

Technical Data Sheet

Product Name PHArio trial grade
Date of issue 6 juli 2017

Version
draft

Designation of product, preparation and manufacturer

Trade Name n.a.

Origin PHA/B(V) based on fatty acid accumulated waste water sludge

Use of products Can be used as compounding agents for property modulation and enhancement or in formulations with other biopolymers. These polymers can also be the principal property determining component in bioplastic compounds for thermal processing into precision structural components, or as functional coatings for example. Material biodegradation can be a functional attribute of the bioplastic or biodegradation can be impeded by the methods and ingredients used for the biopolymer compounding.

Quality control PHArio biopolymers are graded according to a range of possible purified copolymer blends of poly(3-hydroxybutyric acid)-co-poly(3-hydroxyvaleric acid) or PHBV. The PHBV type can be tuned by the feedstocks used in the production process. The copolymer blend composition can be used to influence thermal and mechanical material properties as illustrated in the table of selected grades below.

Manufacturer Phario consortium
p/a Brabantse Delta, Bouvignelaan 5, 4836 AA Breda
E-mail: l.korving@brabantsedelta.nl (program manager)
+31652438349

Mechanical properties

	Phario 20 (20% HV) PHBV	Phario 30 (30% HV) PHBV	Phario 40 (40%HV) PHBV	
Modulus of Elasticity	360 ± 30	230 ± 30	155 ± 30	MPa
Tensile Strength	24 ± 3	20 ± 5	12 ± 2	MPa
Tensile Strain at tensile strength	12 ± 2	13 ± 2	15 ± 2	%
Tensile strain at break	20 ± 15	35 ± 15	>250	%
Flexural modulus	800 ± 200	600 ± 200	410 ± 30	MPa
Flexural strain at break				%
Flexural stress at 3,5% strain	12 ± 4	8 ± 4	5 ± 1	MPa

Thermal Properties

	Phario 20 (20% HV) PHBV	Phario 30 (30% HV) PHBV	Phario 40 (40%HV) PHBV	
T _m (Crystalline melting temperature)	125 ± 15	150 ± 15	97 ± 15	°C
T _g (Glass transition temperature)	-1 ± 1	-3 ± 2	-4 ± 3	°C
HDT B (Heat distortion temperature)	50 ± 3	44 ± 10	32 ± 5	°C

Legal Notice

The figures are preliminary as the project is under development. Under certain conditions the properties can be influenced to a significant extent by the processing conditions.

