

Bio Resins and Additives

Focus on Rolflex BIO Based Resins

April - 2023



Highlights



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**Our
Biobased
Journey**

2

**Product Offer for
leather
formulators**

3

**Reduction of
Impact Climate
Change**



Our technological expertise

Natural polymers

carboxymethyl cellulose
and hydrocolloids

Waterborne synthetic polymers

acrylic and polyurethanes

Oleochemicals and fatty derivatives

Polymer beads

acrylic and polyurethanes

Hydroxyapatite

Active ingredients

for cosmeceuticals



Fossil carbon replacement



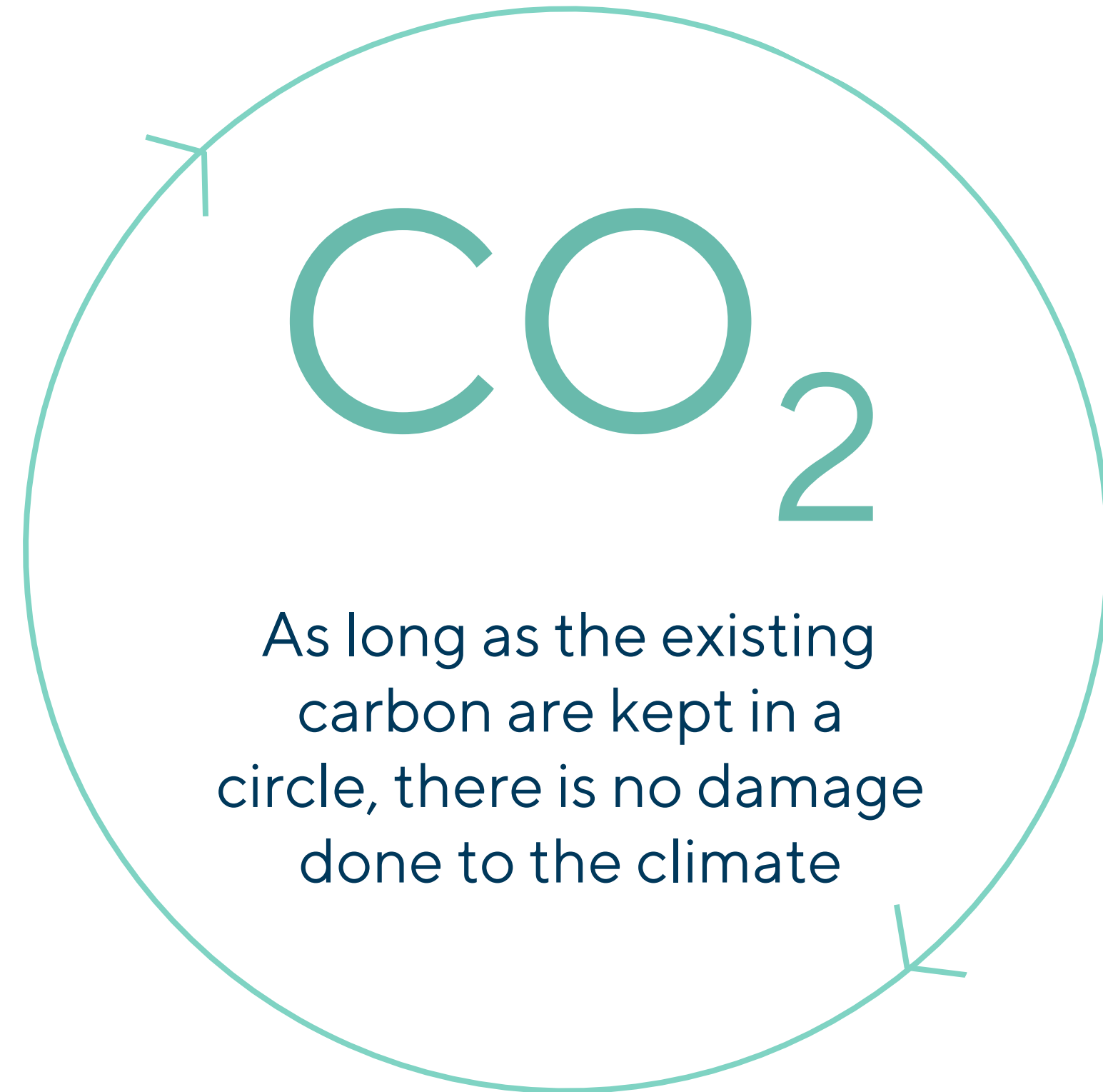
Renewable Sustainable Biobased Feedstock

- Biomass Fermentations
- Natural Oil extracted
- Carbohydrates
- CO₂
- Recycled chemicals and Waste materials
- Created for industrial and chemical sectors
- Clear strategy of not having impact on food chain

Renewable carbon is measured at product level:

We test and control using the following methodology

- Radiocarbon analysis C¹⁴ on C_{total} by **ASTM D6866**
- By mass balance quantity present on Product Anhydrous following **EN16785-2:2018**





BioBased Solutions for Surface Treatment

Fossil Carbon Replacement

- Renewable & Sustainable biobased feedstock
- Biobased raw materials created for industrial and chemical sectors
- Clear strategy of not having impact on food chain
- Biobased Content measured according to ASTM D6866 or EN 16785:2

Environmental Impact Reduction

- Manufactured in ISO14001:2015 certified plants
- In compliance to private certifications, avoiding and controlling impurities, MRSL
- Manufactured by our most advanced waterbased manufacturing technology: Low VOC or Solvent free or High Solid production lines
- Adopting Product Carbon Footprint analysis according to ISO 14067 and LCA analysis following ISO 14040, 14044

High performance and Innovating together

- Higher Performance for Paper, Packaging, Inks, Metal, Plastic, Wood and Architectural Coating, Synthetic Materials and Textile
- Developed for innovative sustainable solution that include Recyclability, Biodegradability, Compostability.
- Developed to reduce Carbon Footprint and better Life Cycle Assessments





Our Biobased Innovative Product offer



Biobased Waterbased Polymers

- Coating, Crosslinkers & Adhesives
- Renewable carbon content measured at product level
- Durability, Elasticity, Adhesion, Abrasion, Opacity, Fullness, Haptic Performance
- Barrier Properties, Recyclability and Compostability

Rheology Modifiers

- Allround Rheology performances
- Renewable carbon content measured at product level
- From Anti-sagging to Anti Spattering, from low shear to Newtonian
- Easy and fast dispersibility, wide pH stability

Surfactants and Fatty Derivatives

- Auxiliaries, Additives, Dispersants
- Renewable carbon content measured at product level
- Biodegradability and booster of performance to reduce water and waste of water
- Including EO and PO free, floor care and mild detergents





Biobased product for Leather finishing

PRODUCT	PURPOSE	BIOBASED CONTENT [%]	CHEMICAL NATURE	BIO ORIGIN	SOLID CONTENT [%]	SOLVENT % [TYPE]	100% MODULUS [MPa]	ELONGATION AT BREAK [%]	TENSILE STRENGTH [MPa]
ROLFLEX BIO QB 642	Elastic Coating	68	Polyether	Carbohydrates	30	3% [DMM]	1,7	800	12
ROLFLEX BIO OP 80	Inherent matt	66	Polyether	Carbohydrates	32	0	n.d	n.d	n.d
ROLFLEX BIO HP 79	Medium Hard Coating	62	Polyester	Vegetable oil/ Carbohydrates	35	<1% [MEK]	14	280	23
ROLFLEX BIO HS 20	Coverage and Foam Coating	54	Polyether	Carbohydrates	59	0	3	550	13
ROLFLEX BIO HP 34	Glossy Embossable Coating	48	Polyether	Carbohydrates	35	5,5% [DMM]	15,5	340	39
ROLFLEX BIO 118	Hard Crackle Coating	32	Polyester	Vegetable oil/	32	8% [DMM]	n.d.	n.d	n.d
DECOSPHAERA BIO 8 TR	Matting Agent	52	PU Beads	Carbohydrates	100	0	n.d	n.d	n.d
ROLFLEX BIO LA 81	Hand Modifier	67 *	Acrylic	Vegetable oil	28	0	n.d	n.d	n.d
ROLFLEX BIO A 1170	Rheology Modifier	20 *	Polyether	Carbohydrates	40%	0	n.d	n.d	n.d



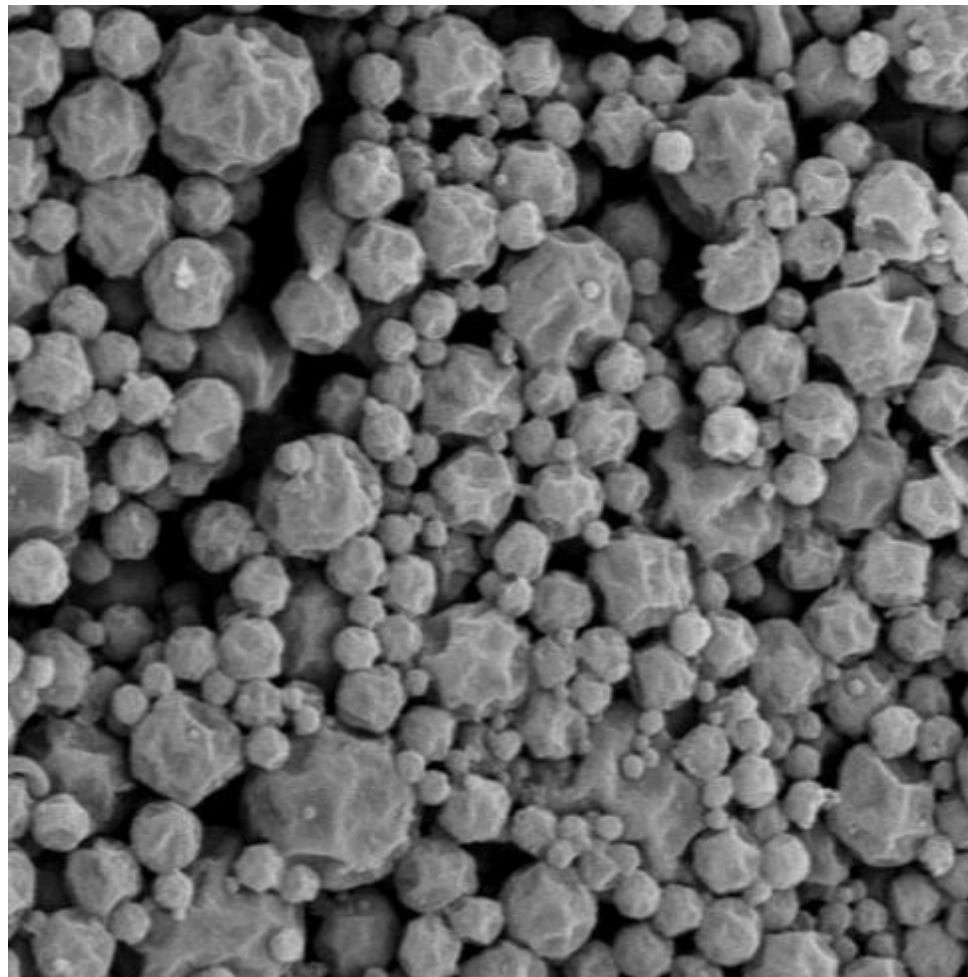
Biobased Carbon C14/Ctotal measured according to ASTM D6866

* Biobased Content calculated on product anhydrous according to EN 16785:2



Our Biobased Matting agents.

 **Decosphæra[®] BIO**



52%

renewable content
D₅₀ 5-8 µm

transparent

high stability and
compatibility

increase abrasion
resistance

impart soft touch

FIGURE 1. SEM PICTURE OF DECOSPHERA BIO 8 TR











- Wood coating applications
- Architectural coating applications
- Synthetic leather applications
- Automotive interior applications
- Enlarging our BIO-based portfolio with new particle size grades and renewable ingredients.



Product Carbon footprint analysis



	ISO	ISO 14040:2021 and ISO 14044:2021 referred to the declared unit
	Declared unit	1Kg of final product with packaging at gate
	Methodology used	The methodology used is SimaPro LCA software
	System boundaries	Cradle to gate and include two different types of processes within the system boundaries: upstream and core processes
	Data quality	Two main types of data are used: (i) primary data derived directly from Lamberti internal procedures (ii) secondary data derived from Ecoinvent database version 3.8 and Industry Data 2.0, the data quality is also evaluated by the Data Quality Rating proposed by European Commission
	Cut-off criteria	Processes with an impact lower than 1% of the total impact have been excluded, in these studies only raw materials packaging with an impact higher than 1% of the total have been considered
	Data allocation	<ul style="list-style-type: none">• For primary data: mass allocations• For secondary data: specific allocation from databases used
	Time period	<ul style="list-style-type: none">• Most recent and representative yearly production



Sustainable chemistry is reality.
Let's work together!



**A new concept of
Innovation**

- Supplier, Manufacturer and Designer work with open mindset on new sustainable materials
- Our Waterborne Technologies is crucial to bring Saving on environmental impact categories

**Bio product line is
based on high**

- Renewable carbon content and minimized usage of hazardous substances
- Reduced Carbon Footprint
- High Performance
- Data concreteness and successful industrial tests
- ISO14001:2015 certified plants

**Right
Equilibrium of**

- Performance,
- Easy handling
- Sustainability

For all Surface Treatments
at product Level



Follow our
Journey



Designing new values In Chemistry