EINAR® PLANT-BASED, FOOD-GRADE POLYMER ADDITIVES

Einar® 201
The versatile plant-based polymer additive

PRODUCT NAME	APPLICATION
Einar® 201	Anti-stat for PP injection moulding
	Mould release for R-PP, H-PP, B-PP, and PE
	Ageing modifier for PE and PP foam
	Processing aid and lubricant for PVC

BRINGING GOOD THINGS TOGETHER

Palsgaard®

The safe and sustainable solution

At the core of **Einar® 201** lies a powerful combination of versatility and eco-consciousness. This innovative additive not only addresses common challenges faced in plastic manufacturing but also paves the way for a greener and more sustainable future.

By harnessing the power of nature, **Einar® 201** provides a range of functionalities, including anti-static properties for PP injection molding, mould release for various types of polypropylene and polyethylene, aging modification for PE and PP foam, and serving as a processing aid and lubricant for PVC.

KEY FEATURES

- Highly effective replacement for anti-static and mould release additives based on ethoxylated amines and amides
- A high-quality glycerol monostearate made from vegetable oils
- An internal anti-static and mould release additive for additive masterbatches based on polypropylene
- Especially well-suited for PP applications
- Worldwide regulatory approval for food-contact applications
- Produced in CO_2-neutral factories

KEY BENEFITS

- Excellent anti-static performance in homopolymer and random copolymers
- Excellent mould release performance across all PP and PVC grades
- Very good denesting and slip effect for stacked containers
- Efficient release of excessive blowing agents, preventing foam collapse
- No worries when used in food-contact applications
- High heat resistance and low volatility
- Efficient performer at low loading levels
- No adverse effects on mechanical, optical, and barrier properties
- Consultancy and technical evaluations available from our applications team

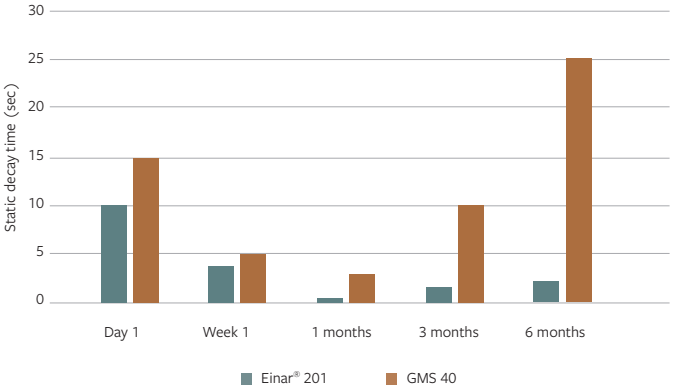
Einar® 201 for anti-stat protection in PP injection moulding applications

Einar® 201 is an excellent general purpose anti-stat for a broad range of PP injection moulding applications and will ensure a clean, dust free and attractive appearance of packaging, appliances and other household products. Recommended loading levels for homopolymer PP are 0.3 - 0.5% and for random copolymers 0.1 - 0.3%.

Einar® 201 is available in both powder and pellet form providing options for better mixing with either powder or pelletised PP. The pellet form is preferred in many situations where a powder will be difficult to handle and transport in feeding and dosing equipment at elevated temperatures.

ANTI-STAT PERFORMANCE IN 1 MM HOMOPOLYMER PP

Additive concentration is 0.50%



Einar® 201 is an excellent general purpose anti-stat for PP injection moulding applications

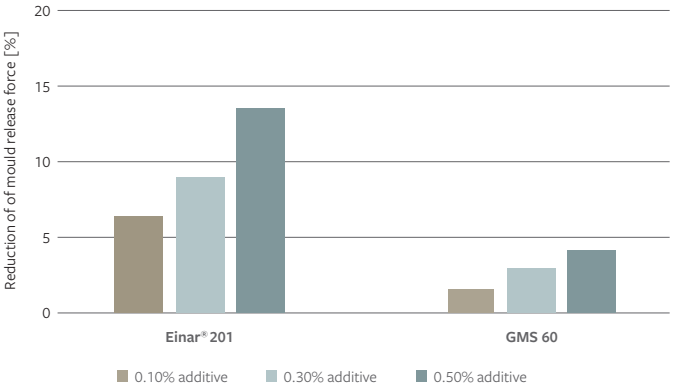
Einar® 201 for mould release applications

Einar® 201 is a very reliable general purpose mould release for PP injection moulding applications. The product can be dosed at an optimum concentration in both homopolymers, random and impact copolymers and will secure efficient release of moulded parts. **Einar® 201** has an ideal migration profile in PP that guarantees sufficient lubrication and will promote lower cycle times and continuous operation.

Einar® 201 is also an efficient denesting additive and allows easy separation of stacked parts. Recommended loading levels for homopolymers are 0.2-0.4%, for random copolymers 0.1 - 0.2% and for impact copolymers 0.3 - 0.5%.

MOULD RELEASE PROPERTIES IN HOMOPOLYMER PP

Results are recorded in 20 MFI homopolymer PP.



Einar® 201 shows excellent performance in comparison to conventional GMS.

Einar® 201 as ageing modifier for PP and PE foams

The high consistent quality of **Einar® 201** guarantees reliable and dependable performance when the PP and 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%.

PVC processing aid and lubricant

Einar® 201 will offer good lubrication properties for a range of different extrusion applications and is primarily an internal lubricant. Typical loading levels are 0.3 - 1.0%.

Einar® 201 is also a very good mould release for many PVC injection moulding applications and is typically used at loading levels of 0.3 - 0.6%.

Einar® 201 product details

Physical/chemical properties:	monoglycerides	min. 90%
	free fatty acids	max. 1.5%
	free glycerol	max. 1%
	melting point	approx. 65 °C
	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 or 800 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

When used as an anti-stat or mould-release additive, **Einar® 201** can be incorporated into the polymer matrix via a masterbatch or by direct addition of the neat additive to the injection moulding process of plastic articles and packaging.

When used as an ageing modifier, **Einar® 201** should be incorporated into the polymer matrix via liquid injection into the extruder in the foam manufacturing process.

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® 201

- is a dual use additive for use in food (E471) and polymers
- complies with the purity requirements of FAO/WHO regarding food additives (JECFA)
- is 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 foodstuffs in accordance with Regulation (EC) No. 10/2011 on plastic materials and articles intended to come into contact with food
- is 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,
visit polymers.palsgaard.com or contact us via polymers@palsgaard.com