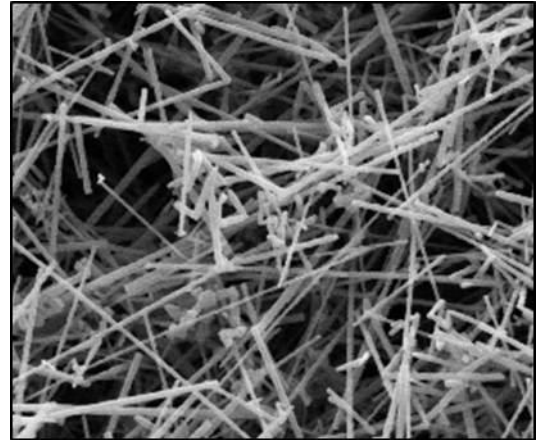


Typical Properties-Sintered Ceramic

Crystal type	Beta (Polytype)
Geometry	Long, rigid rod nanotube
Diameter, μm	0.65
Length, μm	10-12 (D50)
Modulus, GPa	450
Density, g/cm^3	3.21
Free carbon, wt%	0.05-0.30
Silica, wt%	0.35-0.75



Product Description

Silar® F-9 silicon carbide whisker is an ultra-pure silicon carbide single crystal. It is 650 nanometers in diameter, and ranges in length from 5 μm to 150 μm . The median length (D-50) is 10-12 μm . It is frequently referred to as silicon carbide "whisker." Silicon carbide is an inert, non-bioactive mineral-like material. It is not found in nature. Silicon carbide is considered a ceramic material. Most ceramics consist of oxides of metals (e.g., alumina, mica, etc). Silicon carbide is unique in that it is a non-oxide ceramic. Because it is non-oxide, it is insoluble in all solvents, and will not react with any materials. It is inert to all acids (including HCL and HNO3), bases, and oxidizing agents.

Application Information

Silar® F-9 is ideal for use in plant cell transformations. It is a rigid rod material that is unbreakable in use. Its crystalline structure is similar to diamonds. Because of its diameter (650 nm) is able to breach cell walls and microinject DNA. In the literature, (Dunahay "Transformation of Chlamydomonas with SiC Whiskers", BioTechniques [1993, 15(3):452-5, 457-8, 460]) Silar® F-9 achieved 100 transformations in 107 cells. The cell survival rate was in excess of 80%. Simple agitation was all that was needed to introduce the DNA into the cells.

Packaging and Product Handling

Silar® F-9 is packaged in 5 gram plastic bottles. Dry F-9 powder should be handled in a controlled environment. Please consult the material SDS (www.haydale-technologies.com) for additional safety and handling information. Other product forms may be available on request.

Contact Haydale Technologies Inc.

For technical and sales assistance, please e-mail sales@haydale-technologies.com

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