EINAR® POLYMER ADDITIVES

Ageing modifiers and anti-static additives for PE foams

PRODUCT NAME	APPLICATION
Einar® 601	Anti-stat for PE foams
Einar® 201	Ageing modifier for PE foams

BRINGING GOOD THINGS TOGETHER

Palsgaard®

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

Polyethylene 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® 601** 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 customised polyglycerol esters and distilled monoglycerides with selected fatty acid profiles, made from vegetable oils
- Worldwide regulatory approval for food-contact applications
- Produced in CO_2-neutral factories

KEY BENEFITS

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

Einar® 601 for anti-stat applications in PE foams

The use of efficient anti-stats in PE 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® 601 is a proven performer, delivering excellent anti-stat protection to PE foam even at low humidity conditions. Recommended loading levels are 0.2 - 0.5% for most applications.

Einar® 601 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® 601 product details

Physical/chemical properties:	polyglycerol ester	
	free fatty acids, max.	3%
	free glycerol and polyglycerol, max.	7%
	colour	off-white
	form at 25°C	paste
Storage conditions:	Should be stored in a cool and dry place in tightly closed packaging	
Packaging:	180 kg/396.8 lb net in steel drum	
Product form:	Einar® 601 comes in paste form	
Total shelf-life:	min. 24 months	

Einar® 201 as ageing modifier for PE foams

The high consistent quality of **Einar® 201** guarantees reliable and dependable performance when PE 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® 601 and **Einar® 201** should be incorporated into the polymer matrix via liquid injection into extruder in the foam manufacturing process. **Einar® 601** 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® 601 and **Einar® 201**

- are dual use additives for use in food (E475 and 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
- **Einar® 601** complies to FDA 21 CFR 172.854, and may be used in food contact materials in accordance with Tor Nos. 1996-07, 1998-005, and 1998-021.
  Einar® 201 is GRAS according to FDA 21 CFR 184.1505 and may in accordance with FDA CFR 174.5.5 be used as a component in 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® 601, visit polymers.palsgaard.com or contact us via polymers@palsgaard.com

BRINGING GOOD THINGS TOGETHER

Palsgaard®
Heart working people

Updated May 2023