



Technical Datasheet

Lionfill 1.0

PRODUCT OVERVIEW

Lionfill 1.0 is the first natural rubber infill for artificial turf engineered with a sustainability focus. Designed and produced by Taraxa AS, Lionfill combines advanced material science with a simple goal: to deliver the durability and playability of conventional infill materials, without the environmental cost.

DESCRIPTION

Lionfill 1.0 is comprised by more than 95% renewable, natural raw materials, free of PAH, free of nitrosamines, free of hazardous antioxidants and antiozonants like 6PPD. The compound is formulated from natural rubber combined with premium bio-based additives, ensuring material stability. Independent verification according to C14 radiocarbon method confirms >95% of the total carbon content is bio-based. Reinforced with high-performance fillers, the infill delivers consistent mechanical properties and maintains integrity even under extended wear conditions. Applications include artificial turf systems, athletic tracks, and playground surfaces. The granules are fully compatible with standard SBR processing techniques, enabling straightforward integration into existing setups.

PARTNERS

Parent



Research



General



Innovasjon
Norge

Colour

Lionfill 1.0 is available in a dark gray to dark brown colour, reflecting its natural composition.

Available grain sizes

Lionfill 1.0 is primarily available in a grain size of 1.0 - 5.0 mm. Other grain sizes on request.

Packaging

1.000 kg big bags on one-way wooden pallet, or alternatively in 1.000 kg big bags.

Storage and handling

Keep material dry at all times and out of direct UV radiation while stored. Please respect all further product information before using this product.



PRODUCT PROPERTIES

General properties	Value
Raw material composition	>95% sustainable raw materials no carbon black, no aromatic oil, no 6PPD antioxidant
Base polymer	Natural plant-based rubber, 100% sustainable
Polymer content	>55%, fully elastic material, fully sustainable polymer

Physical properties	Test method	Value
Tensile strength	DIN 53504:2017	>15 MPa
Elongation at break	DIN 53504:2017	>500%
Hardness	ISO 7619-1:2010	60 ±5, Shore A
Elastic energy	prEN 15330-5:2025 Annex D	29%, medium elasticity
Water absorption	prEN 15330-5:2025 Annex C	18%
Resistance to melting	prEN 15330-5:2025 Annex G	0% agglomerated up to 120°C
Inhalable dust content	EN 15051-2	Low
Density	EN 1183-1:2019	1120 kg/m ³
Bulk density	EN 1097-3:1998	506 kg/m ³
Grain shape	EN 14955:2005	Angular, medium sphericity
Grain size	EN 933-1:2012	1,0 - 3,15 mm

Environmental and health properties	Requirement	Pass
Polycyclic aromatic hydrocarbons (PHAs)	REACH Reg. (EC) 1907/2006, Annex XVII entry 50	✓
Content limits of certain elements	EN 71-3:2019	✓
Heavy metal leaching	EN 71-3:2019+A1:2021, and CEN/TS 16384 Annex A	✓

DISCLAIMER

The data included in this document are indicative values subject to manufacturing tolerances. It remains the duty of the user to check the suitability of the product for its intended use and to ensure that the goods are suitable in terms of shape and quality for the intended purpose. The available data support the user in deciding whether the products are suitable for the intended purpose. We warrant that our products will meet the written specifications within the tolerances indicated.