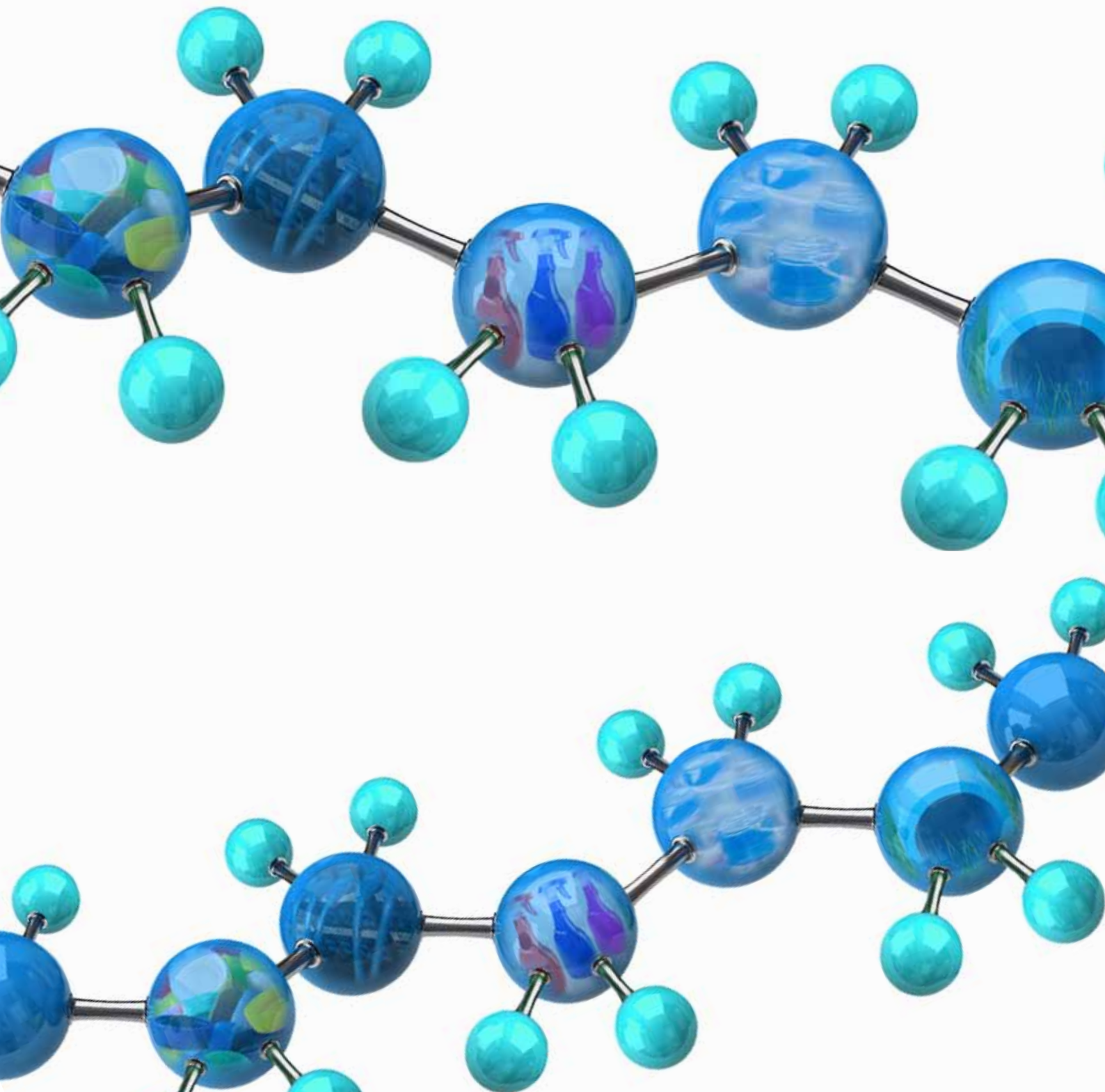


SILICA CATALYSTS

High Performance Polyolefin Catalysts & Supports



High Performance Polyolefin Catalysts & Supports

World class catalysts & supports designed to give exceptional performance within the polyolefin market

-
- HDPE
 - LLDPE
 - PP

-
- Gas Phase
 - Slurry Phase
-

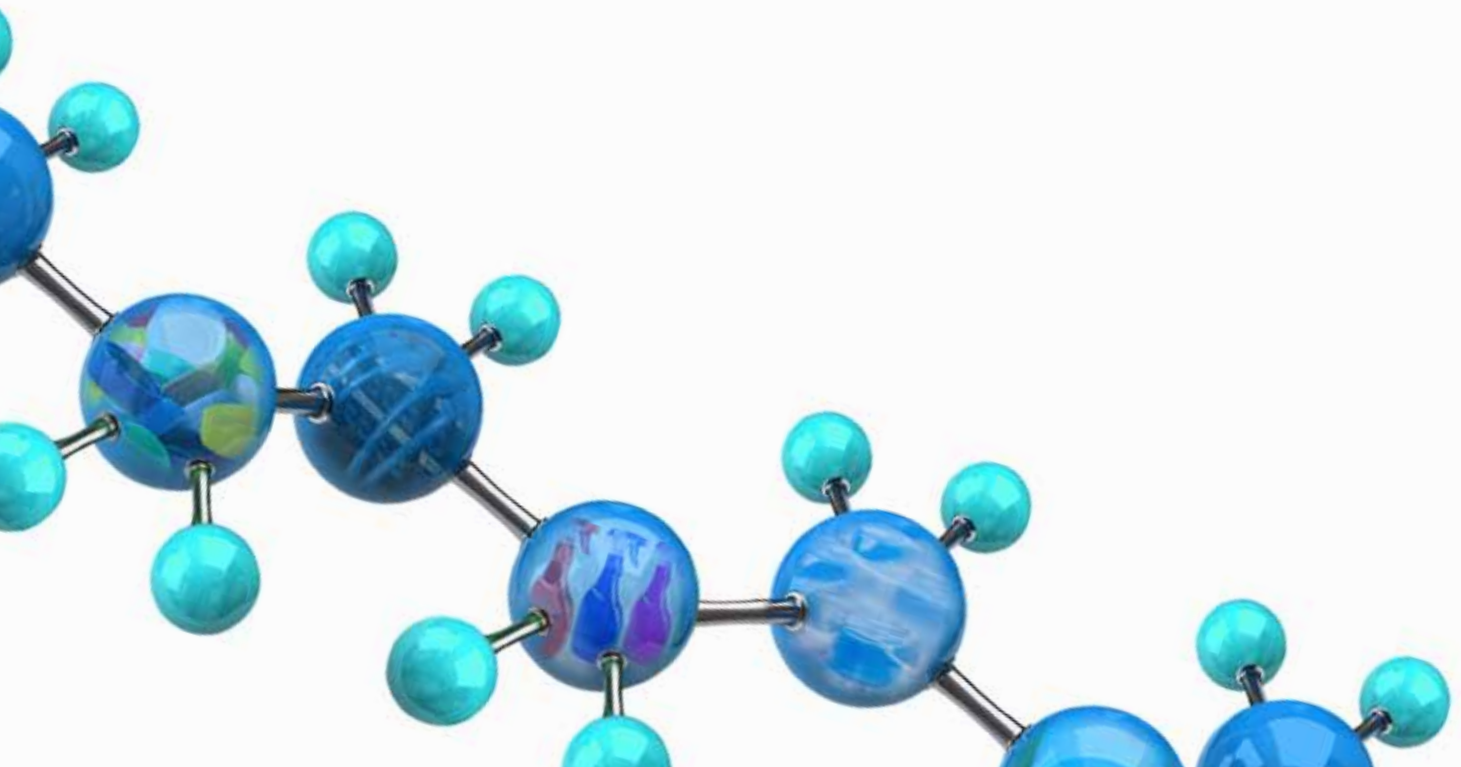
PQ is a key global supplier of chrome-on-silica catalysts and modified chrome catalysts, widely used in the polymerization of ethylene into polyethylene.

With a manufacturing history stretching back over 200 years, PQ prides itself on being a manufacturer that offers customers;

- **Consistent product quality**
- **Reliable product supply**
- **Customised solutions**
- **Expert technical service**

PQ silica supports are used in the production of chrome, Ziegler-Natta and single site catalysts that are subsequently used to manufacture polyethylene, polypropylene and other polymers. These polymers are used in a wide variety of applications including films and sheets, pipes and tubes, blow-moulded containers and automobile parts, and wire and cable sheathings.

PQ supports are used in both gas-phase and slurry-phase processes.



THE BENEFITS OF PQ PRODUCTS

High Purity

As a result of the strict control of raw materials and advanced process technologies, PQ produces silica supports that have low levels of impurities. PQ is the world leader in the production of sodium silicate, a key raw material in the production of silica supports, so the quality of this critical feedstock is directly managed.

Uniform Products

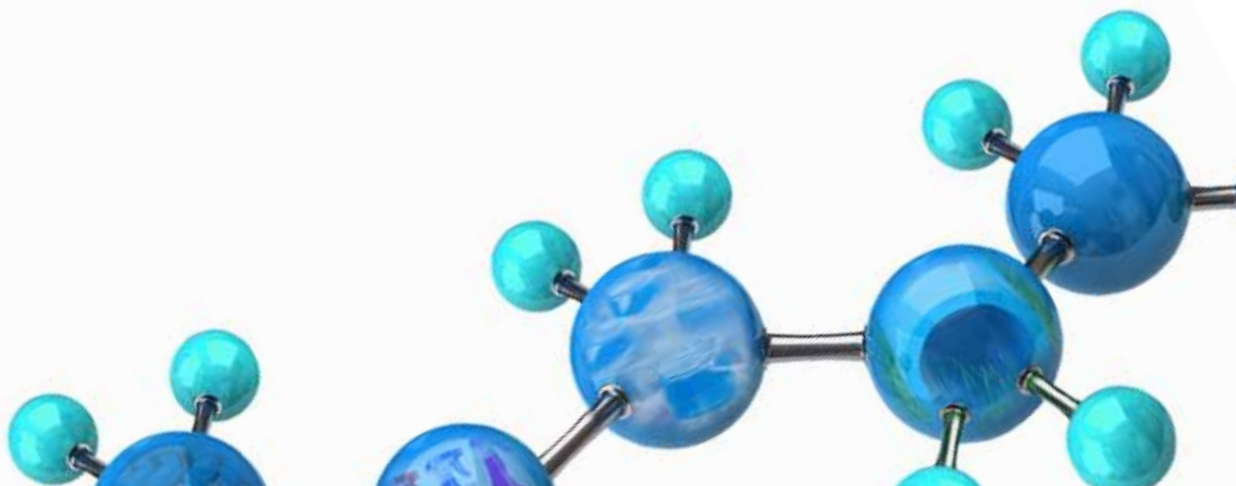
Through the careful control of critical process steps, PQ produces products that are highly uniform at both a macroscopic level (batch to batch consistency) and a microscopic level (particle to particle uniformity).

Customizable Catalysts

In addition to chrome-on-silica PQ also offers modified chromium catalysts containing aluminium, titanium and other elements to provide performance enhancements needed for certain end uses, such as reduced induction time and increased activity, melt flow index and ESCR.

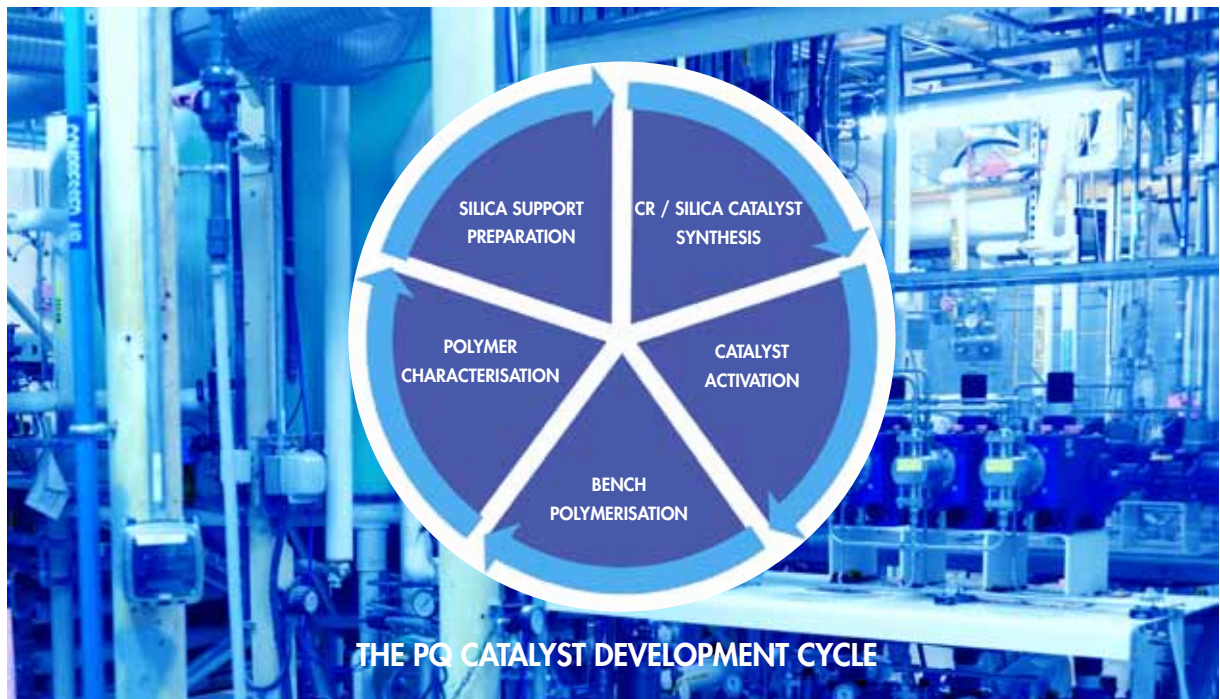
In addition to chemical modifications, PQ excels when tailoring physical properties to offer products that vary in;

- Mesoporosity
- Macroporosity
- Particle morphology
- Particle size distribution
- Particle strength



DELIVERING FLEXIBLE CATALYSTS AND SUPPORTS

Highly consistent products and unsurpassed technical support



Expert Technical Service

Well-equipped analytical centres measure all critical silica properties, including surface area/pore volume, particle size, shape and strength, elemental composition and thermal and structural properties. Key polymer properties, including rheology, density and ESCR can also be measured.

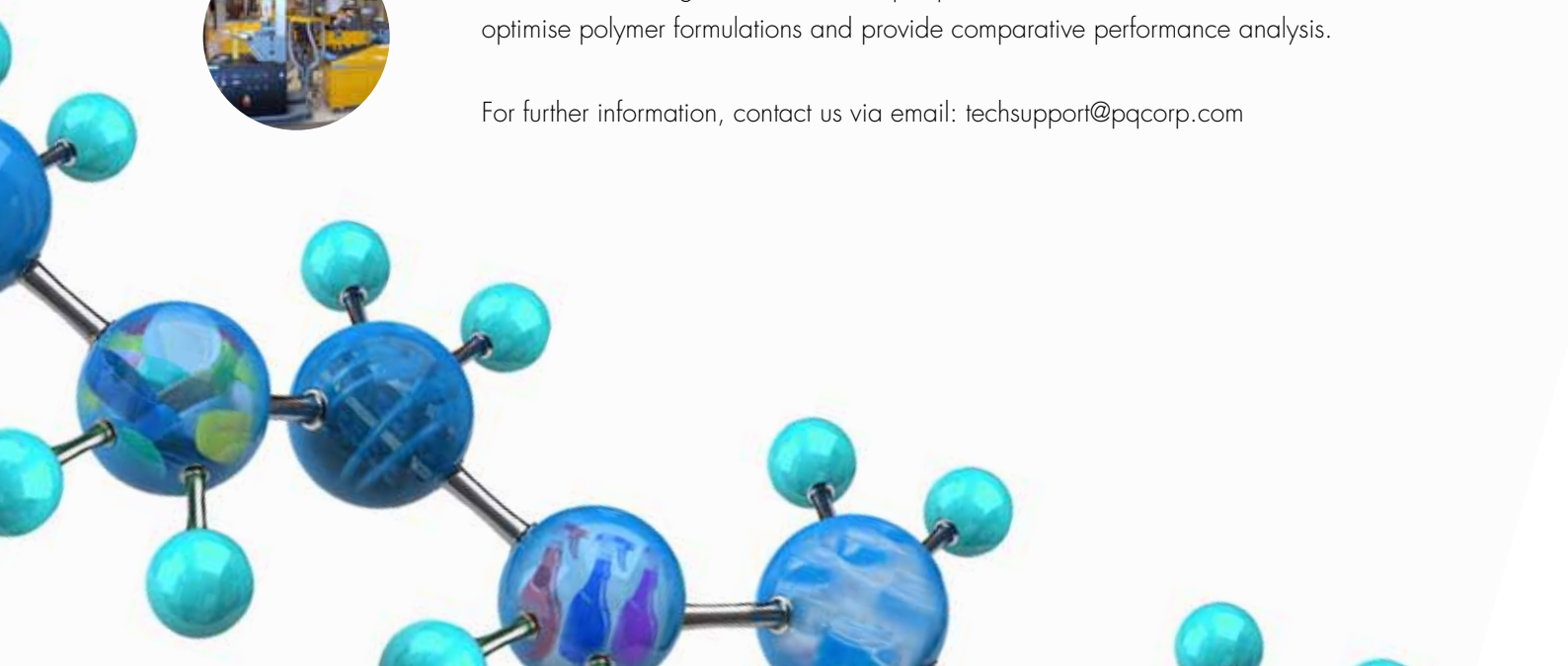


Bench scale slurry polymerisation reactors are available to accurately simulate continuous plant processes. This allows for the rapid evaluation of new catalysts & supports without the need to utilise critical plant equipment.



Polymer processing laboratories, equipped to compound polymers and manufacture a range of test films and plaques, are available to evaluate and optimise polymer formulations and provide comparative performance analysis.

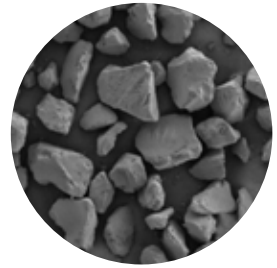
For further information, contact us via email: techsupport@pqcorp.com



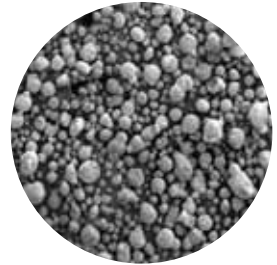
SILICA GEL MANUFACTURING CAPABILITIES

In the production of polymers, the surface area, pore volume, and pore diameter of the catalyst support strongly influences the polymerization characteristics (e.g. activity) and final polymer properties (e.g. melt index and environmental stress crack resistance). Accurate control of the particle size distribution is also extremely important since the growing polymer replicates the shape and size distribution of the silica catalyst particles.

PQ's global manufacturing operations have both the experience and the technical expertise to manufacture products that meet the specifications demanded whilst exhibiting very low statistical variance. Four manufacturing processes gives PQ unrivalled flexibility in tailoring support and catalyst properties.



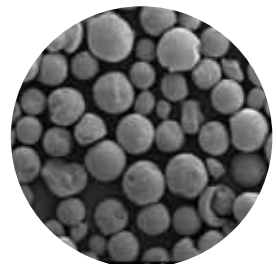
EP Granular Support



CS Microspherical Support

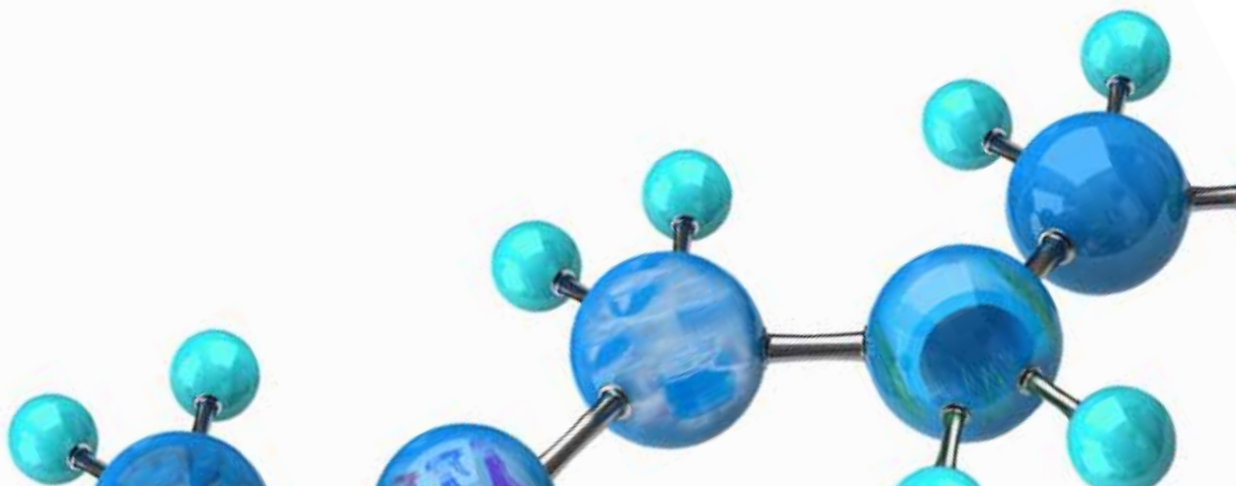
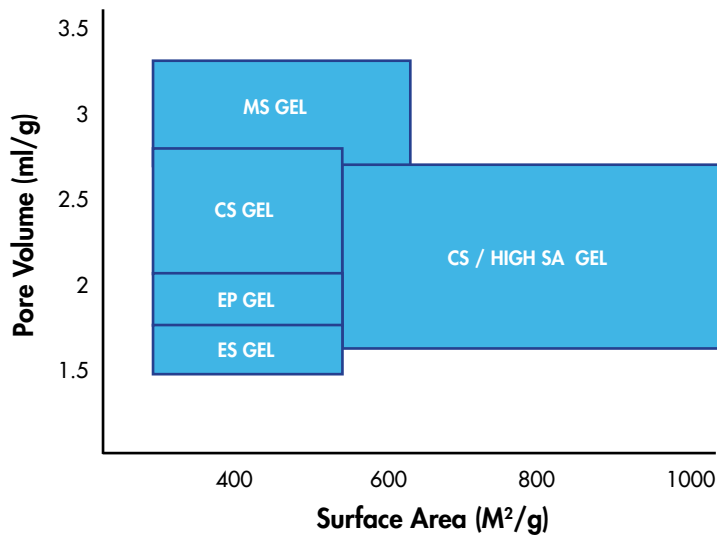


ES Granular Support



MS Microspherical Support

PQ SURFACE AREA / PORE VOLUME COVERAGE



GASIL® ANTI-BLOCKING SILICA'S

The Pure Way to High Clarity Film

World Class
additives for
the polymer film
industry giving
advanced
solutions for
high clarity film

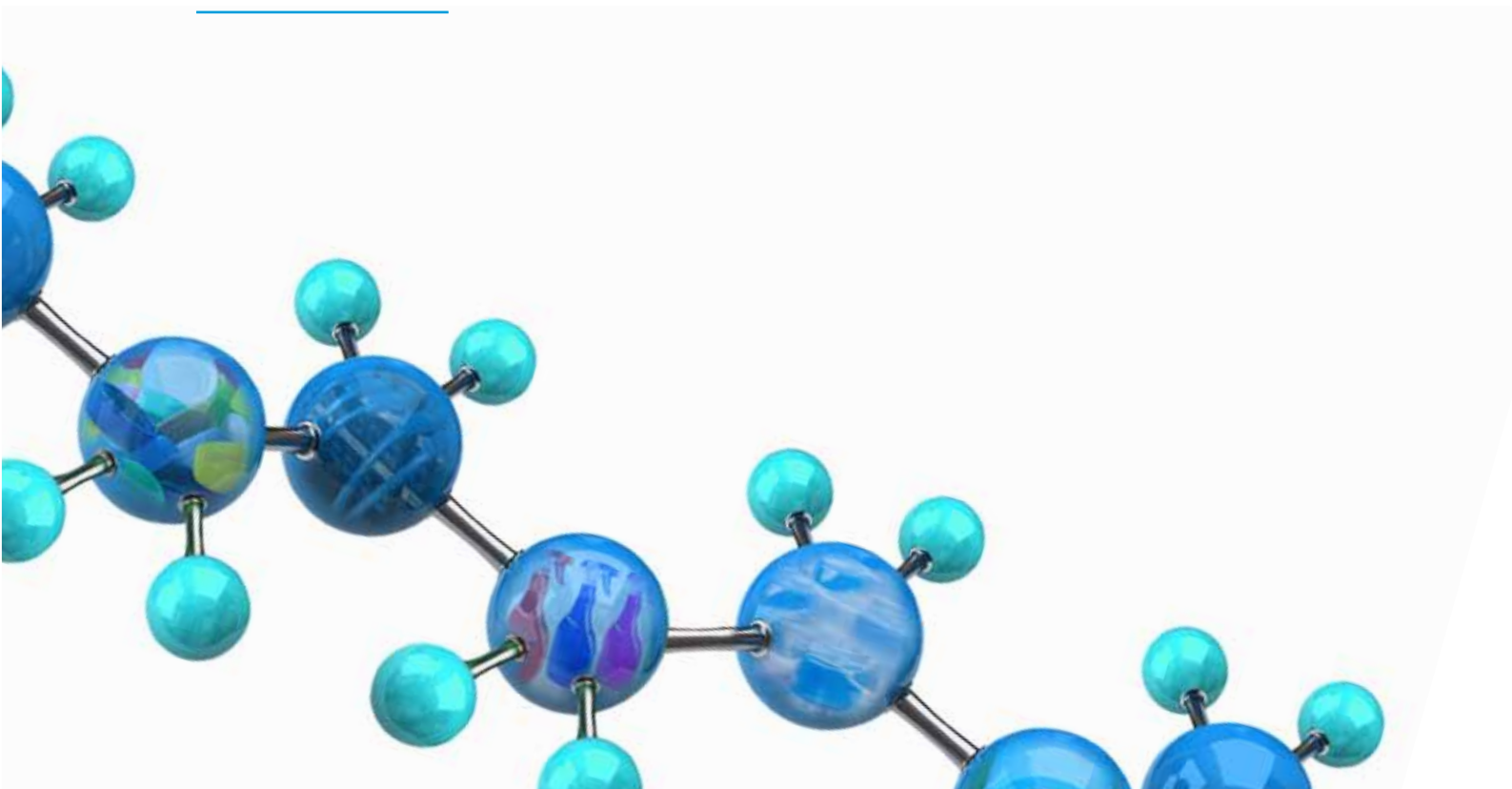
- Cast PP
 - TWQ PP
 - BOPP
 - PE
 - PET
 - Polyamide
-

PQ Corporation is also one of the world's leading producers of antiblocking silica's for film handling applications.

High clarity polymer films produced from PA, LDPE, LLDPE and mLLDPE, PP, PVC and PET resins are prone to blocking and this is particularly common in films produced by:

- Blown Film Extrusion
- Casting
- Biaxial Orientation
- Tubular Water Quench (Polypropylene)
- Calendering

Incorporation of small quantities of a Gasil® anti-blocking silica into a film formulation creates micro-roughness at the surface of the film. This reduces or eliminates blocking without compromising the balance of physical and optical properties of the film. For more information on the Gasil® range of products please contact us via email: techsupport@pqcorp.com

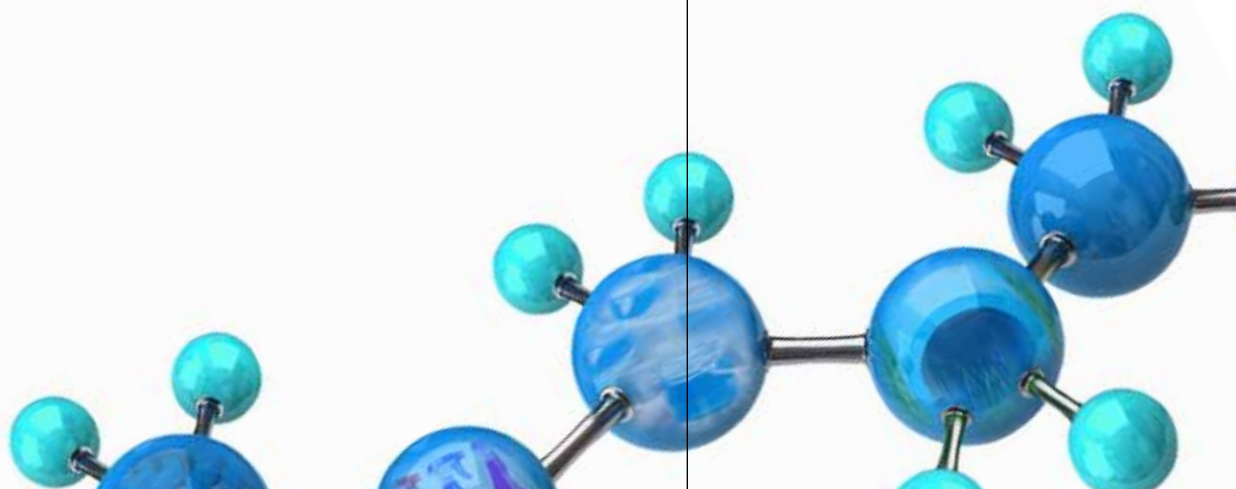


STORAGE & HANDLING

PQ catalysts and supports must be stored in a dry place and handled sensibly to minimise creation of dust and build-up of static electricity.

HEALTH & SAFETY

Material Safety Data Sheets providing detailed toxicological and handling information on all PQ silica products are available upon request.



Technical Service

PQ Corporation offers a high standard of technical and analytical service to ensure optimum performance of its products. For assistance, contact us via email: techsupport@pqcorp.com

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