



PROFESSIONAL 6MM BB BULLETS

EXCLUSIVE DISTRIBUTOR FOR POLAND:

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DECLARATION OF UTILIZATION

With this document the manufacturer of **Rockets™ Professional 6mm BB bullets (BIO series)** (hereinafter referred to as “the BBs”) declares using of pigments, elements and not-toxic plastics, following the Regulation (EC) 1935/2004 and Regulation (EU) 10/2011.

In order to obtain the biodegradation effect of the BBs, the manufacturer guarantees the use of biobased content of **Ingeo Biopolymer 3052D (PLA, polylactic acid)**. PLA is a thermoplastic, compostable, and biocompatible polymer derived from renewable resources such as corn, sugar beets, and potato starch. For further information, please refer to the material’s producer: <https://www.natureworksllc.com>.

Ingeo Biopolymer 3052D

Ingeo Biopolymer 3052D, a NatureWorks LLC product, is designed for injection molding.

Typical Material & Application Properties ⁽¹⁾		
Physical Properties	Ingeo Resin	ASTM Method
Specific Gravity	1.24	D792
MFR, g/10 min (210°C, 2.16kg)	14	D1238
Relative Viscosity	3.3	
Crystalline Melt Temperature (°C)	145-160	D3418
Glass Transition Temperature (°C)	55-60	D3418
Clarity	Transparent	
Mechanical Properties		
Tensile Yield Strength, psi (MPa)	9,000 (62)	D638
Tensile Elongation, %	3.5	D638
Notched Izod Impact, ft-lb/in (J/m)	0.3 (16.0)	D256
Flexural Strength (MPa)	15,700 (108)	D790
Flexural Modulus (MPa)	515,000 (3600)	D790
Heat Distortion Temperature (°C)	55	E2092

Organic recycling – industrial composting

Composting is a method of waste disposal that allows organic materials to be recycled into a product that can be used as a valuable soil amendment. Ingeo Biopolymer 3052D is a compostable material in municipal and industrial composting facilities where available. The Biopolymer breaks down, like other carbon-based organic matter, under industrial composting conditions. The Biopolymer is suitable for industrial-based composting systems which regulate temperature, moisture, and aeration.

Toxicity Test

Test standard: BS EN ISO 10993-10:2013.

Test result indicates that the above formulation does not elicit a sensitization. The BBs have passed EN71-3:2013 to make sure all the materials are in a right eco-friendly range.

Test Parameter	Unit	RL	Regulatory Requirement	Result	Result
Aluminium (Al)	mg/kg	10	70000	n.d.	13.1
Antimony (Sb)	mg/kg	1	560	n.d.	n.d.
Arsenic (As)	mg/kg	1	47	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18750	11.0	149
Boron (B)	mg/kg	10	15000	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.
Chromium (Cr)	mg/kg	0.15	-	n.d.	n.d.
Chromium (III) (Cr (III))§	mg/kg	0.15	460	-	-
Chromium (VI) (Cr (VI))§	mg/kg	0.15	0.2	-	-
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7700	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	160	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15000	4.5	2.9
Mercury (Hg)	mg/kg	1	94	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.
Selenium (Se)	mg/kg	2.5	460	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56000	10.5	29.8
Tin (Sn)	mg/kg	1.0	180000	n.d.	n.d.
Organic Tin [^]	mg/kg	1.0	12	-	-
Zinc (Zn)	mg/kg	10	46000	n.d.	n.d.

Abbreviation: n.d. = Not Detected (< RL)
RL = Reporting Limit
mg/kg denotes milligram per kilogram
§ denotes Cr(III) and Cr(VI) are not necessary to be determined when the Combined Chromium concentration value is less than the requirement
^ denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.9 mg/kg) or the components were confirmed to be pure metal

Compost testing was conducted by DIN CERTCO in accordance to ASTM D-6400-12 and EN 13432:2000 standards.

The PLA material used for production of the BBs is a repeating chain of lactic acid, which undergoes a 2-step degradation process.

1. DISINTEGRATION: The moisture and heat in the compost pile split the polymer chains apart, creating smaller polymers, and finally, lactic acid.

2. BIODEGRADATION: Microorganisms in compost and soil consume the smaller polymer fragments and lactic acid as nutrients. Since lactic acid is widely found in nature, a large number of organisms metabolize lactic acid.

The end result of composting is carbon dioxide, water and humus, a soil nutrient. This degradation process is temperature- and humidity-dependent.

