

Global M9 Grade PPO Resin Market Growth 2026-2032

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Abstracts

The global M9 Grade PPO Resin market size is predicted to grow from US\$ 12.05 million in 2025 to US\$ 691 million in 2032; it is expected to grow at a CAGR of 45.6% from 2026 to 2032.

M9 Grade PPO Resin refers to ultra-low loss modified polyphenylene oxide resin specifically designed for M9 grade CCL through molecular structure modification and blending technology. Compared to standard electronic-grade PPO (used in M6/M7, Df ~0.004~0.008), the key differences of M9 grade PPO are: (1) Significantly reduced dielectric loss: by introducing low-polarity side groups, reducing polar end groups, and optimizing molecular weight distribution, Df is reduced from 0.004 to below 0.002 (typical 0.0015~0.002@10GHz), with Dk controlled at 2.8~3.0; (2) Blend compatibility with hydrocarbon resins: M9 grade PPO is not used alone but as an auxiliary component to hydrocarbon resins (ODV/BCB/EX) to balance their low loss with processability and adhesion. In M9 formulations, the PPO-to-hydrocarbon ratio is typically 1:2 (hydrocarbon dominant) or 1:1; (3) Higher purity and batch stability: M9 grade PPO requires stricter control of metal ion content, residue levels, etc., to meet long-term reliability demands of AI servers.

M9 Grade PPO resin is the highest-volume base resin in AI server Rubin platform CCL. Its value lies not in pursuing extreme low dielectric loss (that is the role of ODV/BCB), but in providing sufficiently low loss, excellent processability, reliable copper adhesion and dimensional stability at acceptable cost. Pricing: M9 grade PPO undergoes molecular modification, low-polarity end-capping and ultra-purification, costing about 1.5~2 times ordinary electronic grade PPO, i.e., ~\$70,000/ton, far below ODV (~\$140,000~210,000/ton) and BCB (~\$280,000/ton). Margins: domestic leader Shengguan Group achieves 30~40% gross margin on electronic grade PPO (M9 share still small); Dongcai Technology sees 25~35% on high-end resins; overseas giants SABIC, Asahi Kasei enjoy >50% margins due to technology monopoly and brand

premium. As domestic capacity expands (Shengguan to 4,000 tons, Dongcai planning 5,000 tons), M9 grade PPO margins are expected to converge toward 30% in 2-3 years. Downstream: AI server motherboards and high-speed backplanes are the largest consumption segments; Rubin UBB (26-layer through-hole) with long traces requires ultra-low loss, making PPO-hydrocarbon blend the baseline solution; 800G switch PCBs and advanced test equipment follow. Incremental demand is entirely driven by AI compute cluster expansion. In 2025, M9 grade PPO consumption in global CCL is ~175 tons, market size ~\$12M; in 2026, with Rubin mass production, consumption jumps to ~980 tons, market size ~\$74M, >5x growth.

Upstream-downstream structure: upstream PPO resin synthesis (Shengguan, Dongcai, SABIC, Asahi Kasei, Mitsubishi Gas Chemical); midstream CCL (Shengyi, EMC, Nanya, ITEQ); downstream PCB and AI server OEMs. Certification barriers are extremely high. PPO must pass CCL, PCB and end-customer qualification, a 1-2 year process, resulting in strong customer lock-in. Landscape shows overseas oligopoly leading high-end, two domestic dragons accelerating catch-up: SABIC, Asahi Kasei and Mitsubishi Gas Chemical hold majority of global PPO resin market share, with core modification technology and patents; Shengguan is the only domestic mass producer of electronic grade PPO, covering M4 to M9, current capacity 1,300-1,800 tons/year, expanding to 4,000 tons in 2026; Dongcai is building 5,000 tons PPO capacity while also investing in hydrocarbon, BCB and other high-end resin lines, already mass-supplying M9 grade hydrocarbon resin to NVIDIA; small players like Chenghe Technology have entered Shengyi and ITEQ supply chains but remain small.

Uncertainties include: (1) whether domestic capacity ramp-up and yield can meet surging 2026 demand; (2) whether overseas giants will defend market share via price cuts or technology upgrades; (3) whether blend ratio changes (PPO vs hydrocarbon) will affect PPO share; (4) geopolitics affecting high-end material imports or domestic substitution mandates. Conclusion: M9 grade PPO resin is one of the most deterministic links in AI server material localization. Its core driver is the rigid demand for M9 grade CCL from Rubin platform mass production, and PPO's irreplaceable role as a balancer (loss, processability, adhesion, cost). Structural features are overseas technology dominance, rapid domestic capacity expansion, widening supply-demand gap, and high certification barriers. Shengguan Group and Dongcai Technology are poised to become core global suppliers of M9 grade PPO resin in 2026-2027 through capacity release and first-mover certification advantages.

LP Information, Inc. (LPI)'s newest research report, the "M9 Grade PPO Resin Industry Forecast" looks at past sales and reviews total world M9 Grade PPO Resin sales in 2025, providing a comprehensive analysis by region and market sector of projected M9 Grade PPO Resin sales for 2026 through 2032. With M9 Grade PPO Resin sales

broken down by region, market sector and sub-sector, this report provides a detailed analysis in US\$ millions of the world M9 Grade PPO Resin industry.

This Insight Report provides a comprehensive analysis of the global M9 Grade PPO Resin landscape and highlights key trends related to product segmentation, company formation, revenue, and market share, latest development, and M&A activity. This report also analyzes the strategies of leading global companies with a focus on M9 Grade PPO Resin portfolios and capabilities, market entry strategies, market positions, and geographic footprints, to better understand these firms' unique position in an accelerating global M9 Grade PPO Resin market.

This Insight Report evaluates the key market trends, drivers, and affecting factors shaping the global outlook for M9 Grade PPO Resin and breaks down the forecast by Type, by Application, geography, and market size to highlight emerging pockets of opportunity. With a transparent methodology based on hundreds of bottom-up qualitative and quantitative market inputs, this study forecast offers a highly nuanced view of the current state and future trajectory in the global M9 Grade PPO Resin.

This report presents a comprehensive overview, market shares, and growth opportunities of M9 Grade PPO Resin market by product type, application, key manufacturers and key regions and countries.

Segmentation by Type:

Standard M9 PPO (Df 0.0018?0.0025, Dk 2.9?3.1)

Low-loss M9 PPO (Df 0.0012?0.0018, Dk 2.7?2.9)

Ultra-low Loss M9 PPO (Df

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