

EINAR® PLANT-BASED, FOOD-GRADE POLYMER ADDITIVES

Ageing modifiers and anti-static additives for PP foams



PRODUCT NAME

Einar® 401

Einar® 201

APPLICATION

Anti-stat for PP foams

Ageing modifier for PP foams

BRINGING GOOD THINGS TOGETHER

Palsgaard®

The plant-based, food-grade solutions for PP foams

Polypropylene foams are very popular and widely used packaging materials. They are resilient, return to form after compression, and provide effective cushioning and security where needed. It is these characteristics, combined with their versatility and customization possibilities, that make them so useful in many applications.

With **Einar® 401** and **Einar® 201** you can add a more sustainable profile to your foams without affecting costs all while optimising quality.

KEY FEATURES

- ✓ Highly effective replacements for ethoxylated amine anti-static additives and conventional ageing modifiers
- ✓ Optimised formulations of distilled mono-glycerides with selected fatty acid profiles, made from vegetable oils
- ✓ Worldwide regulatory approval for food contact
- ✓ Produced in CO₂-neutral factories

KEY BENEFITS

- ✓ Highly efficient anti-static protection
- ✓ Ensures high foam quality
- ✓ No stress cracking of electronic components
- ✓ No worries over food contact
- ✓ Efficient release of excessive blowing agents, preventing foam collapse
- ✓ Can be used for all polypropylene grades by adjusting the dosage level
- ✓ Consultancy available from our applications team

Einar® 401 for anti-stat applications in PP foams

The use of efficient anti-stats in PP foam is particularly important in the packaging of sensitive electronics, where static build-up may result in electrostatic discharge that will be detrimental to circuit boards and other electronic components.

Einar® 401 is a proven performer, delivering excellent anti-stat protection to PP foam even at low humidity conditions. Recommended loading levels are 0.2 - 0.5% for most applications.

Einar® 401 has no adverse effect on foam stability. The product is a 100% amine and amide-free solution and will not interact with ageing modifiers such as Einar® 201. Due to its chemistry there are no issues with stress cracking of polycarbonate when packaging materials are in direct contact with packaged electronic components.

Einar® 401 product details

Physical/chemical properties:	monoglycerides, min.	90%
	free fatty acids, max.	1.5%
	free glycerol, max.	1%
	melting point, approx.	60°C
	colour	off-white
	form at 25°C	pellets
Storage conditions:	Should be stored in a cool and dry place in tightly closed packaging	
Packaging:	20 kg multiply paper bag with an inner polyethylene bag (35 bags per pallet) or 500 kg anti-static polyethylene big-bag	
Product form:	Einar® 401 comes in pellet form	
Total shelf-life:	min. 24 months	

Einar® 201 as ageing modifier for PP foams

The high consistent quality of Einar® 201 guarantees reliable and dependable performance when the PP foam is conditioned after manufacture for release of excessive blowing agent.

A typical loading level of Einar® 201 when foams are produced with physical blowing agents is 0.4 - 1.5%. Loading levels in combinations with chemical blowing agents are typically 0.2 - 0.5%.

Einar® 201 product details

Physical/chemical properties:	monoglycerides, min.	90%
	free fatty acids, max.	1.5%
	free glycerol max.	1%
	colour	off-white
	form at 25°C	pellets or powder
Storage conditions:	Should be stored in a cool and dry place in tightly closed packaging	
Packaging:	20 kg multiply paper bag with an inner polyethylene bag (35 bags per pallet) or 500 kg anti-static polyethylene big-bag	
Product form:	Einar® 201 comes in both powder and pellet form	
Total shelf-life:	min. 24 months	

Guidelines for use

Einar® 401 and Einar® 201 should be incorporated into the polymer matrix via liquid injection into the extruder in the foam manufacturing process. Einar® 401 can also be added via masterbatch.

Sustainable solutions for the polymers industry

Health and Safety

Einar® is identified as non-toxic and is not expected to cause irritation to the skin, eyes or lungs. Detailed MSDS is available on request.

Legal status and other regulatory information

Einar® 401 and **Einar® 201**

- are dual use additives for use in food (E471) and polymers
- comply with the purity requirements of FAO/WHO regarding food additives (JECFA)
- are manufactured in accordance with Danish- and EU regulations and under hygienic conditions
- may be used in plastic materials and articles intended to come into contact with food-stuffs in accordance with Regulation (EC) No. 10/2011 on plastic materials and articles intended to come into contact with food
- are GRAS according to FDA 21 CFR 184.1505, and may in accordance with FDA 21 CFR 174.5 be used as components of articles intended for contact with food
- Roundtable of Sustainable Palm Oil (RSPO) certificate available on request with order
- Kosher & Halal certificates and REACH registration available on request

To find out more or to order samples of **Einar® 201** or **Einar® 401**, visit polymers.palsgaard.com or contact us via polymers@palsgaard.com