Beograde INJ038

Material Technical Data Sheet

Date of issue: 29/03/2021 Version: 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	:	Granulate
Name	:	Beograde INJ038
Product code	:	9802070038
Application	:	Injection moulding
Composition	:	100% biodegradable compound and additives

1.2. Details of the supplier of the material specification sheet

Manufacturer

Beologic
Jolainstraat 44
8554 Sint-Denijs
info@beologic.com

SECTION 2: Physical, mechanical and thermal properties

2.1. Information on basic physical, mechanical and thermal properties

Properties[1]		Method	Typical Value	Unit
Composition / Physical				
Content			Complex blend of biopolymers	
Renewable content			≥ 50	%
Colour material			White	
Coloured in mass			No	
Transmission			Opaque	
Physical state			Solid	
Relative density		ISO 1183-1	1,15-1,25	g/cm³
UV package			No	
Carbon footprint [2]		PAS 2050	0	Kg CO_2 Eq/ kg
Shelf life [3]			6	Months
Mechanical				
Tensile modulus		ISO 527	1610	MPa
Tensile strenght		ISO 527	28	MPa
Ultimate strain		ISO 527	2,4	%
Break stress		ISO 527	12	MPa
Elongation at break		ISO 527	26	%
Flexural modulus		ISO 178	1350	MPa
Flexural strength		ISO 178	41	MPa
Charpy impact strength	(Notched 1eA , 23 °C)	ISO 179	12	kJ/m²
Thermal				
MFI	(190°C, 2.16 kg)	ISO 1133-1	17	g/10min
Melting temperature range		ISO 11357-3	165-175	°C
HDT B	(0,45 MPa)	ISO 75	58	°C
Decomposition temperature (TGA)		ISO 3451-1	300	°C
Ash content (TGA)		ISO 3451-1	≤ 5	%
Mould shrinkage		ISO 294-4	0,14	%

(1) Typical properties; not to be construed as specifications.
(2) Carbon footprint calculated by Neutrologic
(3) Only if storage conditions were followed

2.2. Processing conditions

Hopper	40 – 60	°C
Feeding zone	170 – 180	°C
Compression zone	180 – 190	°C
Metering zone	190 – 200	°C
Nozzle	200 – 205	°C
Mold temperature	30 – 60	°C

We recommend to use high injection speed. Short holding pressure and cooling times can be used.

General advice

Beograde is not compatible with a wide variety of other resins, and special purging sequences should be followed:

1. Before production, ensure to clean extruder and bring temperature to steady state with low viscosity, general purpose PP or PE.
2. Vacuum out hopper system to avoid contamination.
3. Introduce Beograde into the extruder at the operating conditions used in step one.
4. Once Beograde has purged, reduce barrel temperatures to desired set points.
5. At shutdown, purge machine with high viscosity polystyrene or polypropylene.

Purging time: approximately 10 to 20 minutes.
At higher temperature, the dwell time of the material inside the machine shall be reduced to a minimum in order to lower the risk of degradation. Don't leave the material hot inside the machine for long periods as the material will degrade.

2.3. Product Carbon footprint

The product carbon footprint helps to define the amount of greenhouse gas emissions generated by a product along its life cycle, it quantifies the ghg-emissions related to the production of our products.

Beologic calculates the carbon footprint of all sales products and this from cradle to gate.

The calculation of the carbon footprint is in accordance with the internationally recognized Greenhouse Gas Protocol Product Standard which is based on the standard ISO-14067 norm and PAS2050.

The carbon footprint is mentioned in our datasheet - by offsetting or compensating the calculated emissions we can present our products as Carbon Neutral compounds. This compensation is according the Verified Carbon Standard – more info via (www.v-c-s.org).

SECTION 3: Drying conditions and storage

Beograde INJ038 is a compound of biodegradable polymers (such as PLA). Residual moisture content can lead to hydrolysis degradation. **We recommend drying Beograde INJ038 at 70°C for a period of 2 – 4 hours.** Don't overheat or dry it longer than recommended.

Residual moisture content (> 0.2%) can result in lower melt stability, surface mark or bubble formation during processing.

We recommend to store the material in dry conditions below 50°C and protected from UV-light. Opened bigbag should be used immediately or adequately sealed back up after use to avoid moisture uptake and have negative effects on the physical properties of the product. It is recommended to use Beograde granules within a time period of maximum 6 months.

Finished product made from Beograde should be stored dry and cold. Storage time and lifetime of finished products depends on processing parameters and on storage conditions (moisture, UV radiation …).

SECTION 4: Biodegradability and compostability

Beograde INJ038 fulfills the requirements of the existing standards for compostable and biodegradable polymers (EN 13432), because it can be degraded by microorganisms.

As the compostability of the end product is dependent on the geometry of product, it is the responsibility of the manufacturer of the end product to ensure compliance with the regulations.

SECTION 5: Food regulation

Beograde INJ038 complies in its composition with the European food stuff legislation for food contact, EU Directive 10/2011/EC (and the amendments 2018/213 and 2018/831).

The material also complies with the US food contact notification for the main components: e.g. FCN 178, 475 and 907. A detailed food law status can be given on request. Whether the article is suitable for the application, has to be checked by the converter or packer.

The technical data above are based on our current knowledge and experience. They do not release from the obligation to make one's own evaluation and trials, in respect to a variety of possible influences in processing and application of the product. A legally binding guarantee of certain properties or suitabilities for a special kind of application cannot be derived from the data.