1/3}\text{Mn}_{1/3}\text{Co}_{1/3}\text{O}_2$
固体電解質 Solid electrolyte	$\text{Li}_7\text{P}_2\text{S}_8\text{I}$
複合化プロセス Compounding process	液相 Liquid phase



- **Li<sub>2</sub>S系活物質の全固体電池特性**  
All-solid-state battery characteristics of Li<sub>2</sub>S-based active materials

➔ **レート特性向上、安定したサイクル容量推移も確認**  
Increase the rate properties, and long cycle life

項目 Item	仕様 Specification
活物質 Active material	$\text{Li}_2\text{S}$
固体電解質 Solid electrolyte	$\text{Li}_3\text{PS}_4$
電流値 Current	1C = 1,167 mA g <sup>-1</sup>
動作温度 Operating temperature	80 °C

