

## COMPANY INTRODUCTION

Umicore is a global materials technology and recycling group. It focuses on application areas where its expertise in materials science, chemistry and metallurgy makes a real difference. Its activities are organised in three business groups: Catalysis, Energy & Surface Technologies and Recycling.

Each business group is divided into market-focused business units offering materials and solutions that are at the cutting edge of new technological developments and essential to everyday life.

Umicore generates the majority of its revenues and dedicates most of its R&D efforts to clean technologies, such as emission control catalysts, materials for rechargeable batteries and recycling. Umicore's overriding goal of sustainable value creation is based on an ambition to develop, produce and recycle materials in a way that fulfills its mission: materials for a better life.

## CONTACT INFORMATION

URL	Name	Tel	Position
www.umicore.com	Nam-Hee, Lee	+82-41-620-0200	Project leader
Fax	Phone	City	E-mail
+82-41-620-0251	+82-10-8620-4589	Cheonan-si	Nam-Hee.Lee@ap.umicore.com
Address			

## MAIN TOPIC

### MATERIAL CATEGORY

- Premium Keton Material
- Secondary Battery Material
- Ultra Light Mg Material
- Bio Medical Material
- Hyperpure SIC Material
- Super Sapphire Single Crystal Material
- Smart Coating Steel Material
- Smart Membrane Material
- Nano Carbon Composite Material
- Flexible Display Material

### MAIN TOPIC

N/A

## AT A GLANCE

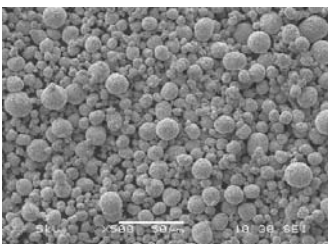
- **Business Type**  
Materials Manufacturer
- **Established Year**  
1805
- **Total Employee Number**  
9,900
- **R&D Employee Number**  
> 300

## DEVELOPMENT LEVEL

- Lab scale
- Pilot scale
- Mass production

## MATERIAL INTRODUCTION

### IMAGE



### NAME/SPEC.

#### Analysis $\text{LiNi}_x\text{Co}_y\text{Mn}_{1-x-y}\text{O}_2$ (TX10)

• Physical			• Chemical		
	Typical Value			Typical Value	
D(10)	5-9		Cu	%	< 0.005
D(50)	$\mu\text{m}$ 10-15		Fe	%	< 0.010
D(90)	$\mu\text{m}$ 18-26		Ca	%	< 0.070
Tap density	$\mu\text{m}$ >2.0		Na	%	< 0.060
Surface Area	$\text{g/cm}^3$ 0.15-0.40		$\text{H}_2\text{O}$	%	< 0.100
	$\text{m}^2/\text{g}$				

### TARGET END-PRODUCTS

Battery

## Field of Interest

- Battery Companies
- ESS business related companies
- Cathode materials processing(equipment) companies