

EINAR® PLANT-BASED, FOOD-GRADE POLYMER ADDITIVES

Anti-fog additives for polypropylene (PP) films



PRODUCT NAME

Einar® 618

Einar® 422

APPLICATION

Cold fog protection in PP films

Hot fog protection in PP films

BRINGING GOOD THINGS TOGETHER

Palsgaard®

The plant-based, food-grade anti-fog solutions for polypropylene (PP) films

The excellent properties of PP film, such as stiffness, transparency and barrier properties, are creating a steadily growing demand for PP film in food packaging applications and as a result, efficient anti-fog solutions for both cast and BOPP film are becoming a top priority.

With **Einar® 618** and **Einar® 422** you can overcome concerns over food safety and add a more sustainable profile to your PP films and even improve their anti-fog performance without affecting costs.

KEY FEATURES

- ✓ Highly effective replacement for conventional anti-fog chemistries such as glycerol monooleate or sorbitan esters
- ✓ Custom-designed polyglycerol/glycerol esters made from vegetable oils
- ✓ No adverse effects on mechanical, optical, and barrier properties
- ✓ Internal anti-fog additives for additive masterbatches based on polypropylene
- ✓ Custom designed for PP applications
- ✓ Worldwide approval for food-contact applications
- ✓ Produced in CO₂-neutral factories

KEY BENEFITS

- ✓ Prevent fogging from chilled and hot packaged food and keep packaging transparent during storage across a very broad range of PP applications
- ✓ Help to reduce food waste as products will stay fresh for longer and continue to appeal to consumers
- ✓ No worries in food-contact applications
- ✓ Efficient performance with low loading levels in both cold- and hot fog applications
- ✓ High heat resistance and low volatility
- ✓ Consultancy and technical evaluations available from our applications team

1 min	E	E	E	E	E	A	A
5 min	B	B	B	A	A	B	B
15 min	B	C	C	B	B	D	B
60 min	D	D	D	C	C	E	C
180 min	E	D	E	E	E	E	D
	1 day	7 days	1 month	3 months	6 months	1 year	1.5 year
	Days after film manufacture						

Sustainable solutions for the polymers industry

Guidelines for use

Einar® 618 and **Einar® 422** should be incorporated into the polymer matrix via a masterbatch or by direct addition at the resin manufacturer.

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® 618 and **Einar® 422**

- are a dual use additive for use in food (E475) 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® 618 or Einar® 422, visit polymers.palsgaard.com or contact us via polymers@palsgaard.com

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