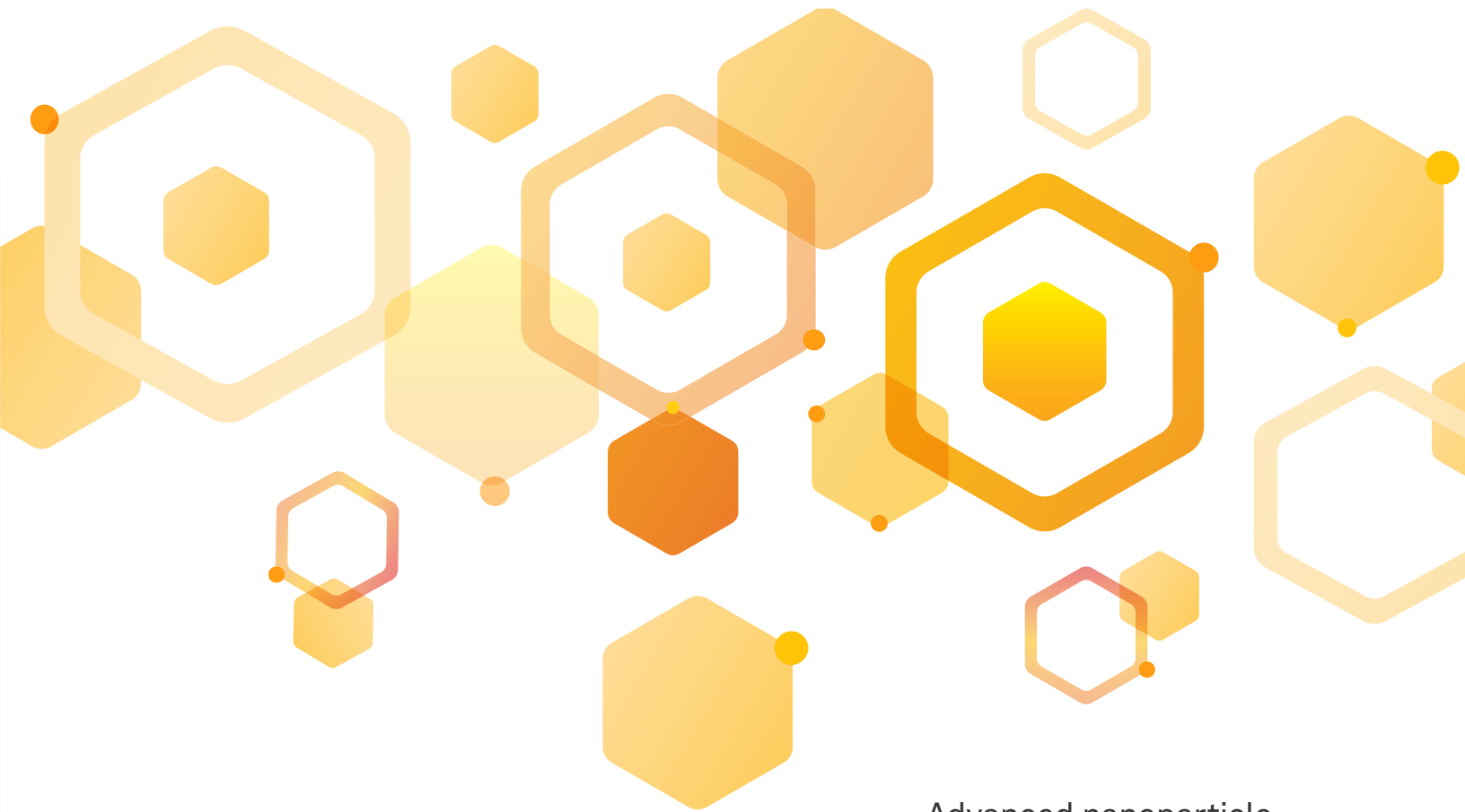


# PuroMill™

Industrial milling media



Advanced nanoparticle  
polymeric milling media  
technology for improving  
the properties of  
industrial materials



**Purolite®**

## What is PuroMill™ Industrial?

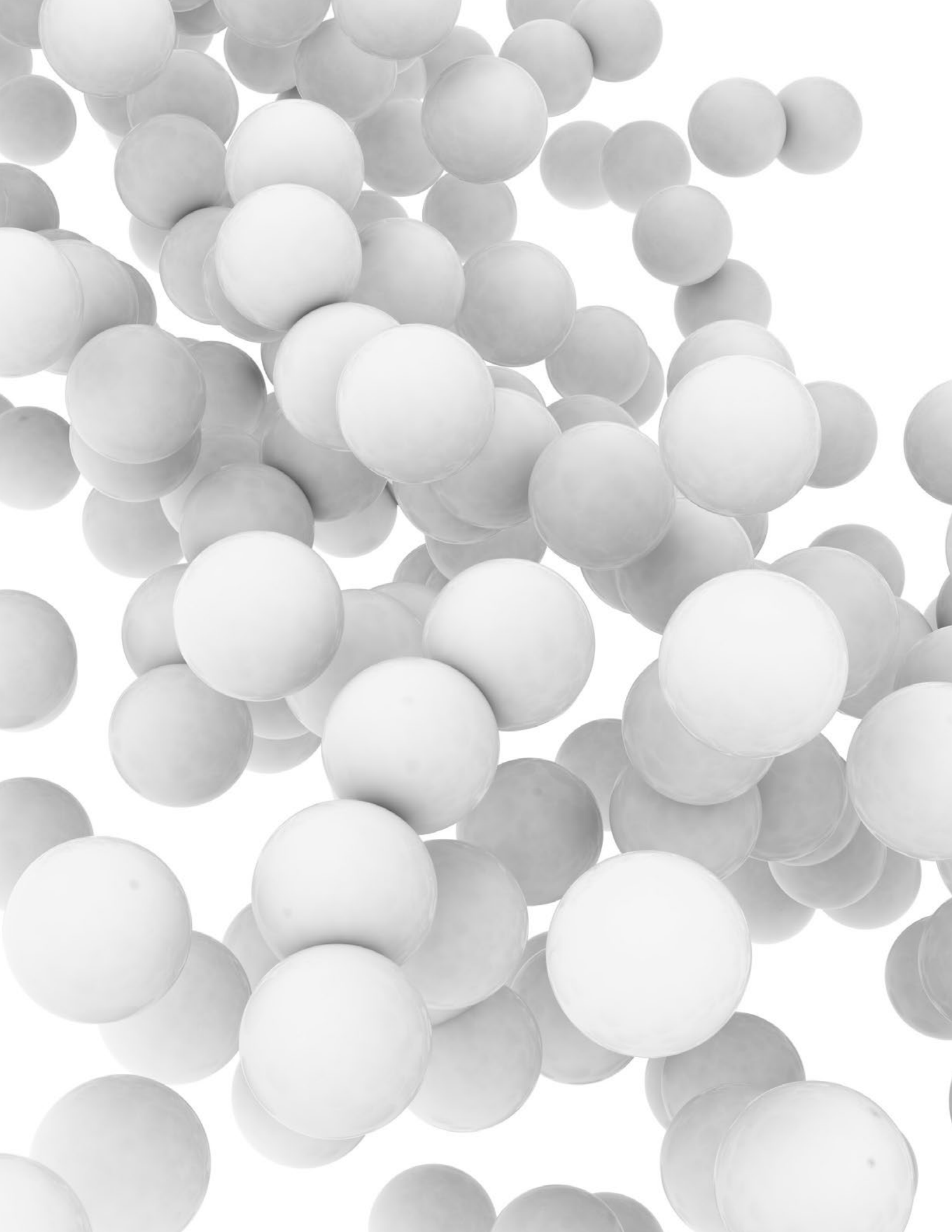
PuroMill™ Industrial-grade milling media is an advanced monodisperse high-energy milling media for creating contaminant-free nanoparticles through conventional media mills or other technologies that support high-energy nanoparticle milling.

PuroMill™ achieves particle comminution to < 100 nm, providing functional benefits in many industrial applications.

PuroMill™ enables the benefits of nanotechnology to be realized, without the introduction of extraneous contamination normally associated with high-energy milling processes.

## Improve industrial chemistry without sacrificing purity.

- Perfectly spherical monodisperse polymeric milling media
- Creates nanoparticles < 100 nm to enhance the properties of industrial molecules
- Ideal for coatings, dispersions, emulsions and nano-additives—particularly for inkjet products, agricultural pesticides & fungicides, pigments, functional ceramics, plastics and metals
- Exceptional wear resistance minimizes particulate contamination from media attrition and equipment abrasion
- Smooth, non-porous, non-adsorptive micro surface minimizes contamination
- Non-reactive and biologically inert
- Highly purified to eliminate leaching and extraction of soluble materials such as solvents and monomers
- Autoclavable / steam sterilizable
- Low density; reduces frictional heat generation
- Enables high media load and agitation speed
- Highly classified to resist hydraulic packing and separator screen binding
- Available in sizes from 50 µm – 1,000 µm for optimized milling performance
- Produced in an ISO 9001:2015 certified facility



# There are no simple solutions in materials science.

Characteristics of industrial materials determine the best processes to use for improving material properties, yet the path to optimizing performance can still be one of trial and error.

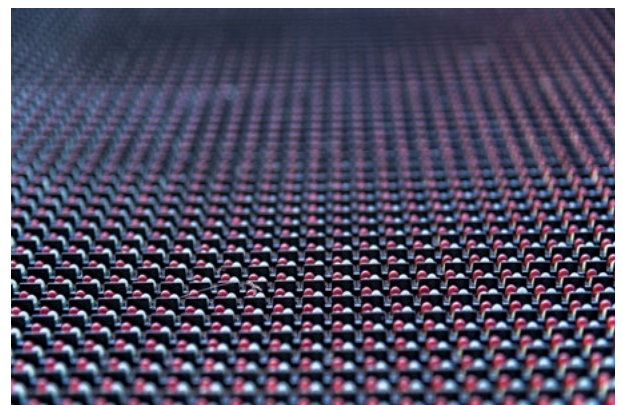
Nanoparticle milling technology is a widely accepted method for enhancing the properties of industrial compounds— and PuroMill™ advanced high-energy media brings high-energy nanoparticle milling technology to the next level. The perfectly smooth, spherical morphology of PuroMill™ media and extremely monodisperse particle size ensures reproducible milling with uniform stress intensities to guarantee enhanced nanomaterial properties.

Comminution processes are made more efficient and more effective as contamination by attrition is largely eliminated. This, in turn, reduces processing time and costs, and results in a cleaner, more reliable final product.

PuroMill™ Industrial high-performance milling media reduces molecules to the nano scale. Industrial nanoparticles have increased surface area, which can provide enhanced chemical and physical attributes compared with those of standard materials.



**PuroMill™ Industrial —  
A better, cleaner, highly reliable option  
in nanoparticle milling media technology.**



# Typical Chemical & Physical Characteristics

## PuroMill™ Industrial SM3000

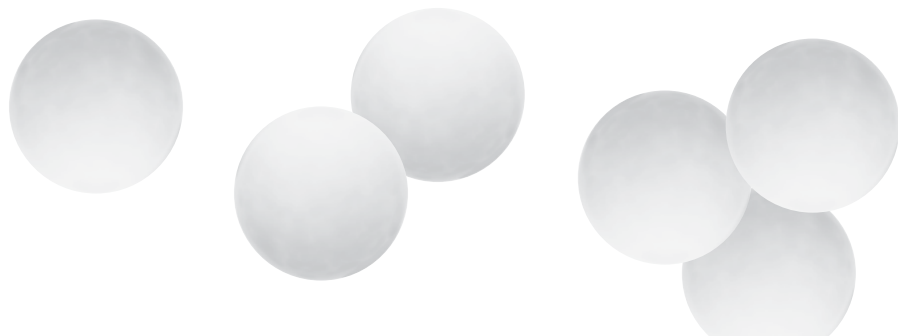
Characteristic	Test Method	Result
< 150 microns	PITM002E	0.01% (max.)
250 – 350 microns	PITM002D	95% (min.)
Volume Median Diameter	PITM002E	250 – 350 µm
Residual Monomers	PITM086B	500 ppm (max.)
Residual Solvent - Methanol	PITM057F	1,000 ppm (max.)
Heavy Metals	PITM017C	10 ppm (max.)
Appearance	PITM001	White to light yellow, non-aggregated spherical beads

## PuroMill™ Industrial SM5000

Characteristic	Test Method	Result
< 200 microns	PITM002E	0.02% (max.)
425 – 575 microns	PITM002D	95% (min.)
Volume Median Diameter	PITM002E	450 – 550 µm
Residual Monomers	PITM086B	500 ppm (max.)
Residual Solvent - Methanol	PITM057F	1,000 ppm (max.)
Heavy Metals	PITM017C	10 ppm (max.)
Appearance	PITM001	White to light yellow, non-aggregated spherical beads

## PuroMill™ Industrial SM7000

Characteristic	Test Method	Result
< 250 microns	PITM002E	0.02% (max.)
600 – 800 microns	PITM002D	95% (min.)
Volume Median Diameter	PITM002E	650 – 750 µm
Residual Monomers	PITM086B	500 ppm (max.)
Residual Solvent - Methanol	PITM057F	1,000 ppm (max.)
Heavy Metals	PITM017C	10 ppm (max.)
Appearance	PITM001	White to light yellow, non-aggregated spherical beads

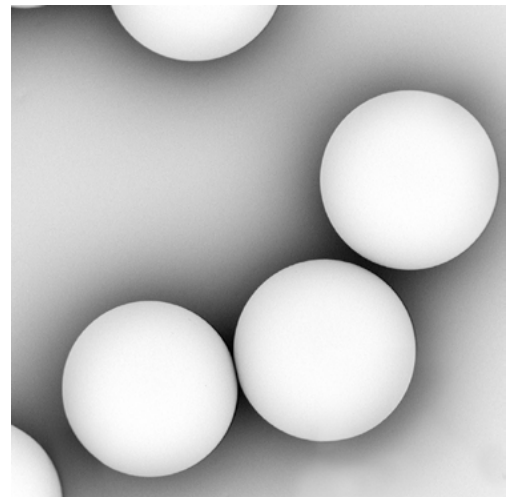




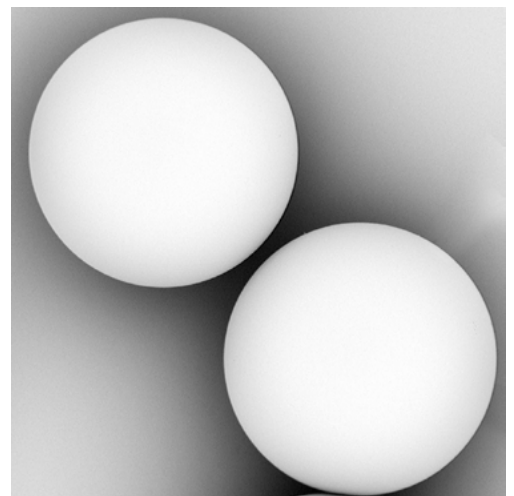
# PuroMill™

Industrial milling media

The smooth, non-porous, non-adsorptive micro surface of PuroMill™ minimizes contamination.



The highly consistent, monodisperse particle size prevents screen binding.



## Mill with confidence.

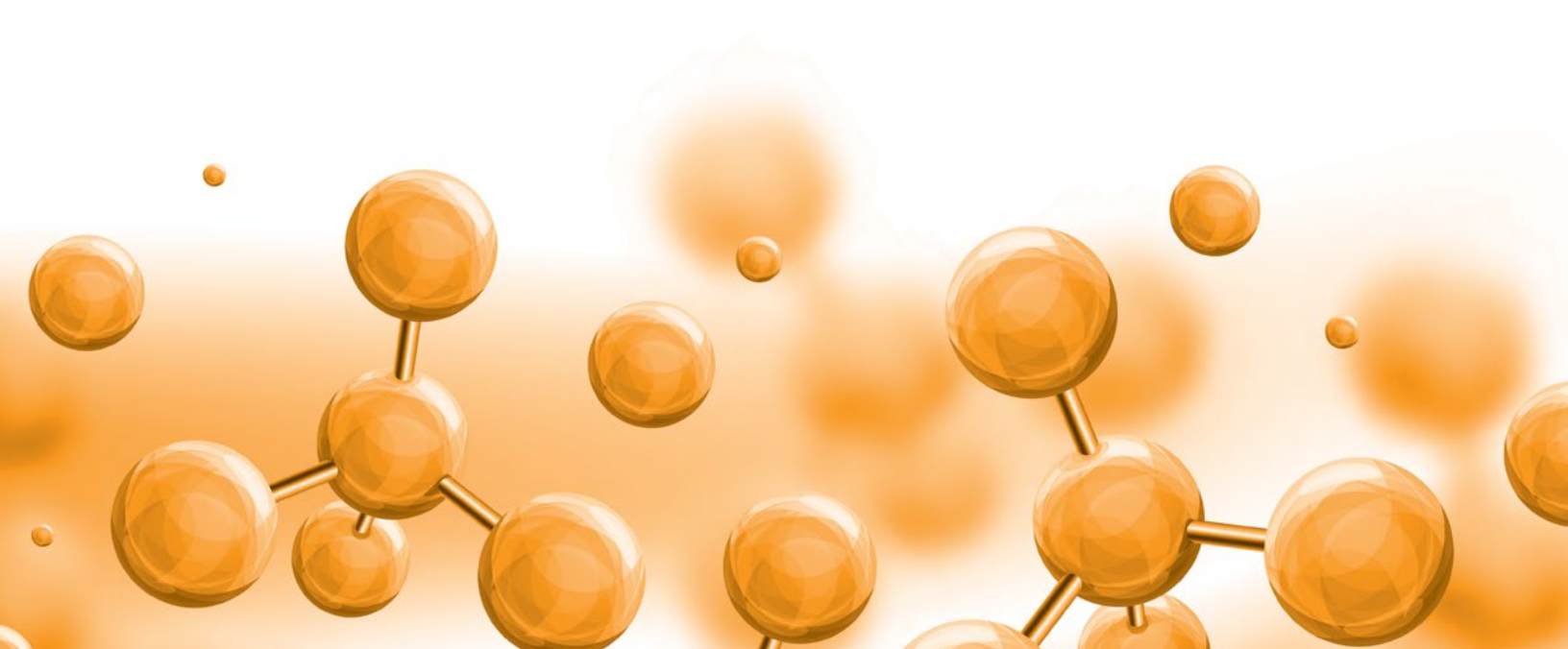
PuroMill™ Industrial copolymer milling media is for high-shear media milling applications and meets exacting standards for a new generation of nanomaterial preparations. The ultra-durable structure enables effective comminution of insoluble compounds without contamination related to media attrition or mill wear.

Highly purified to eliminate leaching and extraction of soluble materials, PuroMill™ is non-porous, non-reactive and non-conductive. The polymer beads generate less heat than traditional media to ensure the processed compound remains thermodynamically stable and structurally unaltered. Additionally, the low media density (1.07 g/cc) enables high media loads and agitation speeds to maximize particle size reduction.

PuroMill™ is compatible with conventional media mills as well as novel nanoparticle milling processes, such as high-speed dispersers, homogenizers and rotor-stators.

To optimize your milling processes...

## Just Ask Purolite.



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