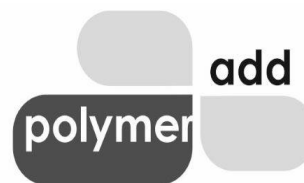


Polymer Add (Thailand) Co.,Ltd.

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TECHNICAL DATA SHEET MM-620

| | |
|----------------------|---|
| Chemical Name | MICA (MICRONIZED) |
| Grade Name | MM-620 |
| CAS No | 12001-26-2 |
| HS Code | 2525.20.00 |
| EINECS No | 310-127-6 |
| Molecular Formula | $\text{KAl}_2(\text{AlSi}_3\text{O}_{10})(\text{OH})_2$ |
| Molecular Weight | 398.5 g/mol |
| Synonyms | Muscovite Mica, Potassium Aluminum Silicate Hydroxide |

Physical & Chemical Properties

| Property | Typical Value / Description | Test Method |
|------------------------|---|---|
| Appearance | Fine off-white to light gray powder | Visual |
| Odor | Odourless | Sensory |
| pH (10% slurry) | 7.0 – 8.5 | pH meter |
| Moisture Content | ≤ 1.0% | Oven drying (110 °C) till constant weight |
| Bulk Density | 0.25 – 0.45 g/cm ³ | Tapped Density Method |
| Whiteness | ≥ 85 | CIE method (paste in mineral oil base) |
| Oil Absorption (DBP) | 35 – 50 g/100g | Spatula Rub-Out Method |
| Melting Point | >1200°C (decomposes) | Literature / Estimation |
| Solubility in Water | Insoluble | Visual observation |
| Loss on Ignition (LOI) | 4 – 7% (at 1000°C) | Heating in muffle furnace 900°C |
| Particle Size (D50) | Typically, 3 – 5 µm (grade-dependent) | Laser Diffraction (Wet method) |
| Particle Size (D99) | Typically, 10 – 30 µm (grade-dependent) | Laser Diffraction (Wet method) |

➤ The commercial product specification may include only a selection of the properties listed above; this additional data are provided for general technical reference.

Heavy Metals (EU Regulation 10/2011 - content limits in additives for plastics)

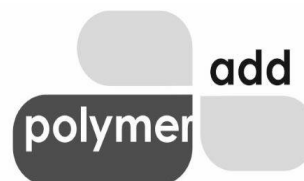
| Element | Typical Limit | Test Method |
|---------------|---------------|--------------------------------|
| Lead (Pb) | ≤ 10 ppm | ICP, AAS, XRF |
| Cadmium (Cd) | ≤ 1 ppm | ICP, AAS |
| Mercury (Hg) | ≤ 1 ppm | ICP, AAS, CV-AAS |
| Arsenic (As) | ≤ 3 ppm | ICP, AAS |
| Chromium (VI) | ND – 0.1 ppm | UV-Vis (after NaOH extraction) |

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Colour Impacting Impurities

| Element | Typical Max Limit (ppm) | Test Method |
|----------------|-------------------------|---------------|
| Iron (Fe) | ≤ 4000 ppm | ICP, AAS, XRF |
| Manganese (Mn) | ≤ 100 ppm | ICP, AAS, XRF |
| Chromium (Cr) | ≤ 50 ppm | ICP, AAS, XRF |
| Copper (Cu) | ≤ 50 ppm | ICP, AAS, XRF |
| Nickel (Ni) | ≤ 30 ppm | ICP, AAS, XRF |
| Cobalt (Co) | ≤ 20 ppm | ICP, AAS, XRF |
| Vanadium (V) | ≤ 20 ppm | ICP, AAS, XRF |

Product Performance Impacting Impurities

| Ion / Element | Typical Max Limit (ppm) | Test Method |
|---|-------------------------|--------------------|
| Calcium (Ca) | ≤ 500 ppm | ICP, AAS, XRF |
| Magnesium (Mg) | ≤ 500 ppm | ICP, AAS, XRF |
| Sodium (Na) | ≤ 300 ppm | ICP, AAS, XRF |
| Potassium (K) | ≤ 1000 ppm | ICP, AAS, XRF |
| Chloride (Cl ⁻) | ≤ 100 ppm | Ion Chromatography |
| Sulphate (SO ₄ ²⁻) | ≤ 100 ppm | Ion Chromatography |
| Titanium (Ti) | ≤ 200 ppm | ICP, AAS, XRF |

USES / APPLICATION

| Industry | Commercial Application / Uses (Micronized Grade) |
|----------------------|--|
| Plastics | Reinforcing filler in PP, PE, PVC; improves dimensional stability and electrical insulation |
| Rubber | Enhances elasticity, weather resistance, and reinforcement in elastomers |
| Paints & Coatings | Anti-cracking, barrier properties, and gloss improvement in decorative and industrial paints |
| Paper | Improves surface smoothness and opacity in specialty papers |
| Adhesives & Sealants | Rheology control and crack resistance in construction and industrial sealants |
| Inks | Enhances pigment orientation and print finish in specialty inks |

US FDA 21 CFR LISTING

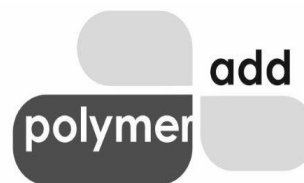
| CFR Section | Title / Description |
|-------------|--|
| 178.3297 | Colorants for polymers – when used as inert filler |
| 176.170 | Paper and paperboard in contact with aqueous and fatty foods |
| 176.180 | Paper and paperboard in contact with dry foods |

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*Mica is considered inert and may be used in indirect food contact under specific conditions.
Compliance must be verified based on end-use application.*

Disclaimer

This product is manufactured in accordance with general industrial quality standards. While typical batches comply with EU 10/2011 heavy metal limits for additives and are monitored for key colour-impacting impurities, these parameters are not routinely tested and are not included in standard Certificates of Analysis unless specifically requested at time of order. Customers requiring guaranteed compliance for food-contact or colour-critical applications should request analytical certification prior to dispatch.

Month of Creation: June 2025

Month of Review: June 2027

POLYMERADD THAILAND