



PP RHEOLOGY (MFI) MODIFIER MASTERBATCH

PROFILE

Nano Pouyesh Kimiya Co. (NPK) as a manufacturer & trading company founded in 2009 is engaged in production, R&D, marketing, technical services and commercial activities. NPK Company has a great technological and commercial relationship with Iranian Petrochemicals. We have supplied equipment, catalysts, additives, solvents and peroxides for petrochemical, oil and gas industrial chemistry from Germany, Italy, Netherland, Romania, Turkey, Japan, Korea, China, India, etc.

Today NPK is one of the best suppliers of chemicals like:

- ✓ PPA active agents (representation of Lanpoly company)
- ✓ Titanium Dioxide
- ✓ PE cling masterbatch
- ✓ Purge compound
- ✓ PP peroxide masterbatch rheology (MFI) modifier
- ✓ Erucamide slip active agent
- ✓ Anti-Fog active agent and PE base masterbatch
- ✓ Optical brightener active agent and PE base masterbatch
- ✓ Anti-UV active agent
- ✓ Anti-Oxidant active agent
- ✓ Dispersing active agent
- ✓ TPE-O Vistamaxx 6202 (propylene-based elastomer)

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INTRODUCTION

High MFI PP can be produced by two basic methods:

- **Polymerization control**
- **Post-Treatment** → Addition of organic peroxides
Isotactic polypropylene is a semi-crystalline polymer. Free radicals generated using organic peroxides degrade the polypropylene backbone via β -scission. This chemical process is used to adjust the melt flow, grade, and to narrow molecular weight distribution. This operation is commonly called "**vis breaking**" or "**PP controlled rheology.**"

REASONS OF USING MELT-VISCOSITY MODIFIER

Melt-viscosity modifier masterbatch is used to increase fluidity of polypropylene and at the same time to narrow the molecular weight distribution. The preparation and the use of a masterbatch of peroxide with a low concentration is safe and easy to handle.





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HIGH FLOW PP APPLICATION

- Melt blown and Spun bond fibers
Water and air filter oil absorbent
Diaper
- many kinds of molding applications
- PP recycling
- Radical initiator for Maleic Anhydride grafting onto polymer

MFI MODIFIER MASTERBATCH BENEFITS

- Use like a standard masterbatch
- No dangerous and no legal constraint
- Excellent dosing accuracy
- Excellent for premix with pallets
- Excellent homogeneous dispersion

SUPPLIED MELT-VISCOSITY MODIFIER MASTERBATCH

In order to adjust the polypropylene's viscosity (MFI), Polytechs (France) has two masterbatches based on the chain-splitting effect caused by peroxides:

VMPP5X and VMPP10X.

These two masterbatches can be used to effectively cross-link polyethylenes.

Specifications	VMPP5X	VMPP10X.
Peroxide content (%)	4.5-5.5	9-10
Bulk density (g/cm ³)	0.5	0.5
Recommended addition rates	1%: PP MFI 3 → 15 10 → 40	0.5%: PP MFI 3 → 15 10 → 40
	2%: PP MFI 25 → 100	1%: PP MFI 25 → 100
	4%: PP MFI 25 → 220	2%: PP MFI 25 → 220