

Single-Walled Carbon Nanotube

# ZEONANO<sup>®</sup> SG101



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- ◆ Please read the Safety Data Sheet (SDS) carefully prior to handling.
- ◆ When using this product, please utilize it after having carried out safety measures about your purpose and usage.
- ◆ Please comply with the legislation and regulations related to Nanomaterials of your countries.

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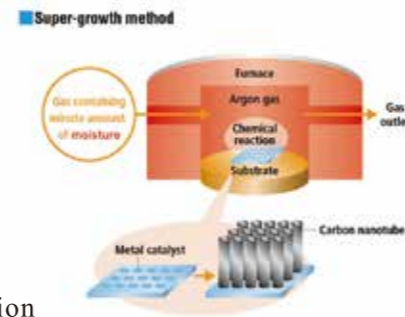
# Single-Walled Carbon Nanotube ZEONANO<sup>®</sup> SG101

Carbon nanotubes, discovered by Sumio Iijima in 1991, are categorized into single-walled nanotubes (SWCNTs) and multi-walled nanotubes (MWCNTs) by their structures. MWCNTs are easy to produce and have been developed in many applications. On the other hand, SWCNTs have not been developed very much because they are difficult to make. In 2004, Dr. Kenji Hata team at AIST\* discovered a revolutionary method of SWCNT synthesis, which was named as "Super Growth Method". With the innovative technology, it was realized to produce high-quality SWCNT.

Zeon Corporation developed mass production technology of the method with the support of NEDO\*\*.

**ZEONANO<sup>®</sup> SG101** is the SWCNT manufactured with "Super Growth Method" by Zeon Corporation.

\*AIST: National Institute of Advanced Industrial Science and Technology  
\*\*NEDO: New Energy and Industrial Technology Development Organization



## Features

### 1 Single-Walled

**ZEONANO<sup>®</sup> SG101** is a single-walled carbon nanotube.

**Benefit** Great strength by unit weight

**Application** High-strength polymers

### 2 Great Surface Area

**ZEONANO<sup>®</sup> SG101** has a greater specific surface area.

**Benefit** Storage of much electric charge

**Application** Electrode of power storage device

### 3 Long

**ZEONANO<sup>®</sup> SG101** has an extremely high aspect ratio with a length of hundreds micrometers which is given by catalyst activation technology of Super Growth Method.

**Benefit1** Form self-supporting film without binder

**Application1** Electrode of power storage device

**Benefit2** Low percolation threshold

**Application2** Conductive polymer Antistatic polymer Conductive paint

### 4 High Purity

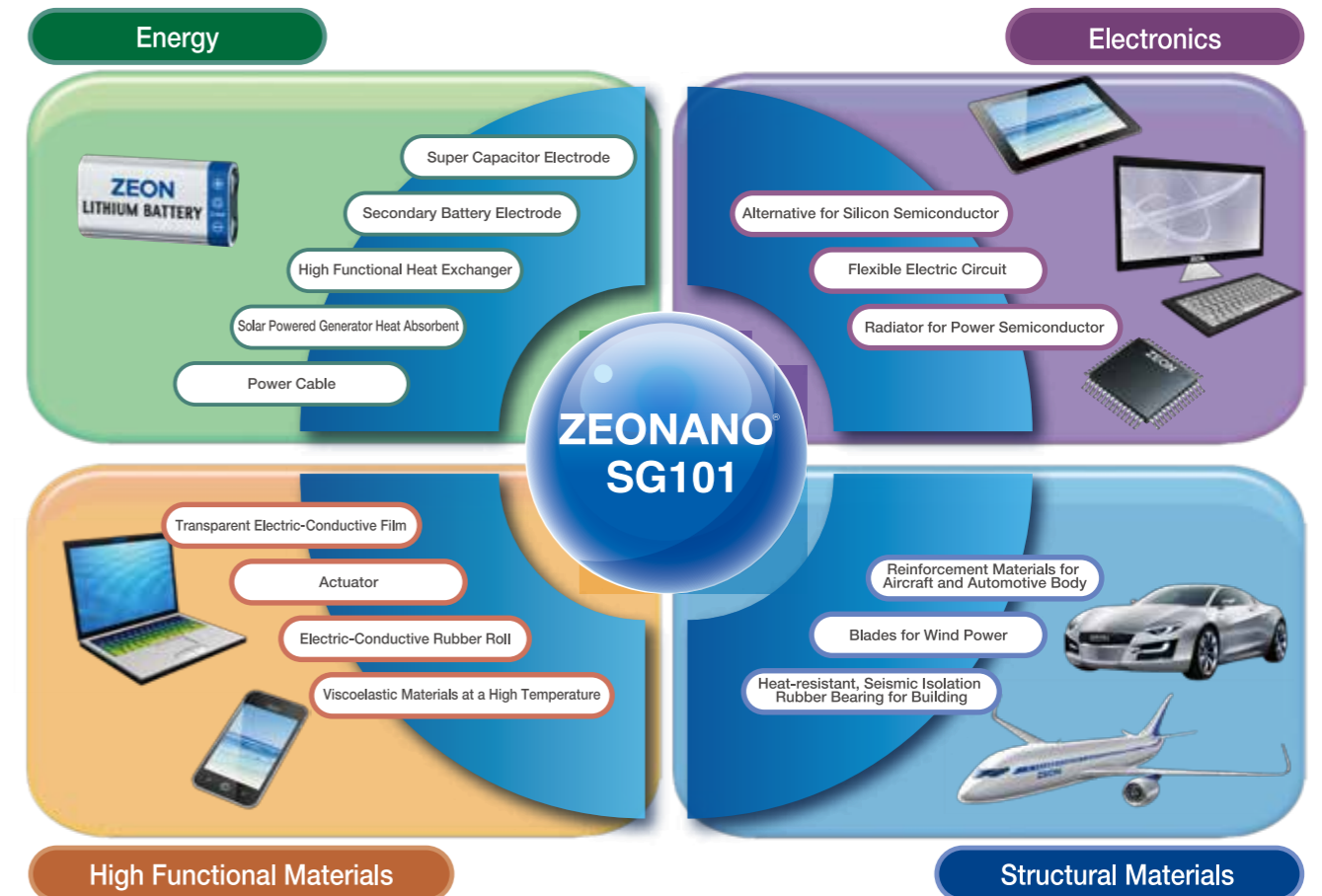
**ZEONANO<sup>®</sup> SG101** contains very little residues of metal catalysts.

**Benefit** No reaction with electrolyte

**Application** Electrode of power storage device

## Applications

**ZEONANO<sup>®</sup> SG101** is applicable to diverse uses in wide range of fields because of excellent properties of SWCNT manufactured by Super Growth Method.



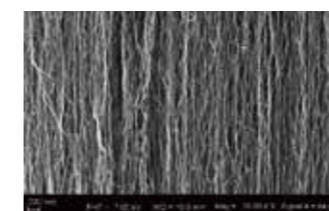
## Typical Properties

Appearance	Black Powder
Specific Surface Area	800 m <sup>2</sup> /g min.
Length in Forest	100 ~ 600 μm
Average Diameter	3 ~ 5 nm
Impurity (including metals)	less than 1%
Carbon Purity	99% min.

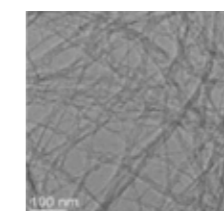


\*The values shown above are typical, not guaranteed.

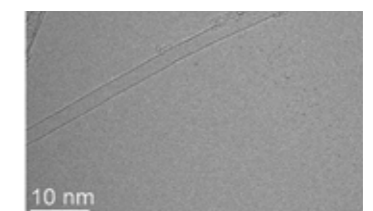
## Microscope Images



SEM image of CNT forest generated on substrate



TEM image of CNT dispersed in solvent



TEM image of CNT dispersed in solvent (enlarged)

## Package

1 kg net in Fiber Drum