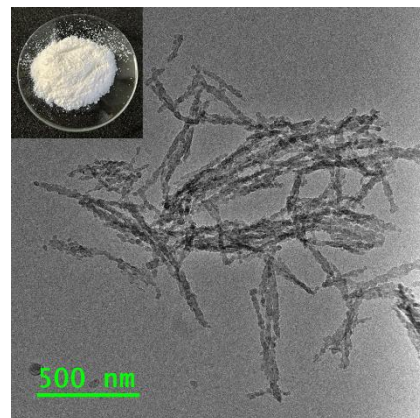


# Methylated Silicon Dioxide (Silica) Nanorods

## AQM ME-SiO<sub>2</sub>-NRs

### Description

Slurry or solid white powder of one-dimensional non-crystalline silicon dioxide nanorods (SiO<sub>2</sub>-NRs) prepared via a hard-templated method. These SiO<sub>2</sub>-NRs have dimensions of 37 ± 7 nm (transverse) and ~500-1000 nm (longitudinal). The slightly more hydrophobic surface modification of the SiO<sub>2</sub>-NRs makes them excellent fillers for various polymer matrices.



### Product Advantages

- Free of toxic heavy metals (Cd, Pb, In) or phosphines
- Thermally stable up to 1600°C
- Compatible with a wide variety of polymers
- Utilized for mechanical reinforcement of polymers
- Tunable surface chemistry available upon request
- Silicon dioxide coating is non-crystalline.

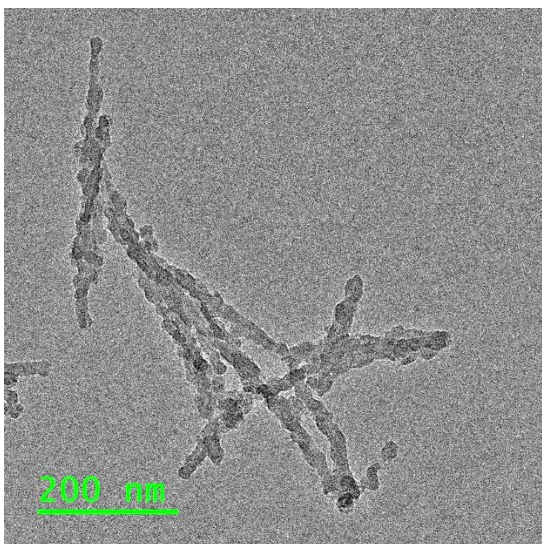
### Product Specifications

Related Categories	Nanomaterials, thin-film devices, rubber, and polymer additives
Forms	Slurry or powdered white solid
Particle Size	37 ± 7 nm (transverse) and ~500-1000 nm (longitudinal)
Compatible Solvents	Non-polar solvents and some polar solvents
Odour	none
Melting Point/range	1610°C
Boiling point/range	2230°C

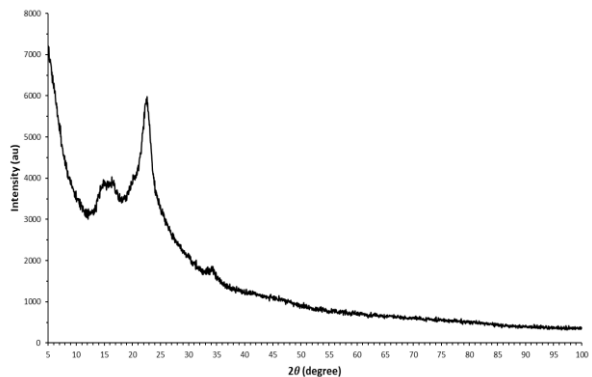
### Packaging

Nalgene bottles containing up to 20 g of dried or slurry form of ME-SiO<sub>2</sub>-NRs. Bulk can be supplied upon request.

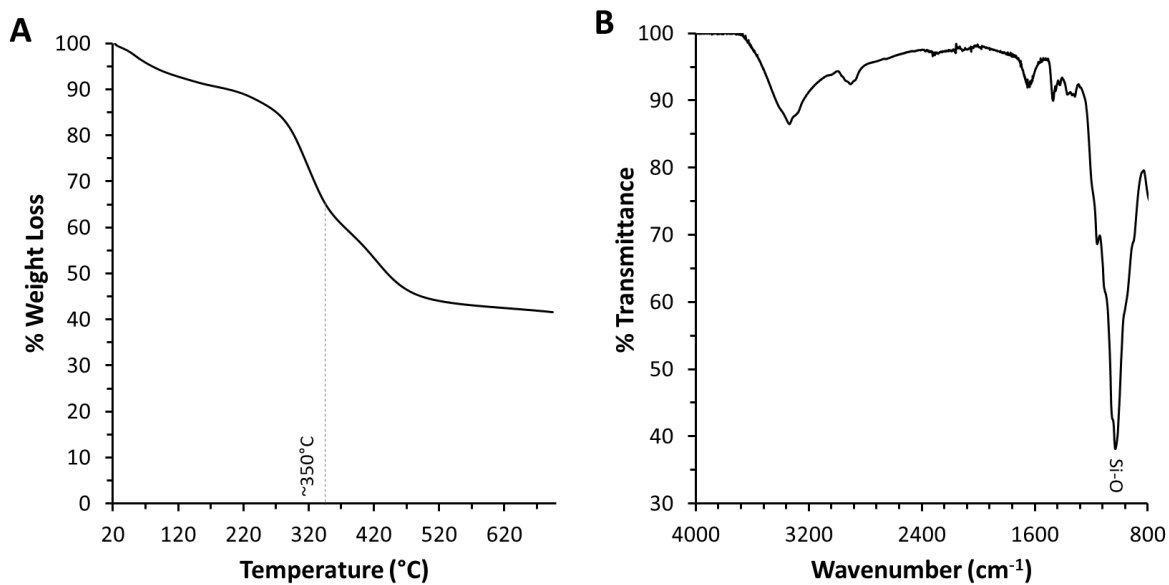
## Characterization Data



**Figure 1.** Bright-field TEM image of ME-SiO<sub>2</sub>-NRs.



**Figure 2.** X-ray diffraction (XRD) pattern for ME-SiO<sub>2</sub>-NR silica template showing characteristic hard-template peaks at 15.8°, 22.6°, and 33.8°. There is no evidence of crystalline silica present.



**Figure 3.** Additional characterization methods for ME-SiO<sub>2</sub>-NRs: A) thermogravimetric analysis (TGA) and B) Fourier transform infrared (FTIR) spectroscopy.