

## 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 ( $\Delta P$ ) 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:

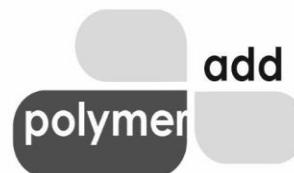
- Pressure leaf filters
- Candle filters
- Plate and frame filters

# 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



- 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:

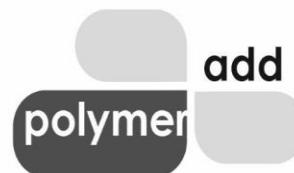
- Increase pressure drop
- Reduce flow rate

# 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

# 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



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.