

## **TDS for BP IMG-DT COMPOUND HR**

### **Description:**

BP IMG-DT COMPOUND HR is a Biobased injection moulding grade COMPOUND with PLA as a carrier resin. It is a new age material made from biodegradable & compostable materials like PLA, PBAT AND MINERALS. This masterbatch compound has excellent heat resistance, flow properties, balanced stiffness and impact properties. This grade is intended to be used for a wide range of heat resistant injection molding applications including general purpose household items, consumer goods, Disposable food cutlery items, etc.

This product ensures the absence of heavy metals and harmful substances and the ecotoxicity of humans are well preserved with the use of this compound.

BP IMG-DT COMPOUND HR is processable on all conventional injection molding and extrusion lines with standard screw settings. Preferred screw design is the same as it is for PE.

### **The major advantages of BP IMG-DT COMPOUND HR is:**

- Excellent compatibility with regular Injection molding machines
- High heat resistance
- Very useful for disposable food cutlery like Spoon, fork, bowl, knife etc.
- High content of natural (renewable) resource raw material
- Specific gravity close to PLA biopolymer
- Reduces injection molding cycle time
- Outstanding mechanical properties (similar to LDPE, PP & PS depending on the grade)
- Wide processing window
- Reduces Cost
- Processable on standard injection molded machinery with a high throughput

### **Dosage:**

To be used directly without mixing anything.

### **How to use:**

Put BP IMG-DT COMPOUND HR in Hopper dryer for Preheating at 80 degrees for 60 to 90 mins. Preheating will give an efficient processing behavior in Injection molding machines. Once preheated proceed with the moulding process.

### **Technical Characteristics:**

<b>Physical Properties</b>	<b>Test Method</b>	<b>Unit</b>	<b>Typical Value</b>
Melt flow rate (190 °C/5 kg)	ASTM D-1238	gm/10min.	12 – 18
Melting temperature	STD Test Method	°C	190 - 220
Density	ASTM D 792	g/cc	1.25 - 1.30
Color	Visual	Spectro	Tone of white
Form	Visual	--	Granules
Tensile strength	In house	MPa	45 to 70
Biopolymer content	In house	%	>75
Elongation	In house	%	>8



## Processing information & recommendation:

To be processed on conventional injection molding equipment. To prevent or reduce the degradation of this compound during processing, it is recommended to use a barrel with a content of 3-5 times the shot weight, a (general purpose) screw with a L/D ratio of at least 20:1 and if applicable low shear hot runners in the mold. Pre-drying of the compound is highly recommended.

As a general guideline the following temperature profile is recommended for Injection molding process: -

ZONES	Throat	Feed Zone	Compression zone	Melting zone	Nozzle	T <sub>melt</sub>	T <sub>mold</sub>	Back Pressure	Screw Speed
Process parameters	30-60°C	165-185°C	200 <sup>0</sup>	210 <sup>0</sup>	220°C	190-210°C	20-30°C	50-100 bar	Normal

**Note:** Typical settings, may require optimization depending on machinery, process & product.

## Start-up and shutdown

1. The equipment needs to be well cleaned and purged to prevent cross contamination.
2. At the start of the run it is recommended to purge the system with polyolefin or a purging compound (e.g. Dyna-Purge, Clean LDPE) followed by purging with this compound at its processing conditions.
3. At the completion of the run it is recommended to purge the system using a purging compound or polyolefin again.

**Storage:** The material shall be kept in a cool dry place for best results.

**Packing:** Laminated Moisture proof Bags of 25 kg.