

Bio-based additives: make use of your residual waste

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The guide to using biomass as a high-performance, sustainable additive for paints and coatings

What if your residual waste could become your biggest ally in creating more sustainable paints and coatings? The shift to bio-based formulations is accelerating, and additives are playing a key role. However, their potential remains largely underused.

The white paper ‘Conversion routes and processing technologies of biomass into functional fillers,’ produced by Sirris and Centexbel as part of the VLAIO COOCK+ AddBIO project, provides a clear and practical overview of technologies for converting biomass, including cellulose, wood, cork, bark and fibres, into high-performance, sustainable additives for bio-based formulations.

Download the AddBIO white paper

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- Small but powerful ingredients of eco-friendly coatings
- Bio-based additives: make use of your residual waste ? *Current article*
- From Field Residue to High-Performance Coatings
- Repurposing eggshell waste as functional coating fillers
- From agricultural waste to performant coatings
- Are bio-based isocyanates in polyurethane coatings a good idea?
- Bio-based anticorrosion additives part 1
- Bio-based anticorrosion additives part 2
- Smarter coating formulation with analytics
- How to select bio-based binders for coatings

Why act now?

Shifting to bio-based additives is no longer an option, but has become a strategic necessity. European regulations from the Green Deal to the REACH requirements mean the environmental footprint of products has to be reduced.

At the same time, the market is changing rapidly, with customers, distributors and buyers all favouring low-carbon solutions. The companies that get on board today are becoming pioneers who can anticipate tomorrow’s expectations and stay ahead of the competition.

The potential of bio-based additives

These additives don’t just replace their fossil-fuel equivalents. They can:

- improve the sustainability of formulations,
- have specific properties (UV protection, corrosion resistance, texturing effects),
- contribute to the circular economy by making use of residual flows.

However, many companies are scared to take action due to a lack of concrete examples.

No reference points

Biomass producers and processors have access to raw materials that have useful properties. However, in many cases they don't know how to adapt them to meet the requirements of different coatings. Meanwhile, product formulators don’t have reliable data on the performance and compatibility of these additives.

The AddBIO white paper fills this gap. It provides a clear reference tool for converting biomass into high-performance additives suitable for eco-friendly paints and coatings.

Learn more about the AddBIO project

The AddBIO white paper: your very own technical tool

Written by **Sirris** and **Centexbel** as part of the **VLAIO COOCK+ AddBIO project**, this document sets out a structured technical framework for converting biomass into high-value functional additives.

It covers:

- mechanical, chemical, biochemical and thermomechanical processing technologies,
- industrial examples and test results,
- diagrams and explanations to guide you in the choice of technology.

The four process families

1. Mechanical processes
Size reduction, grinding, extrusion, homogenisation etc. are steps that improve particle dispersion and compatibility with formulations.
Example: cryogenic grinding of agricultural by-products to obtain fine, stable fillers.

2. Chemical processes
Solvent extraction, hydrolysis, oxidation etc. are processes that modify the surface or structure of biomaterials to give them specific properties.
Example: chemical treatment of fibres to increase their UV resistance.

3. Biochemical processes
Fermentation, enzymatic treatment, anaerobic digestion, etc. are methods that use biological action to convert biomass into functional components.
Example: production of fillers with antimicrobial effects from organic waste products.

4. Thermomechanical processes
Torrefaction, pyrolysis, hydrotreatment etc. combine heat and mechanical action to create additives offering enhanced performance.
Example: conversion of forestry waste into anti-corrosion fillers for marine paints.

Three specific examples from the white paper

1. Recycling agricultural by-products
Converting corn stalks into functional fillers that enhance the mechanical strength of coatings.

2. Converting food by-products
Using cocoa shells as texturing additives that are both attractive and sustainable.

3. Using forestry waste
Creating bio-based mineral fillers that improve corrosion resistance in industrial paints.

What you will find

Download the AddBIO white paper to discover how to:

- optimise your formulations with high-performance bio-based additives,
- cut costs by using internal or local resources,
- diversify your supplies to safeguard your production inputs,
- boost your image as an innovative, sustainable company.

Towards new partnerships

The white paper is aimed at formulators, biomass producers and bio-based materials players. It identifies opportunities for co-development and integration into a bio-based, circular value chain to create more competitive and sustainable solutions.

A competitive advantage within reach

Bio-based additives are the future of paints and coatings. They improve your formulations, reduce your dependence on fossil fuels and boost your image as an innovative company. The AddBIO white paper provides you with a clear guide to identifying the right technologies, finding partners and converting your waste flows into real competitive advantages.

Act now!

Don’t overlook your waste flows. Use them to give your bio-based formulations a competitive advantage. Download the free AddBIO white paper and find out how to convert your waste into high-value additives

Download the AddBIO white paper

VLAIO: supporter and leader of the COOCK+ program.

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