

Superior Silica Certifies To ISO 9001: 2015 With The Help of Consultant BMSC



Superior Silica, a young company founded in 2016, manufactures ultra-monodisperse silica (SiO_2) nanoparticles and microspheres. For those unfamiliar with this, as I certainly was, silica is an amorphous compound that is derived from silicon (Si), the 14th element on the periodic table. It is an important raw material in a wide variety of materials – it is used in biological imaging and the delivery of drugs, for polishing silicon wafers, and even in the content in filtration materials such as N95 masks.

Employee #1 for the company Akshay Mathkar was a summer intern at Intel while he was completing his PhD at Rice University. He returned to Intel once he finished his studies and remained there for the next 3 years. “I am not cut out for corporate”, Akshay says, “But at Intel I developed a relationship with an overseas supplier, who introduced me to nanosilica and understand the material, and it’s significance in the semiconductor industry. This helped me in making the decision to move to Superior Silica”

Akshay says, “The first few years of our company’s existence were purely research – determining if we could make a viable product that could be commercialized.” Indeed, the company today is a very viable business with a number of products, including Dry Nano powder; chemical mechanical (CMP) ‘slurries’; silica charge-stabilized dispersions; Fluorolink, custom engineered fluorescent silica nanoparticles used in bioimaging and biosensing-related applications; and ultra-monodisperse silicon dioxide (SiO_2) microspheres ‘grown’ in reactors to a customizable target diameter.

Last year was Superior Silica’s first year turning a profit, and the forecast is for 50% growth in 2022. The company is poised for even higher growth once the company’s supply issues are alleviated.

Matt Wallace, Senior Chemist, says, “We have 2 diverse customer sets; one is large Fortune 1000 customers who have high volume needs for our products, and the second is our customers who have low volume needs, primarily those in R&D. Our ecommerce company, called, Nanocym (nanocym.com), is ideal for customers who solely rely upon us for small volumes” He added, “With both sets of customers, one of the key differentiators we offer is extraordinary particle uniformity.”

In their state of the art facility in Chandler, Arizona, which occupies ~9000 square feet, Akshay says the company has the capacity to manufacture ~12 tons per year (24,000 pounds). Further, its manufacturing process is set up to run unattended, affording the company to run lean not just now but into the future when volumes are much higher.

For a young start-up entity, Superior Silica has some extremely large clients, with one of its largest a global supplier of filtration and purification products, with revenues of ~\$3 billion.

“It was our corporate customers who made it quite clear that in order for us to remain a supplier with them that we would need to certify to the ISO 9001 standard”, Akshay says. Through the help of Arizona’s Manufacturing Extension Partnership (MEP)s Jim Harrison, Superior Silica was connected to Bretta Kelly, owner of BMSC. The company began the ISO process with the help of BMSC in April of 2021.

Matt says, “The experience with Bretta and her colleague Debbie Hart was extremely positive.” Akshay adds, “We really appreciated that they took the time to understand our business before helping us to put together process documentation. They recognized that as a young company, ISO would help us to build onto our processes rather than redoing what we were doing well today.”



Ryan Cordero joined the company during the ISO process. Ryan says, “BMSC helped mentor me in ISO and its importance to our business. They did a great job in helping us to certify in a short period of time.”

Akshay says the process of attaining ISO certification was invaluable. “If we are positioning our company as one with the highest degree of quality, we needed a system with traceability — it brings us higher credibility.” Matt adds, “In a culture of research and innovation, records really matter — they enable us to analyze data comparatively with past results.”

Superior Silica has the capacity, processes, and team in place to support your ultra-precise silica needs. Additionally, it has employment opportunities in marketing/business development. To learn more, contact Akshay at mathkar@superiorsilica.com

To learn more about how you can improve your business with ISO 9001: 2015 and AS9100D certification, contact Bretta Kelly at (602) 445-9400 or visit BusinessMSC.com.