

EINAR® POLYMER ADDITIVES

Anti-fog and anti-stat coating solutions



PRODUCT NAME

Einar® 624

APPLICATION

Anti-fog and anti-stat coating solution for PET, PS, PVC and BOPP

BRINGING GOOD THINGS TOGETHER

Palsgaard®

The plant-based, food-grade anti-fog and anti-stat coating solution for PET, BOPP and much more

Einar® 624 is an ideal option for PET and BOPP manufacturers seeking a food-grade and plant-based coating solution that surpasses traditional alternatives in both anti-fog and anti-static performance.

Drawing on our extensive expertise in internal anti-fog and anti-static additives, **Einar® 624** provides effective protection against static build-up and fogging when migratory alternatives are unavailable or fail to meet performance requirements.

KEY FEATURES

- ✓ A specialised additive based on polyglycerol esters of 100% vegetable origin
- ✓ Ideal for water-based and solvent-free coating solutions
- ✓ No amine, amide and PEG chemistry
- ✓ Applicable for a wide range of polymers where anti-fog and anti-stat performance is achieved by very thin coatings
- ✓ FDA and EU approved for food-contact applications

KEY BENEFITS

- ✓ Efficient anti-fog and anti-stat performance at low coating concentrations
- ✓ Prevents fogging from chilled and hot packaged food and keeps packaging transparent during storage
- ✓ Helps to reduce food waste as products will stay fresh for longer and continue to appeal to consumers
- ✓ Enables clean and dust-free packaging in production and final application
- ✓ Prevents electrical discharge during production and handling of plastic packaging
- ✓ Thermally stable and low volatility
- ✓ Suitable for a wide range of polymers such as PET, BOPP, PS and PVC
- ✓ Consultancy and technical evaluations available from our applications team

EINAR® POLYMER ADDITIVES

Einar® 624 anti-fog coating performance

Einar® 624 is a concentrated additive ideally suited for water-based, coating solutions. After coating and drying, anti-fog performance can be achieved with coating concentrations down to 25 mg/m². For a robust and lasting effect, surface concentrations of 50 - 150 mg/m² are generally recommended.

Einar® 624 delivers efficient and consistent anti-fog performance in applications such as oriented and stretched polyolefin and polyester films.

Einar® 624 anti-static coating performance

Einar® 624 will perform equally well as an anti-static coating additive. Uniquely efficient, it will work at coating concentrations down to 10 mg/m². For a robust, lasting effect, surface concentrations of 25-100 mg/m² are generally recommended.

As an anti-stat, **Einar® 624** is applicable to most polymers, including PS, PVC, polyesters and polyolefins. Tests have shown excellent performance in oriented and stretched films.

COLD FOG TEST OF EINAR® 624 ON PET FILM

Measured at 4°C (120 mg/m²)

1 min	E	E	E	E	E	E
10 min	E	E	E	E	E	E
30 min	E	E	E	D	E	E
60 min	E	D	E	D	E	E
180 min	D	D	D	D	E	E
	1 day	7 days	1 month	3 months	6 months	12 months

Days after film manufacture

CONTROL COLD FOG TEST OF ETHOXYLATED SORBITAN ESTER ON PET FILM

Measured at 4°C (120 mg/m²)

1 min	E	E	E	E	E	E
10 min	E	E	E	E	E	E
30 min	E	D	E	E	E	E
60 min	E	D	D	D	D	E
180 min	E	D	D	D	D	E
	1 day	7 days	1 month	3 months	6 months	12 months

Days after film manufacture

Einar® 624 product details

Physical/chemical properties:	polyglycerol ester	
	acid value, max.	3 mg KOH/g
	free glycerol and polyglycerol.	27 - 31%
	colour	white
	form at 25°C	liquid paste
Storage conditions:	Should be stored in a cool and dry place in tightly closed packaging	
Packaging:	180 kg net in steel drums 28 litre HDPE cans	
Product form:	Einar® 624 comes in liquid paste form	
Shelf-life:	min. 12 months from date of production	

Guidelines for use

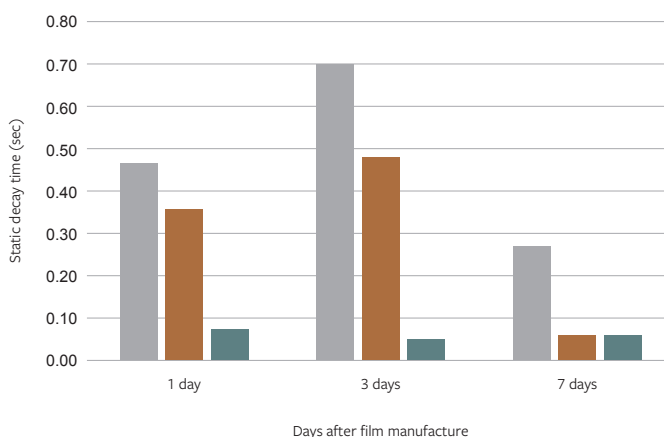
Einar® 624 is a concentrated anti-fog and anti-stat coating which will need to be diluted to 1-10% in water. The dilution is made by heating **Einar® 624** and water to 60°C in separate containers. The liquid **Einar® 624** is then added to the warm water while stirring until a uniform suspension is formed.

The resulting suspension is stable at ambient temperature and can be applied to the surface of the polymer by spray or roll. This is followed by drying or heating to remove the water, leaving behind an active layer of anti-fog and anti-stat additive on the surface.

ANTI-STATIC PERFORMANCE ON PET FILM

Measured at 50% RH

400 mg/m² Ethoxylated amine
 80 mg/m² Einar® 624
 400 mg/m² Einar® 624



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® 624

- 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

To find out more or to order samples of Einar® 624, visit polymers.palsgaard.com or contact us via polymers@palsgaard.com

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