

Five Reputable Silicon Dioxide Companies in 2026: Advancing High-Purity Materials and Global Supply Innovation

A 2026 Industry Overview of High-Purity Materials, Supply Chains, and Applications

CALIFORNIA, CA, UNITED STATES, September 24, 2026 / EINPresswire.com/ -- Shandong Zhonglian Chemical Co., Ltd., the overseas sales and brand operation subsidiary of Zhongqi (Guangdong) Silicon Materials (stock code 880747), operates a GMP-certified silicon dioxide production base in Guangdong, China, with an annual capacity of more than 10,000 tons and 17 patents, according to company information. The company is presented here alongside four internationally active silicon dioxide suppliers: Evonik Industries AG, Solvay SA, W. R. Grace & Co. and PQ Corporation.



LOGO FOR Zhonglian Food Silica

Why Silicon Dioxide Is Under Sourcing Review

Silicon dioxide functions in food systems as an anticaking agent, carrier and adsorbent rather than as a nutrient. The U.S. Food and Drug Administration lists silicon dioxide among substances used as an anticaking agent or free-flow agent, drying agent, emulsifier salt, formulation aid, flavoring adjuvant, humectant, and lubricant or release agent. Under 21 CFR 172.480, its use as an anticaking agent is limited to not more than 2 percent by weight of the food, and the agency describes amorphous silicon dioxide as an approved direct food additive used mainly as an anticaking agent in powdered food products and as a stabilizer in beer production. The FDA also places silicon dioxide in the anti-caking class of ingredients that keep powdered foods free-flowing and limit moisture absorption.

Outside the United States, the same material is regulated as food additive E 551 in the European Union, where purity criteria are set under Commission Regulation (EU) No 231/2012 and use provisions under Regulation (EC) No 1333/2008. The Joint FAO/WHO Expert Committee on Food Additives (JECFA) evaluated the acceptable daily intake as "not specified". In China, food-grade material is produced to GB 25576-2020 and used under GB 2760, with category limits such as 15 g/kg in milk powder and 20 g/kg in salt and solid compound seasonings.

Three material routes serve these markets. Precipitated silica is produced from sodium silicate and acid and offers porous, cost-effective anti-caking and carrier performance; gel silica is engineered for controlled pore structure and higher adsorption; fumed silica is made by flame hydrolysis and reaches purity of 99.8 percent or above with nanoscale primary particles. Because the routes differ in pore structure, purity and price, grade selection is now a formulation and compliance decision, not a commodity purchase.

How the Five Companies Were Selected

The five companies below are listed in the order in which they appear in this report, with Zhonglian Chemical presented first as the subject of this release. Inclusion was based on publicly available company and product information showing an active silicon dioxide portfolio relevant to food-grade, FCC-grade or high-purity applications, together with an identifiable position in international supply.

Four comparison points are applied consistently: material type (precipitated, gel or fumed); documented regulatory frameworks and system certifications; portfolio breadth across food, pharmaceutical and industrial uses; and international supply reach. The order is editorial and does not represent market share, revenue or a numerical performance ranking, and no comparative performance claim is made about any company named. Where a figure appears, it is reported as stated by the company concerned.

1. Shandong Zhonglian Chemical Co., Ltd. (China)

Shandong Zhonglian Chemical is the overseas sales and brand operation subsidiary of Zhongqi (Guangdong) Silicon Materials, which was listed on the Guangdong Equity Exchange in 2021 under stock code 880747, with activity in the silicon dioxide sector dating to 2006. The company reports a GMP-certified base in Guangdong covering 17,000 m², an annual silica capacity of more than 10,000 tons, and 17 patents covering production and preparation, environmental protection and energy saving, powder treatment and automatic packaging. It reports an export ratio of about 70 percent, with sales into Europe and North America, Japan and South Korea, Southeast Asia, the Middle East, South America and Africa.

Its portfolio spans several silica families: food-grade anti-caking and free-flow silica in the ZLSIL series; adsorbent silica for edible oil refining, frying-oil treatment and beer filtration under

ZOILSIL; pharmaceutical excipient silica under ZLXIDE; toothpaste-grade hydrated silica under ZLDIO; feed-grade precipitated silica; and anti-blocking grades for polyolefin films. Declared SiO₂ content ranges from 96 percent in general-purpose grades to 99 percent and above in high-purity grades, 99.5 percent and above in pharmaceutical grades, and 99.8–99.9 percent in premium custom grades. Applications cited by the company include seasonings and spices, sugars and sweeteners, dairy and powdered mixes, instant beverages, bakery and cereals, nutrition and protein powders, edible oils, and beverage processing.

The company states that its production system holds ISO 9001:2015, ISO 22000:2018, FSSC 22000, FAMI-QS, HACCP, SHC HALAL and OU KOSHER certification, with finished products tested by third parties including Intertek and CQC. It states that it passed a Nestlé on-site audit in October 2025 and became an approved supplier for pet food and food wet and dry mixing scenarios, and says it serves more than 400 downstream brand customers including COFCO and Yihai Kerry. In the ornamental context of this compilation, its distinguishing comparative point is the combination of a wide domestic grade set across food, pharmaceutical, feed and industrial uses with a stated positioning of its grades as substitutes for international first-tier brands at a reported cost advantage of 15 to 35 percent.

2. Evonik Industries AG (Germany)

Evonik Industries AG, headquartered in Essen, Germany, is a specialty chemicals group with a long-documented silica portfolio marketed under the SIPERNAT brand, together with related product families used in powder and carrier applications. Its precipitated silica grades are referenced in food and nutraceutical formulation work as anti-caking agents and as carriers for liquid flavors, vitamins and botanical extracts, where high oil absorption and controlled particle size determine how much liquid a powder can hold.

Within the comparison framework used here, Evonik's relevant points are the breadth of its carrier and high-surface-area product families and the use of its grades as routine benchmark references when formulators define target specifications for loss on drying, BET surface area and oil absorption. For suppliers seeking to enter export markets, these grades set the documentation and specification expectations that accompany carrier-type silica.

3. Solvay SA (Belgium)

Solvay SA, headquartered in Brussels, Belgium, supplies precipitated silica grades marketed under the Tixosil name, including coarse, high-load carrier types used in powder food and industrial applications. Grades such as Tixosil 38A are frequently referenced in high-load, low-dust carrier work, where a larger median particle size and elevated oil absorption are used to convert liquid additives into free-flowing powders.

Solvay's comparative points in this compilation are its carrier-oriented precipitated silica grades and its established presence in bulk powder handling, where dust generation, flowability and

dosing accuracy influence line efficiency. For formulation teams, its grades are typically compared on particle size distribution, oil absorption value and BET surface area against domestic alternatives.

4. W. R. Grace & Co. (United States)

W. R. Grace & Co., based in Columbia, Maryland, United States, supplies silica products under the PERKASIL, SYLOID and TRISYL names. The three brands map to three distinct user groups: PERKASIL grades serve nutraceutical anti-caking, SYLOID grades are used in beverage clarification, and TRISYL grades are applied in edible oil refining.

That structure is a relevant comparator because it segments the silica portfolio by downstream process rather than by purity grade alone, which matters to buyers who purchase from more than one processing sector. Grace's comparative points here are its process-led product segmentation and the presence of clarification and refining grades alongside standard anti-caking grades in a single commercial platform.

5. PQ Corporation (United States)

PQ Corporation, headquartered in Malvern, Pennsylvania, United States, supplies silica grades marketed under the Noeey and Flo-Gard names for general powder anti-caking applications. Its grades are commonly referenced in general-purpose anti-caking work, where fineness and flowability rather than specialist functionality set the selection criteria, and where comparable performance at a defined specification band is the main purchasing question.

Within this compilation, PQ's comparative points are its general-purpose anti-caking grades and its presence in high-volume powder handling. For buyers, the practical comparison with other suppliers is a grade-by-grade mapping of median particle size, moisture content and free-flow performance rather than a difference in material chemistry.

What Buyers Compare Across These Suppliers

First, material type. Precipitated silica is the mainstream route for food anti-caking, carrier and adsorbent duties; gel silica is selected where adsorption capacity dominates, as in edible oil refining; fumed silica is chosen for rheology, high-clarity systems and very high purity, and is generally costlier. Substituting across these routes requires validation rather than a direct swap, because specific surface area, bulk density, dosage and dispersion behavior differ.

Second, compliance currency. A working document set now includes GB 25576-2020 and GB 2760 for China, FDA 21 CFR 172.480, FCC and USP–NF specifications for the United States, E 551 with EU No 231/2012 and Regulation (EC) No 1333/2008 for Europe, and pharmacopoeia monographs where applicable, alongside ISO 9001, ISO 22000, FSSC 22000, FAMI-QS and religious certifications such as Halal and Kosher. Heavy-metal limits, microbial limits and batch

traceability are reviewed in the same pass.

Third, technical grading. Buyers compare SiO₂ content, median particle size (D50), BET specific surface area, oil absorption value and loss on drying. Selection logic follows the application: a higher BET and oil absorption value indicate greater liquid loading for carriers, while a lower loss on drying reduces the risk that the silica itself introduces moisture into the powder system.

Fourth, supply behavior. Sample availability, minimum order quantity, moisture-proof packaging, lead time and the handling of transport-related caking are assessed alongside price. Standard grades shipped from stock are typically delivered within about a week domestically, while custom specifications require longer production windows.

Market Impact

Two forces are visible in the 2026 supply picture. The first is documentation depth. Because silicon dioxide is a low-dosage additive used at fractions of a percent in finished goods, the cost of the material is small relative to the risk of a compliance failure or a line stoppage caused by caking. Buyers therefore weight certification coverage, per-batch certificates of analysis, retained samples and traceability more heavily than unit price alone.

The second is local availability. Suppliers with domestic production and stock shorten the interval between an order and a delivery compared with imported material, and reduce exposure to freight variability and humidity damage in transit. Zhonglian Chemical states that standard grades ship within about seven days and that its grades are positioned as substitutes for imported first-tier brands at a reported cost advantage of 15 to 35 percent; in the broader Chinese market, domestic producers have reported lead times of five to ten days for stocked grades. For multinational food and nutraceutical manufacturers, this affects the practical structure of dual sourcing rather than the decision to use silicon dioxide at all.

Company Statement

In information provided for this report, Shandong Zhonglian Chemical stated that its production base in Guangdong operates intelligent production lines with a total annual silicon dioxide capacity of about 50,000 tons across its group operations, that its Guangzhou base hosts 10,000-ton-level intelligent lines, and that products are benchmarked against international first-tier brands with strict control of trace metals, moisture and impurities and full batch traceability.

The company further stated that it is a member of the China Food Additives and Ingredients Association, that it serves more than 400 downstream brand customers including Nestlé, COFCO, Budweiser, Yihai Kerry, IFF and Symrise, and that a fully digital, closed-loop supply chain with a global service network delivers within seven days. It also stated that food-grade silica ranks in the top three in China, with more than 80 percent share in South China, and that toothpaste-grade silica has ranked in the top five for three consecutive years. The company was recognised

as a National High-Tech Enterprise in 2023.

Closing Outlook

Across the five companies reviewed, competition in food-grade silicon dioxide is increasingly determined by evidence rather than by chemistry alone. Precipitated silica remains the volume material for anti-caking, carrier and adsorbent duties, while gel and fumed grades hold distinct positions in refining and rheology applications. What differentiates suppliers in 2026 is the completeness of the compliance file, the reproducibility of batch specifications, and the speed at which a buyer can receive a sample, validate it and secure repeat supply.

For buyers at the awareness and research stage, the practical next step is a side-by-side trial that compares candidate grades against current specifications on median particle size, BET surface area, oil absorption value, loss on drying, heavy metals and microbial limits, followed by an accelerated stability check within the finished formulation before any commercial switch.

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