Polymer Add (Thailand) Co.,Ltd.

Office - 106, Chalaremprakiat, Lor 9, Soi 22, Yak 5, Nongbon, Prawet, Bangkok, Thailand 10250
Factory - 188/3, Moo 8, Tambon Bangpu Mai, Amphoe Muang Samut Prakan, Samutprakan, Thailand 10280
Mobile - Thai : 0804531391, English: 0839415475, **E-mail –** contact@polymeradd.co.th

MICRONISED POLYPROPYLENE (PP) – FILTER AID GRADE

ENGINEERED POLYMERIC FILTER AID

FOR NON-AQUEOUS PRESSURE FILTRATION SYSTEMS

1. Product Overview

Micronised Polypropylene (PP) – Filter Aid Grade is a polymeric, non-ionic, low-ash filtration powder engineered for use in pressure-driven filtration systems where controlled cake permeability, chemical inertness, and contamination control are required.

Unlike mineral or fibrous filter aids, micronised PP forms a chemically compatible, polymer-based filter cake that supports stable filtration performance without introducing inorganic residues, ionic contaminants, or abrasive particles into the process stream.

This grade is developed specifically for process-controlled filtration, where particle size distribution and cake structure are tuned for flow stability rather than extreme fineness.

2. Functional Role in Filtration

Micronised PP functions as a filter aid and/or body-feed material, contributing to:

- Formation of a permeable and mechanically stable filter cake
- Efficient capture of fine suspended impurities
- Maintenance of stable pressure differential (ΔP) during filtration
- Reduction of premature cake blinding
- Clean cake release and predictable filter cycle behavior

The material is designed to support filtration efficiency through structure, not through excessive tightness.

3. Typical Filtration Process Types

This grade is applied in pressure-based filtration systems where cake formation is an integral part of the separation mechanism, including:

- Pressure leaf filters
- Candle filters
- Plate and frame filters

- Similar pressure filtration configurations using polymeric or synthetic filter media

It is suitable for processes operating in continuous or batch filtration modes, including both precoat and body-feed strategies.

4. Liquid Systems and Process Media

Micronised PP – Filter Aid Grade is intended for non-aqueous and organic liquid filtration, particularly where:

- The process fluid is sensitive to mineral or ionic contamination
- Product purity, electrical behavior, or downstream stability is influenced by filter aid residues
- Polymeric compatibility is preferred over mineral-based filtration aids

Typical applications include filtration of organic intermediates, specialty chemicals, plasticizers, resins, and other non-aqueous process liquids.

5. Particle Size Engineering Philosophy

This grade is not designed to be ultra-fine.
Its performance is based on a balanced and engineered particle size distribution that promotes cake permeability and flow stability.

Typical PSD Design Window:

- D50: 20–25 µm (primary functional range)
- D90: typically, ~60–80 µm (supports open cake structure)
- Controlled fines fraction avoids excessive ultra-fine particles that may cause blinding
- Controlled oversize: avoids disruptive flakes while retaining structural support

This distribution enables the filter cake to remain open, permeable, and stable under operating pressure.

6. Importance of Controlled Fineness

In pressure filtration systems, filtration efficiency depends on cake architecture, not on maximum surface area alone.

Excessively fine powders can:

- Increase pressure drop
- Reduce flow rate

Polymer Add (Thailand) Co.,Ltd.
Office - 106, Chalaremprakiat, Lor 9, Soi 22, Yak 5, Nongbon, Prawet, Bangkok, Thailand 10250
Factory - 188/3, Moo 8, Tambon Bangpu Mai, Amphoe Muang Samut Prakan, Samutprakan, Thailand 10280
Mobile - Thai : 0804531391, English: 0839415475, **E-mail** – contact@polymeradd.co.th

- Shorten filtration cycles
- Increase cleaning frequency

Micronised PP – Filter Aid Grade is therefore engineered to deliver functional fineness, where particles are small enough to capture impurities while still contributing to a robust, permeable cake structure.

7. Chemical and Physical Compatibility

The polymeric nature of micronised PP provides several functional advantages:

- Non-ionic and chemically inert behavior
- Low ash contribution
- Compatibility with polymeric filter cloths and media
- Reduced risk of abrasion or hard-particle damage
- Minimal interaction with process liquids

This makes the material particularly suitable for processes with contamination sensitivity or audit-driven material control.

8. Thermal Operating Window

Micronised PP – Filter Aid Grade is designed for filtration processes operating within typical non-aqueous industrial temperature ranges, including elevated temperatures commonly encountered in pressure filtration.

Within this window, the material remains:

- Dimensionally stable
- Chemically inert
- Functionally consistent during cake formation and filtration cycles

9. Regulatory, Quality, and Process Control Considerations

This product is intended for processes that require controlled raw materials, including:

- Defined polymer identity
- Controlled particle size distribution
- Batch-to-batch consistency
- Traceable manufacturing and documentation

Such requirements are common in specialty chemical, electrical-grade, and performance-sensitive applications.

10. Application Scope

Micronised Polypropylene (PP) – Filter Aid Grade is suitable for use in:

- Non-aqueous pressure filtration systems
- Filtration processes requiring polymeric, low-ash filter aids
- Applications where cake permeability and flow stability are critical
- Processes seeking compatibility with polymeric filtration media

Application performance depends on system design, operating conditions, and dosage strategy. Process trials are recommended to optimize filtration efficiency for each specific system.

11. Summary

Micronised PP – Filter Aid Grade is a purpose-engineered polymeric filtration material, designed for applications where:

- Controlled cake structure matters more than extreme fineness
- Chemical cleanliness and non-ionic behavior are required
- Filtration performance is defined by stability, permeability, and repeatability

By focusing on engineered particle size distribution rather than minimum particle size, this grade offers a reliable and scalable solution for advanced pressure filtration systems.