NEW!

Epilox® P 13-17G reactive diluent

Epilox® P 13-17G is a novel monofunctional reactive diluent combining the key advantages of conventional reactive diluents with a benign regulatory profile. It can be used as an alternative to Epilox® P 13-18(G) for formulating modified resins free of GHS08 hazard classification.

viscosity (T=25°C)	10 - 30 mPa.s
Gardner color	<2
chlorine content (saponifiable)	<0,1 %
epoxy equivalent	490 - 540 g/mol
water content	<0.1 %

- low viscosity
- good dilution effect
- excellent mechanical properties
- no odor
- low-harm labelling ,no GHS08
- contains biobased carbon
- LEUNA-Harze quality

leuna harze
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GHS08 free products

reactive diluents

Epilox® P 13-16

based on 2-Ethylhexanol

Epilox® T 19-68/xG + T 19-64/xG + T 19-66/xG

Epilox® P 14-12

based on *p*-tert-Butylphenol

Epilox® T 19-43/x(G) + Epilox® T 19-44/x(G)

Epilox® P 13-42

based on PPG

Epilox® T 19-64/xG

mod. epoxy resins

Epilox® T 19-64/xG

mechanical equivalent to Epilox® T 19-38/x(G)

AF-resin, x=700, 1000

Epilox® T 19-68/xG

price equivalent to Epilox® T 19-38/x(G)

AF-resin x=500, 700, 1000

Epilox® T 19-66/xG

price equivalent to Epilox® T 19-36/x(G)

A-resin, x=500, 700, 1000

salicylic acid free adduct hardeners

Epilox® M 1221

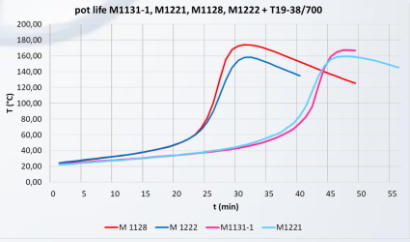
alternative to Epilox® M 1131-1

same acceleration & properties

Epilox® M 1222

alternative to Epilox® M1128

same acceleration, GHS08-free



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LEUNA-Harze Epilox® Systems

Bisphenol A- & Bisphenol F-Epoxy resins

	biobased
Standard LER	**Standard LER**
Bisphenol A-resin	Bisphenol A-resin
Bisphenol F-resin	Bisphenol F-resin
Novolac	Novolac
distilled Bisphenol A-resin	distilled Bisphenol A-resin
distilled Bisphenol F-resin	distilled Bisphenol F-resin
Standard SER	**Standard SER**
Bisphenol A-resin (n ≤ 4)	Bisphenol A-resin (n ≤ 4)
SER in solution	**SER in solution**
Bisphenol A-resin	Bisphenol A-resin

Epilox®

Performance by Investment

Epoxy resin blends

Modified epoxy resins of LEUNA-Harze´s Epilox® T-series offer versatile applications by enabling precise property adjustments. They allow a broad range of viscosity modifications without the use of solvents and prevent the crystallization of pure resins. These enhancements improve processing efficiency and handling, expanding the potential applications of epoxy systems. All modified epoxy resins are also available as **bio-based** versions.

Epilox® T-series

Bis A-resin + Bis F-resin
Bis A-resin + reactive diluent
Bis A-/F-resin + reactive diluent

Umweltallianz Sachsen-Anhalt

EMAS

backwards integrated epoxy resin production I

2006

Leuna-Sole-Projekt (LSP)

2012

Increased capacity for biobased Epichlorohydrin

2022

renewable energies

planned

MOVE TO GREEN

1995
founding of LEUNA-Harze GmbH

from 1998
new plants and technological optimization

2012
backwards integrated epoxy resin production II

2021
biobased products

2023
Life-Cycle Assessment (LCA) LEUNA-Harze GmbH

Reactive diluents

Reactive diluents are low-viscosity glycidyl ethers of aliphatic alcohols or alkylphenols which are mainly used for diluting high-viscosity epoxy resins. They improve properties such as processing viscosity, pot life, and wettability. All reactive diluents are also available as **bio-based** versions.

monofunctional
difunctional
trifunctional

Hardener

Epilox® hardeners primarily consist of polyamines, polyaminoamides and polyamine adducts based on aliphatic and cycloaliphatic amines. The selection of a suitable hardener has a crucial impact on the final properties of cured resins.

amines & blends
amine adducts
polyaminoamides
aqueous hardener

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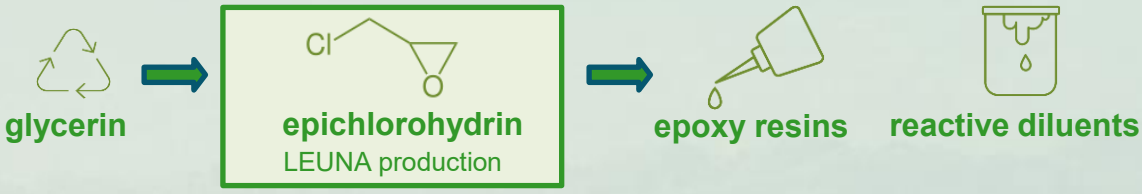
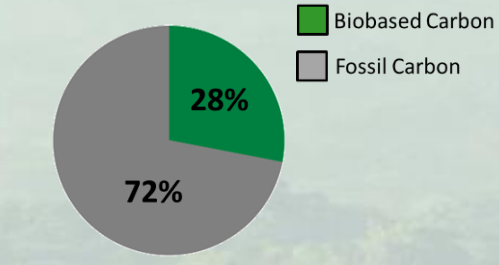
Epilox®
G-series

Biobased Products

The Epilox® G-series includes Bisphenol A and Bisphenol F epoxy resins, as well as reactive diluents containing bio-based carbon content. For this purpose, bio-based epichlorohydrin is used in production, derived from glycerin and manufactured at the LEUNA-Harze GmbH site. The glycerin used is a by-product of biodiesel production.

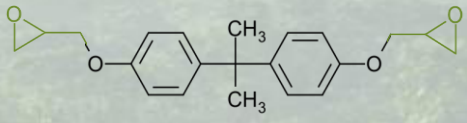


- + self-produced Epichlorohydrin with biobased Glycerin as starting material
- + upcycling
- + no mass balancing
- + no difference in quality compared to conventional Epilox® products
- + same performance, mechanical properties and processability
- + reduced CO_2-footprint



Epilox® A 19-00G

Standard Bisphenol A epoxy resin contain about 28% biobased carbon determined via ^{14}C radio carbon method (EN 16640:2017 (AMS) Annex E Method B TC)



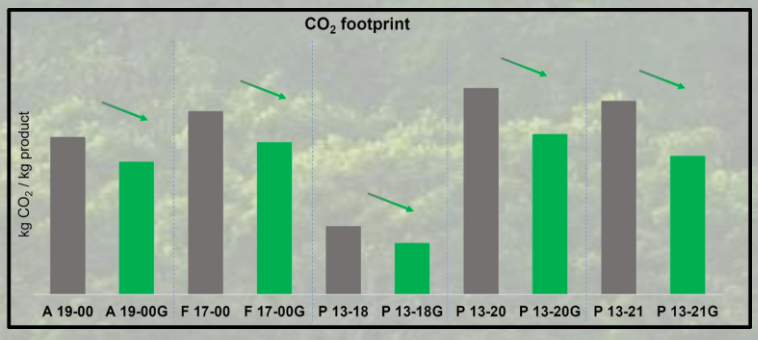
BUDGET-FRIENDLY

ECO-FRIENDLY

Life Cycle Assessment

LEUNA-Harze GmbH commissioned an external partner to conduct a Life-Cycle Assessment (LCA) of selected epoxy resins and reactive diluents according to the LCA standards DIN EN ISO 14040/14044. The study included a detailed evaluation of the life cycle of the epoxy resins and reactive diluents from the production of the raw materials used to the factory gate of LEUNA-Harze GmbH (cradle-to-gate approach).

→ **CO_2-emission biobased ECH vs conventional ECH**



+ results: reduction in CO_2 emissions during the production of biobased products