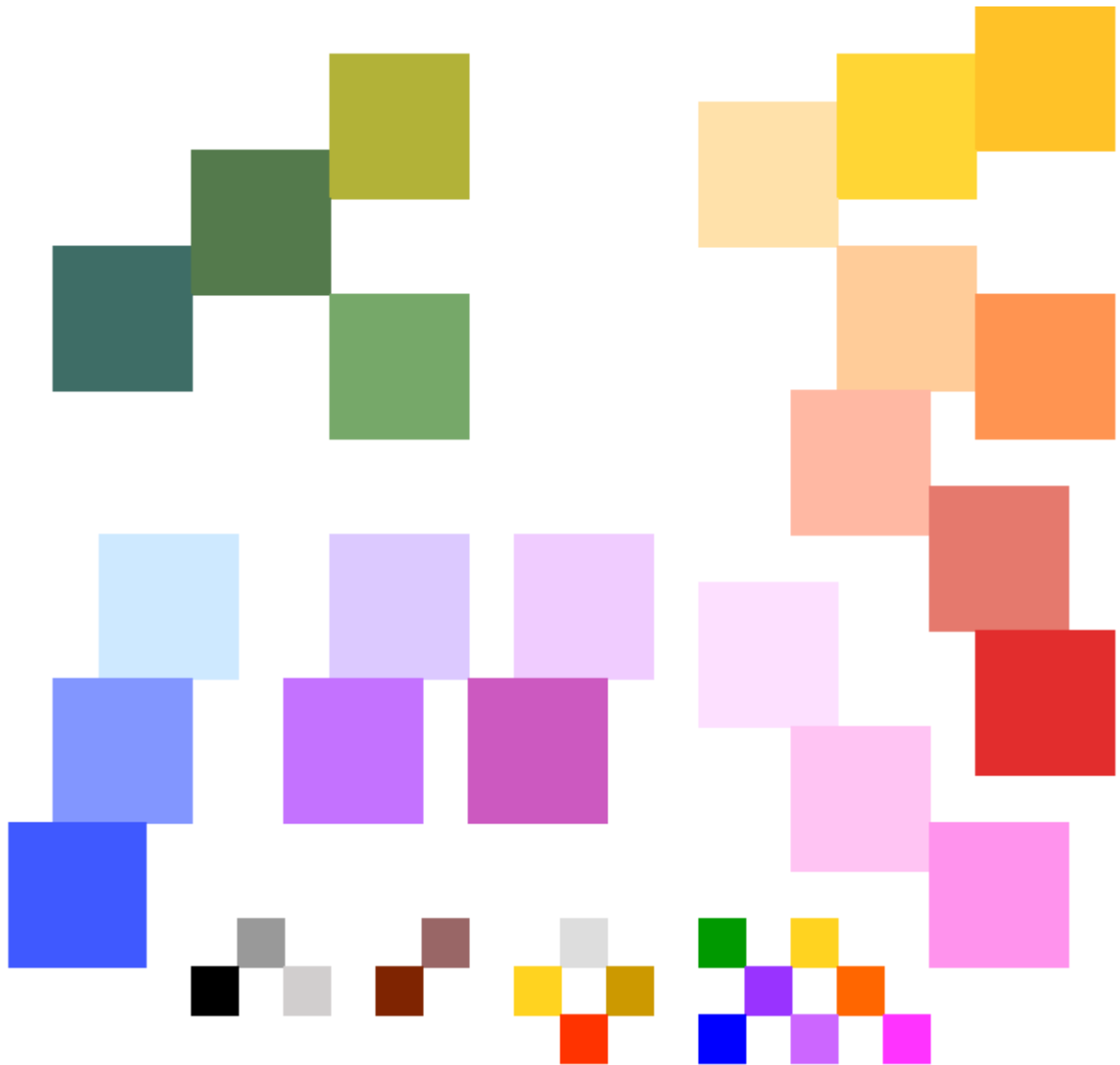


# CAPROWAX P™

BioMasterbatches for Bioplastics / Biocomposites / Blends as PLA, PBS, PHA, PCL, CAPROWAX P™/Blends, Bio-NFC, Bio-WPC, Casein, PVOH Polysaccharides/Derivates, PVAc/Bioplastic-Blends, Bio-TPE, Bio-UPR and NIPU. Carrier material based on CAPROWAX P™ 6006 is compostable, waterproof and according to DIN EN 13432.



Albrecht Dinkelaker

Polymer- and Product Development

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[www.caprowax-p.eu](http://www.caprowax-p.eu)

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## > COLOURATION <

After successful tests of BioMasterbatches with your bioplastics or composites your request will be coordinated with toll manufacturer.

Translucent to transparent, pearlescent or full covering colouration:  
 Injection- /Vacuum- /Blow- and Compression-Moulding,  
 Mono-/Multifilaments, Foils/Sheets, Hotmelts, NF-BioComposites,  
 Thermoplastic Plasticine, Foams and Coating.















Mineral pigments are synthetically produced without aromatic amines. They are harmless, light-fast, non-migratory, temperature stable, water insoluble and comparable with natural, mineral pigments.

They are low-dusty incorporated in compostable carrier material and already mineralised. Masterbatches added to different bioplastics in a range of 0,5-6% can be processed at 90-200°C, short time up 220°C. In coloured final products separate, mineralic components are  $\leq 1\%$   
 Colouration of bioplastics comply the specifications of DIN EN 13432

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## BioMasterbatches for translucent colouration

CAPROWAX P™	Shades	CAPROWAX P™	Shades
Red 114 T		Red Y 121 T	
Yellow 310 T		Green 413 T	
Green 426 T		Green 427 T	
Green AR 430 T		Blue G 511 T	
Blue R 516 T		Blue AR 530 T	
Violet B 616 T		Violet R 617 T	
Violet B 630 T		Violet R 635 T	
T: translucently    Y: yellowish    G: greenish    B: bluish    R: reddish AR: Acid resistant    LP: Laboratory prototype			

Addition of BioMasterbatches to different bioplastics: 0,5-4%  
 Injection- /Vacuum- /Blow- and Compression-Moulding, Filaments,  
 Foils/Sheets, Hotmelts, Thermoplastic Plasticine, Foams and Coating.  
 All shades of colour are comparable or similar to the product colours.

## Application projects with pearlescent pigments

For customer testing: Pearlescent pigments in BioMasterbatches.  
 Test material (LP): 50g Flakes

CAPROWAX P™	Shade	CAPROWAX P™	Shade
Gold 9301		Gold 9302	
Silver 9001		Bronze 9701	
Rot 9101			

Addition of Pearlescent-Masterbatches to different bioplastics: 0,5-6%  
 Harmless, pearlescent pigments: Mica coated with TiO<sub>2</sub> and/or Fe<sub>2</sub>O<sub>3</sub>  
 Preferably pearlescent masterbatch Silver 9001 is additive combinable with  
 translucent CAPROWAX P™-BioMasterbatches to yield diverse pearlescent  
 colouration preferably in a proportion of 2:1.

## BioMasterbatches for chromatic, covering colouration

CAPROWAX P™	Shade chromatic	CAPROWAX P™	Shade chromatic
Red 111		Red 112	
Red <b>FK</b> 111	LP	Red <b>FK</b> 112	LP
Red 117		Red 115	
Red <b>FK</b> 117	LP	Red 116	
Orange 205		Orange 203	
Orange <b>FK</b> 205	LP	Orange 204	
Yellow 312		Yellow 306	
Yellow <b>FK</b> 312	LP	Yellow 307	
Green 412		Green 416 <b>ww</b>	
Green 417 <b>ww</b>		Green 418 <b>ww</b>	
Blue G 509		Green AR 433 <b>ww</b>	LP
Blue <b>FK</b> G 509	LP	Green AR 435 <b>ww</b>	LP
Blue G 510		Blue G 512	
Violet B 605		Violet R 608	
Violet <b>FK</b> B 605	LP	Violet <b>FK</b> R 608	LP
Violet B 607		Violet R 610	
Violet B 606		Violet R 609	
Brown FKV 704	LP	Brown FK 705 S	LP
Brown 701		Brown 702	

R: reddish    G: greenish    B: bluish    **ww: TiO<sub>2</sub>-free**    AR: acid resistant  
 LP: Lab sample    V: Vegetable carbon    **FK: Kaolin, calcined**    C: CaCo<sub>3</sub>

**Addition of BioMasterbatches to different bioplastics: 0,5-4%**



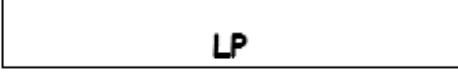








**Bit by bit the palette of BioMasterbatches will be expanded or adjusted to the ecofriendly Kaolin as white pigment.**

**With Kaolin-Types (FK) brightened colourations of different BioPlastics / BioComposites content only < 0,1% TiO<sub>2</sub>**

All shades of colour are comparable or similar to the product colours.

**Covering colouration:** Injection-/ Vacuum-/ Blow-/ Compression-Moulding, Foils/Sheets, Hotmelts, NF-BioComposites, Plasticine, Film, Foams, Coating

## BioMasterbatches for achromatic, covering colouration

CAPROWAX P™	Shade achromatic	Description
White 003		Titandioxid
White C 004 ww		CaCO <sub>3</sub> (C)
White FK 005		Kaolin, calcined (FK)
Grey 820		TiO <sub>2</sub> / Iron Oxide Black
Grey C 821 ww		CaCO <sub>3</sub> / Iron Oxide Black
Grey FK 822		Kaolin / Iron Oxide Black
Grey FKV 823		Kaolin / Vegetable carbon (V)
Grey FK 824 S		Kaolin / Iron Oxide Black (S)
Black 801		Iron Oxide Black
Black V 802		Vegetable carbon (V)
Black 803 S		Iron Oxide Black (S)
LP: Laboratory prototype      S: stabil up to 220°C      ww: TiO <sub>2</sub> -free V: Vegetable carbon      FK: Kaolin, calcined      C: CaCO <sub>3</sub>		

Addition of BioMasterbatches to different bioplastics: 0,5-4%

Bit by bit the palette of BioMasterbatches will be expanded or adjusted to the ecofriendly Kaolin as white pigment.

With Kaolin-Types (FK) brightened colourations of different BioPlastics / BioComposites content only < 0,1% TiO<sub>2</sub>

All shades of colour are comparable or similar to the product colours.

**Covering colouration:** Injection-/ Vacuum-/ Blow-/ Compression-Moulding, Foils/Sheets, Hotmelts, NF-BioComposites, Plasticine, Film, Foams, Coating

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# Your order for BioMasterbatches

After a successful test with samples at customers your request will be manufactured batchwise by toll manufacturer.

**CAPROWAX P™**

**COLOUR PALETTE**

See colour palettes page 3-5: **Shades of colours + code**

Technical samples: Up to 4 samples a 50g pellets free of charge or more material on request/counting as well buttons of colouration with **CAPROWAX P™ 6006** material.

Test material new formulations (LP): 50g Flakes

Supply quantities	80 - 100 kg
	180 - 200 kg
	450 - 500 kg
	25 kg PE-Bags in carton or on palett

After your selection you will get an offer about location-based, direct delivery.

Market area:	European Union
Prices:	According to offer
Payment conditions:	According to offer
Delivery date:	6 - 7 weeks
Miscellaneous:	Product infos and SDS

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Informations, quote requests and orders at  
[info@polyfea2.de](mailto:info@polyfea2.de)      [www.caprowax-p.eu](http://www.caprowax-p.eu)

Albrecht Dinkelaker  
Polymer and Product Development  
Blumenweg 2  
D 79669 Zell im Wiesental  
Fon ++49 7625 91 84 58

Banking details/Finance office: On request

VAT-No.: DE165 604 009

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# BioMasterbatch

# CAPROWAX P™ Blue G 510

Carrier material:

Bio-Dry-Blend CAPROWAX P 6006-C65 (Intermediate)

Sample material

Customs-Tariff-No.: 3907 99 90 90

## Customer information

Fon: +49 7625 91 84 58

info@polyfea2.de

www.caprowax-p.eu

## Product example

## Albrecht Dinkelaker

Polymer- and Product Development

Blumenweg 2

D 79669 Zell im Wiesental

## Properties / Data / Description

Form	a) 36.08.PV.006	mm	Pellets, Diameter: 1,5-3,0/Size: 2,0-3,5
Content of pigments	b)	%	25,0
Colour Index	PB 29		Ultramarine Blue
Colour Index	PW 6		Titandioxide
Colour description	c)		blue, greenish, covering
Lightfastness	d)		7-8
Bulk density	DIN EN ISO 60	g/l	754
Density	DIN EN ISO 1	g/cm <sup>3</sup>	1,21
Residual Humidity (LOD)	105°C/1h	%	< 0,3
Softening beginning	DSC	°C	57-63
Remark			sensitive to acids

a) internal test norm / b) Formulation with weighing protocol

c) 2% Masterbatch in CAPROWAX P 6006 / d) Data of pigment producer

Based on the biological sources different values of measurement could be occur

## Description

CAPROWAX P™ Blue G 510, a BioMasterbatch with harmless, light-fast, non-migratory, temperature stable, insoluble in water, mineral pigments, which are comparable with natural pigments. Low-dusty incorporated in a compostable carrier material. Coloured bioplastics comply the specifications of DIN EN 13432

## Carrier material CAPROWAX P 6006-C65: ) calculated

83,7%\* organic carbon from biobased resources  
Total amount of organic carbon: 71,4%\*  
A compostable carrier material - as dry-blend-intermediate - is modified with additives in accordance to DIN EN 13432 and is comparable with the tested material at MFPA Weimar  
**CAPROWAX P® 6006-00-000 (DIN EN 13432)**

## MFPA Weimar Test certificate: P31/029-05

## No food or feeding stuff Ecofriendly composition

GM-free, no content of starch or PLA  
Without content of aromatic or nitrogenous substances

## Biopolymers and use

Covering colouration of bioplastics/biocomposites/blends as PLA, PBS, PHA, PCL, CAPROWAX P™/Blends, Bio-NFC/-WPC Polysaccharides/Derivates, Casein, PVAc/Bioplastic-Blends, PVOH, Bio-TPE, Bio-UPR, NIPU. For use as colouring additive suited for products of agriculture, garden and environment.

## Introduction to recipe Processing temperatures Drying pellets on demand

1-2% Masterbatch (MB) homogenous intermixing with pellets  
90-200°C (194-392°F) / short time up to 220°C (428°F)  
50°C (122°F)/12h Avoid heating melt >90°C over long time

## Examples of application

Products of injection moulding, vacuum-/blowforming, foils, hotmelts, NF-BioComposites, support material, substrate, coating

## Storage/Instruction

Avoid heat and moisture, storage in original containers only

B O W

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R A I N

S O I L

# Applications with CAPROWAX P™ materials

## Injection moulding



## BioMasterbatches

## Vacuum forming Foil / Sheets



## Buttons



## Hotmelts Thermoplastic plasticine

## Monofilamente



## Nature Fibres BioComposites

## Blow moulding





# CAPROWAX P™ 6006-00-000

Bio-Dry-Blend **CAPROWAX P 6006-C65** is produced as a intermediate in powder form and as a compostable carrier material for masterbatches applications. Modified with additives in accordance with DIN EN 13432 and comparable with **CAPROWAX P™ 6006**, certified by MFPA, University Weimar  
Test material: **CAPROWAX P® 6006**

Test certificate No.: P31029-05 / DIN EN 13432

83,7% content of organic carbon\* from biobased resources

Total content\* of organic carbon: 71,4% \*) calculated

Portions of carrier material in masterbatches are 60-85%

Maximum range of thermal stability: 180-220°C (356-428°F)

Processing >150°C predrying at 48-50°C/12 h

Ecofriendly: "Free of aromatics and nitrogen, renewable raw materials without genetically modified growing". No content of starch or PLA. No content of food and feeding stuff. (03/2018)

Product surfaces of **CAPROWAX P™** - Material are self-cleaning with water or rain just like lotus flowers.

Quick degradation in compost or slow rotting in soil works into biomass, carbon dioxide and water. In the course of composting the brown to black colour of compost or humus change over to the coloured bioplastic and the colourful appearance disappears.

The used mineral pigments are already mineralised.

Under anoxic/denitrifying conditions degradation occurs fully.

Product information, quote request, order at:

Albrecht Dinkelaker

Polymer- and Product Development

Blumenweg 2

D 79669 Zell im Wiesental

info@polyfea2.de

Fon: 0049 (0)7625 918458

info@polyfea2.de

Ideas increase to pellets

www.caprowax-p.eu

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