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|  | Synterra® PDLA 1510 Version: 2012-07 |  |
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Datasheet : High Molecular Weight for extrusion.

| PHYSICAL PROPERTIES | TEST METHOD | UNITS | SPECIFICATION |
|------------------------------|---------------------------|-------------------|--------------------------|
| Apearance | | | round pellets |
| Colour | | | Off white (crystallized) |
| Melt Flow Rate | ISO 1133 (190 °C/2,16kg) | g/600s | 10 (+- 4) |
| Polymer Density | ISO 1183 | g/cm ³ | 1,25 |
| Moisture content | | | < 400 ppm |
| Residual Monomer | | % | < 0,5 |
| L-Isomer | | % | < 1 |
| Melting temperature | DSC: ISO 11357 | °C | 175-180 |
| Glass Transition temperature | DSC: ISO 11357 | °C | 55-60 |

Processing

Temp. profile in the screw : 90-130-160-180-185-190-200-200 °C.

Screw speed : 175 rpm

Drying of the Synterra® PDLA is recommended prior to processing at a temperature of 90-110 °C for 4-6 hours using dehumidified air with a dew point of -40°C.

C2C Certified and GMO free.

Synterra®, PLA made from Puralact® Lactide, was certified by MBDC EPEA on March 25th 2011 to meet the stringent requirements of Cradle to Cradle SILVERSM product certification.

In addition to the use of inherent benign ingredients in the polymer recipe, the certification was only possible as the feedstock for Synterra® PLA is not originating from any Genetically Modified Organisms and is therefore a true GMO free product.



Cradle-to-Gate LCA Results for PLA¹

| The cradle-to-gate impact of 1 kg PLA example. | |
|--|------------------------------|
| Non-Renewable Energy Use | 38,488 MJ |
| Renewable Energy Use | 55,763 MJ |
| Resources | 0,79198 kg Crude Oil-Equiv. |
| Carbon Footprint incl sequestration | 0,9387 kg CO2-Equiv. |
| Acidification | 0,026491 kg SO2-Equiv. |
| Photochemical Oxidant Formation | 0,0025757 kg Ethene-Equiv. |
| Eutrophication | 0,012416 kg Phosphate-Equiv. |

Note that the carbon footprint includes the biotic carbon dioxide sequestered during sugar cane farming (- 1833 kg CO2/tonne PLA).

¹ Based on Life Cycle Assessment Compliant with ISO 14 040 + 14 044 Standards
Prepared by Tobias Borén, AkzoNobel Sustainable Development, October 2010

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