

Anti-static additive for polypropylene films



PRODUCT NAME

Einar® 411

APPLICATION

Anti-stat for R-PP,
and H-PP

The plant-based, food-grade anti-stat solution for PP films

Einar® 411 is a plant-based, food-grade anti-static additive custom-designed for use in all PP grades. This long-lasting anti-static additive is the perfect alternative to ethoxylated amines and amides as it is able to match these while being safe to use. This optimised anti-stat has been developed specifically for challenging PP film applications.

KEY FEATURES

- ✓ Highly effective replacement for anti-static ethoxylated amines and amides
- ✓ An optimised blend of mono- and diglycerides with selected fatty acid profiles, made from vegetable oils
- ✓ An internal anti-static additive for additive masterbatches based on polypropylene
- ✓ Worldwide regulatory approval for food-contact applications
- ✓ Available in pellet form

KEY BENEFITS

- ✓ Prevents dust attraction to plastic articles
- ✓ Prevents electrical discharge during filling and loading of plastic packaging
- ✓ Can be used for all polypropylene grades by adjusting the dosage level
- ✓ No worries when used in food-grade applications
- ✓ No adverse effects on mechanical, optical, and barrier properties
- ✓ Enables clean and dust-free polypropylene packaging in production and final application
- ✓ Consultancy and technical evaluations available from our applications team

Einar® 411 for PP film anti-stat applications

Einar® 411 offers excellent performance in a very broad range of PP applications. In most random and block copolymer films it will provide a good and sufficient performance at low loading levels. In homo polymer, a highly crystalline material where anti-stat migration is low, anti-stat concentrations need to be in the higher end of the recommended loading level of 0.1 – 0.4%.

In coextruded or laminated packaging films, the anti-stat is often added to a very thin section of the entire film and therefore, the anti-stat must be a very reliable and efficient performer.

Product details

Physical/chemical properties:	monoglycerides	min. 70%
	free fatty acids	max. 1.5%
	free glycerol	max. 1%
	melting point	approx. 60°C
	colour	white
	form at 25°C	solid
Storage conditions:	Should be stored in a cool and dry place in tightly closed packaging	
Packaging:	20 kg in carton with inner polyethylene bag or 500 kg polyethylene big-bag	
Product form:	Einar® 411 comes in pellet form	
Total shelf-life:	Min. 24 months	

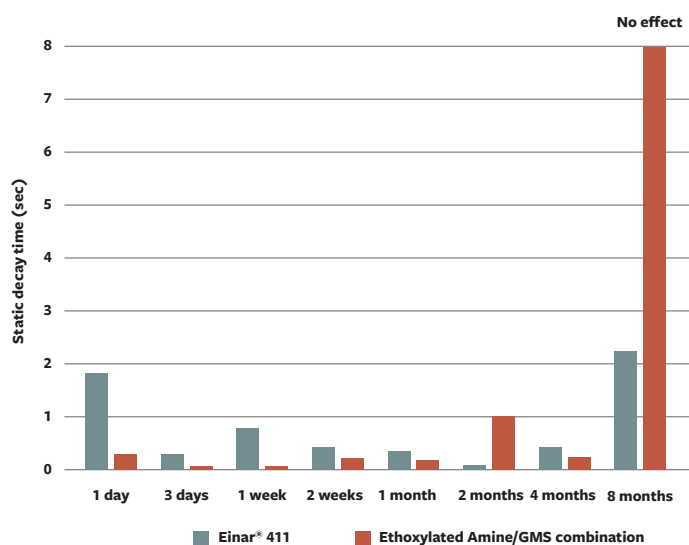
Guidelines for use

The product should be incorporated into the polymer matrix via a masterbatch or by direct addition in the extrusion process.

ANTI-STAT PERFORMANCE

IN 25 µM RANDOM PP CAST FILM

Additive concentration is 0.3%, measured at 23 °C, 50% RH.



Einar® 411 is an excellent performer in PP film with both immediate and long-term performance.

Plant-based, food-grade solutions for the polymer industry

Health and Safety

Einar® polymer additives are safe to use, identified as non-toxic and not expected to cause irritation to the skin, eyes or lungs. They are made from renewable, plant-based material under hygienic conditions. SDS is available on request.

Legal status and other regulatory information

Einar® 411

- Is a dual use additive for use in plastics and in food
- Complies with the purity requirements of food additives (FAO, WHO, JECFA)
- Food contact approval for EU, USA, Mercosur, China
Detailed information available on request