

A microscopic view of a green leaf, showing intricate vein patterns and cellular structures. A white square is overlaid in the center, containing the logo and text.

Gp

Green Polymer  
Additives

Additives for Rubber Processing

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# CREATING VALUE for tomorrow, through all that we do today

From basics to semi-specialty and specialty chemicals, Emery Oleochemicals is dedicated to providing customers with best-in-class solutions through continuous product development and stringent quality standards. Derived from renewable resources, our products are predominantly made from natural oils and fats such as palm kernel oil and tallow. We pride ourselves on having a diverse portfolio of oleochemical products suited for a broad range of applications.

Our portfolio includes renewable solutions for the Agro Green, Bio-Lubricants, Green Polymer Additives, Home and Personal Wellness and OleoBasics markets.

## Leading product innovation naturally

We are committed to CREATING VALUE for you with our combined strengths in global manufacturing footprint, research and development, distribution, marketing and technical know-how. Uniquely packaged, our competitive advantage enables us to offer you innovative and competitive solutions designed to meet your needs.

Guided by an inventive spirit that goes beyond providing high-performance solutions, we are able to help your business deal with the challenges of a market that is going greener by the day. This makes us your preferred natural-based chemical solutions partner.



## Designing natural-based solutions in polymers for a better tomorrow

For over 60 years, we have been recognized as a leading innovator of a broad range of polymer additives with our high-performance natural-based chemical brands, LOXIOL® and EDENOL®. For having successfully improved our customers' product performance and processing efficiencies, our solutions today can be found in growth markets such as housing and construction, automotive, packaging and electronics. Our products are also known to enhance the quality of items for everyday life including toys and sporting equipment.

As your preferred partner with leading technical expertise, we offer customized solutions based on product groups such as lubricants, plasticizer and viscosity depressants, anti-static and anti-fogging agents, release agents, surfactants, green polyols and specialty fatty acids.

We remain committed to delivering the highest in quality standards and innovative solutions while building a sustainable tomorrow in polymers.



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## ■ HIGH TEMPERATURE PLASTICIZERS

Product	Chemistry	Function
EDENOL® TOTM	Trimellitate ester	An excellent high temperature plasticizer for NBR, NBR-PVC, HNBR, CR, CM and CSM compounds. It is characterised by low volatility, good resistance to extraction by water and low migration into other polymers.
EDENOL® T810T STAB	Trimellitate ester	An exceptional high temperature plasticizer for NBR, NBR-PVC, HNBR, CR, CM, CSM and Vamac compounds. It is characterised by extremely low volatility, good resistance to extraction by water and low migration into other polymers. It also confers good low temperature properties particularly after heat ageing.

## PHYSICAL PROPERTIES

Product	Molecular Mass	Absolute Viscosity at 20 °C mPa.s	Density at 20 °C kg / litre	Refractive Index	Pour Point ASTM D97-87 °C	Flash Point Pensky Martens Open Cup °C
EDENOL® TOTM	547	300	0.985	1.485	-30	271
EDENOL® T810T STAB	~592	126	0.973	1.482	-46(1)	284

## ■ LOW TEMPERATURE PLASTICIZERS

Product	Chemistry	Function
EDENOL® 102	Fatty acid polyglycol ester	An excellent low temperature plasticizer for NBR, NBR-PVC, CR, ACM and ECO compounds. Good compression set properties particularly at low temperature.
EDENOL® 111	Adipate ester	An excellent low temperature plasticizer for a wide variety of rubbers including NBR, NBR-PVC, HNBR, CM, CSM, ACM and ECO. Due to its low volatility, EDENOL® 111 is effective over a broad range of temperatures.
EDENOL® 123	Butyl carbitol formal	An exceptional low temperature plasticizer for NBR and CR compounds.
EDENOL® 181	High molecular weight adipate ester	A high performance plasticizer for many synthetic rubbers particularly HNBR, ECO, ACM and Vamac. An effective plasticizer over a wide range of temperatures.
EDENOL® 888	Sebacate ester	An excellent low temperature plasticizer for NBR, NBR-PVC, CR, CSM and CM compounds. It also demonstrates low volatility and good resistance to extraction by water.
EDENOL® DOZ	Azelaic ester	Plasticizer with excellent low temperature properties.
EDENOL® DBS	Sebacate ester	An excellent, well known low temperature plasticizer for NBR, NBR-PVC and CR compounds. Relatively high volatile loss.
EDENOL® DIDA	Adipate ester	An effective low temperature plasticizer for NBR, NBR-PVC and CR compounds.
EDENOL® 196	Diester	Special plasticizer with low fogging behavior.

Product	Molecular Mass	Absolute Viscosity at 20 °C mPa.s	Density at 20 °C kg / litre	Refractive Index	Pour Point ASTM D97-87 °C	Flash Point Pensky Martens Open Cup °C
EDENOL® 102	426	22	0.963	1.447	-5	>200
EDENOL® 111	435	10	1.023	1.447	-50	176(2)
EDENOL® 123	336	8	0.970	1.436	<-45	166(2)
EDENOL® 181	523	35	1.040	1.453	--60	170
EDENOL® 888	426	22	0.907	1.451	-67	>200
EDENOL® DOZ	413	19	0.915	1.450	< - 67	213
EDENOL® DBS	314	10	0.936	1.440	-11	180(3)
EDENOL® DIDA	~426	25-30	0.919	1.453	-60	>200
EDENOL® 196	473	37	0.908	1.454	- 50	250

## ■ POLYMERIC PLASTICIZERS

Product	Chemistry	Function
EDENOL® 1200	Polymeric plasticizer based on adipic acid	Excellent oil & solvent resistant plasticizers for NBR, NBR-PVC, HNBR, CR, CSM and CM compounds. Low migration with many polymers and good high temperature properties. Useful for many oil & solvent resistant applications. Both plasticizers have food contact approval.
EDENOL® 1215		
EDENOL® 1234		

## ■ ANTISTATIC AGENTS

Product	Chemistry	Function
LOXIOL® 3366	Polyol partial ester	White & coloured antistatic compounds based on NBR, NBR-PVC, CR, EPDM SBR and NR. Food contact approval.
LOXIOL® 3380	Mixture based on polyglycol ester	White & coloured antistatic compounds based on NBR, NBR-PVC, CR, EPDM SBR and NR.

## ■ FURTHER ADDITIVES

Product	Chemistry	Function	Delivery Form	Melting Range (°C)	Dosage (%)
LOXIOL® EBS SPEZ P	Ethylene-bis-stearamide	Lubricant	solid	141 - 147	0.2 - 1.0
LOXIOL® EP 3500	Ca-stearate	Lubricant	solid	150 - 170	0.2 - 1.0
LOXIOL® P 1732	Combination lubricant	Lubricant	solid	100-115	0.3-1.2
LOXIOL® P 728	Polyol partial ester	Lubricant	solid	49 - 52	0.2 - 0.5
LOXIOL® E SPEZ P	Erucic acid amide	Release Agent	solid	78 - 84	0.2 - 1.0
LOXIOL® EP 3500	Ca-stearate	Release Agent	solid	150 - 170	0.2 - 1.0
LOXIOL® G 20	Fatty acid	Release Agent	solid	54-56	1.0 - 2.0
LOXIOL® OA SPEZ P	Oleic acid amide	Release Agent	solid	70 - 76	0.2 - 1.0
LOXIOL® P 1732	Combination lubricant	Release Agent	solid	100-115	0.3-1.2
LOXIOL® P 728	Polyol partial ester	Release Agent	solid	49 - 52	0.2 - 0.5
LOXIOL® E SPEZ P	Erucic acid amide	Antiblocking / Slip Agent	solid	78 - 84	0.2 - 1.0
LOXIOL® EBS SPEZ P	Ethylene-bis-stearamide	Antiblocking / Slip Agent	solid	141 - 147	0.2 - 1.0
LOXIOL® OA SPEZ P	Oleic acid amide	Antiblocking / Slip Agent	solid	70 - 76	0.2 - 1.0

## PHYSICAL PROPERTIES

Product	Absolute Viscosity at 20 °C mPa.s	Density at 20 °C kg / litre	Refractive Index	Pour Point ASTM D97-87 °C	Flash Point Pensky Martens Open Cup °C
EDENOL® 1200	4000-6000	1.050-1.110	1.463-1.468	0	>260
EDENOL® 1215	1000-1500	1.460-1.466	1.460-1.466	-9	
EDENOL® 1234	10000-13000	1.050-1.120	1.463-1.470	0	

Product	Molecular Mass	Absolute Viscosity at 20 °C mPa.s	Density at 20 °C kg / litre	Refractive Index	Pour Point ASTM D97-87 °C	Flash Point Pensky Martens Open Cup °C
LOXIOL® 3366	~ 390	n.a.	0.991	1.453-1.456	<0	n.a.
LOXIOL® 3380	~ 390	n.a.	1.056	1.454-1.458	<5 (4)	n.a.

### Notes

The components of all the products are listed on the European Inventory of Existing Commercial Substances (EINECS) and pre-registered by REACH.

<sup>(1)</sup> After extended storage time EDENOL®T810T stab solidifies at temperatures considerably higher than the ASTM pour point

<sup>(2)</sup> Cleveland Open Cup

<sup>(3)</sup> Pensky Martens Closed Cup

<sup>(4)</sup> After longer exposure at T<15°C this product may become cloudy. This effect is reversible by heating up to T>25°C



# EDENOL® & LOXIOL®

LOXIOL® and EDENOL® are the plastics additives brand names of Emery Oleochemicals. Our products are based on natural resources for the processing of plastics materials. The main product groups and functions we offer are:

**Lubricants** – Optimise the processing characteristics of plastics materials. Our lubricants improve the rheology of the polymer melt by reducing friction and resistance to flow within the melt. >>> Positive influence on the mechanical properties, machinery output and surface finish of the final product.

**Release Agents** – Aid in the separation of a component from its mould. >>> Positive effect on cycle time and surface finish.

**Special Plasticizers** – Improve processability and performance of plastics and synthetic rubbers. >>> Positive influence on flexibility and durability of the final article.

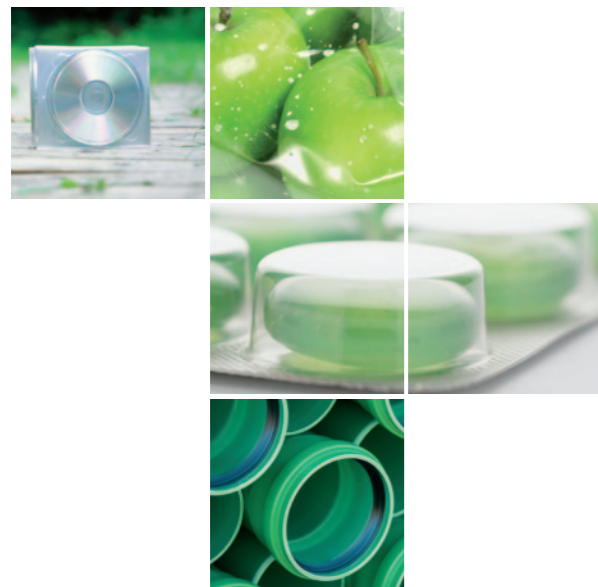


**Viscosity Regulators** – Improve the flow of PVC paste formulations. >>> Positive influence on processing temperature and processability.

**Antistatic Agents** – Eliminate the build-up of a static charge in the finished article. >>> Positive effects including avoidance of dust pick-up, handling problems as well as the risks associated with static discharges.

**Antifogging Agents** – Prevent the formation of water droplets on plastics film surfaces. >>> Positive effect on visibility, quality and attractiveness of packed products and avoidance of damage to plants in growing tunnels.

**Antiblocking/Slip Agents** – Reduce the friction between the polymer to polymer surface or processing equipment. >>> Positive effect on production handling by preventing adhesion.



## CREATING VALUE FOR OUR CUSTOMERS, ANYWHERE IN THE WORLD.



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