

OPTIPET™ 214M Speciality Polymers

TECHNICAL DATA SHEET

OPTIPET™ 214M is a chain extender master batch for polyamides. It reacts with recycled Nylon scrap and restores its original properties. OPTIPET™ 214M is used to give the combined effect of a reactive chain extender, as well as impact modifier for polyamide plastics.

Multifunctional active material in the OPTIPET™ 214M master batch reacts with some of the polyamide end-groups of different chains. This crosslinks the smaller chains that had been formed due to degradation in the scrap during earlier use.

The effective molecular weight of the modified polymer is thus increased. This shows up in increased relative viscosity (RV) or lower melt flow index than the scrap material. The polymeric carrier in OPTIPET™ 214M blends well with polyamide chains, and contributes to increase in impact strength.

Applications

- Upgradation of virgin and scrap nylon plastics.
- Upcycling of nylon scrap with up to 20% co-mingled polyolefin such as PE or PP.

Dosage

The recommended dosage of OPTIPET™ 214M depends on the starting material quality, and the target properties. For plain or glass filled nylon reprocessing, it generally varies between 2-5% by total weight.

Pluss Advanced Technologies Pvt. Ltd.

B-205, Tower B – Pioneer Urban Square, Sec 62, Gurugram-122008, Haryana, India

Telephone: +91 - 124 - 4309490/91/92

E-mail: info@pluss.co.in | Web: www.pluss.co.in

Key Properties

	Typical Value (SI)	Test Method
MFI (190 °C/2.16 Kg)	4-8 g/10min	ASTM D1238
Density	0.914 g/cm ³	ASTM D792
Bulk Density	0.50 g/ml	PLUSS [®] method
Shore A	64	ASTM D2240/2004
Shore D	8	ASTM D2240/2004
Vicat Softening Temperature	50 °C	ASTM 1525/2010
Epoxy Equivalent Weight	1300 ± 20	PLUSS [®] method

Processing Conditions

OPTIPET™ 214M may be dry blended with dried nylon pellets/granules. The temperature of the feed zone should be maintained below 150 °C while processing to prevent agglomeration. The chain extension reaction occurs at high temperature (240 °C to 280 °C), which falls within normal nylon processing conditions. A vented twin screw extruder is recommended for this process. Maximum processing temperature should not generally exceed 320 °C.

Storage and Handling Procedures

OPTIPET™ 214M should be stored away from heat, sparks and flame. It is slightly hygroscopic when exposed to high humidity environment. Supplier packed material need not to be dried prior to use as it comes in pre dried form. For best performance, it should be stored in a cool, dry and well ventilated place. Read and understand our Safety Data Sheet (SDS) for more detailed information on the safe handling and disposal of these specialty polymers.

Packaging

OPTIPET™ speciality polymers are supplied in pre-dried form in 25 Kg (55 lbs) PE lined, HD woven sack-laminated paper bags and 750 Kg (1650 lbs) FIBC's. Depending upon customer's requirement, the bags can be further palletized for dispatch.

The information given here is meant as a guide to determining suitability of our products for the stated applications. It is based on trials carried out by our laboratories and data selected from literature and shall in no event be held to constitute or imply any warranty. The products are intended for use in industrial applications. The users should test the materials before use and satisfy themselves with regard to contents and suitability in the desired application. Our formal specifications define the limits of our commitment. Recommendation herein may not be construed as freedom to infringe/operate under any third party patents. In the event of a proven claim, our liability is limited only to replacement of our material and in no case shall we be liable for special, incidental or consequential damages arising out of usage of our material. This datasheet is subject to change without notice.