

# TECHNYL®

## TECHNYL® PSB 231 NATURAL

TECHNICAL DATA SHEET

Revised: October, 2019

TECHNYL® PSB 231 Natural is an unreinforced high transparency polyamide 6, for injection moulding. This grade offers good mechanical properties and high transparency till 2-2,5 mm of thickness. Due to its benefits, it is adequate for applications which request transparency at low thickness.

### GENERAL

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe
Key Benefits	• Translucency
Applications	• Consumer and Industrial applications
Certification/Compliance	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Colors Available	• Natural Color
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID (ISO 1043)	• PA6

### PROPERTIES

Typical values of properties are for Natural grades

Physical	Dry	Conditioned	Unit	Test Method
Water Absorption (24 hr, 23°C)	1.3		%	ISO 62
Density	1.13		g/cm <sup>3</sup>	ISO 1183/A
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	2700	1000	MPa	ISO 527-2/1A
Tensile Stress (Yield, 23°C)	80	40	MPa	ISO 527-2/1A
Tensile Strain (Break, 23°C)	120	> 250	%	ISO 527-2
Charpy Notched Impact Strength (23°C)	4.2	70	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break	No Break		ISO 179/1eU
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/ Af
1.8 MPa, Unannealed	70		°C	
Melting Temperature	222		°C	ISO 11357-3



Electrical	Dry	Conditioned Unit	Test Method
Surface Resistivity	1.0E+13	1.0E+11 ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+11 ohms·cm	IEC 60093
Electric Strength (2.00 mm)		18 kV/mm	IEC 60243-1
Relative Permittivity	3.40	3.90	IEC 60250
Dissipation Factor	0.021	0.12	IEC 60250

  

Flammability	Dry	Conditioned Unit	Test Method
Flame Rating (1.6 mm)	V-2		UL 94

## PROCESSING

Injection	Dry Unit
Drying Temperature	80 °C
Suggested Max Moisture	0.20 %
Rear Temperature	225 to 230 °C
Middle Temperature	230 to 235 °C
Front Temperature	230 to 240 °C
Mold Temperature	20 to 40 °C

### Injection Notes

The material is supplied in airtight bags, ready for use. In case that the virgin material has absorbed moisture, it must be dried with a dehumidified air drying equipment, dew point mini -20°C. Recommended time 2-4h

### Injection Advice:

- For unfilled polyamides, Solvay recommends the use of high alloy steel with a low chromium content. For example: X38CrMoV5-1 (EN Norm) - 1.2367 /1.2343 (DIN Norm). In the case of high requirements on surface quality a mould temperature of up to 120°C can be considered.
- The processing parameters like processing temperatures are a recommendation and can be adjusted in function of injection machine size, part geometry / design

## DISCLAIMER

The information contained in this document is given in good faith based on our current knowledge. It is only an indication and it is in no way binding. This information must on no account be used as a substitutive for necessary prior tests which alone can ensure that a product is suitable for a given use. ANY WARRANTY OF PRODUCT PERFORMANCE, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED. Users are responsible for ensuring compliance with local legislation and for obtaining the necessary certifications and authorizations. Users are requested to check that they are in possession of the latest version of this document, and Solvay is at their disposal to supply any additional information.



## SAFETY INFORMATION

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Detailed information regarding safety are available on the safety data sheet (SDS). SDS is sent with the first material order or available by contacting our customer services

## REGULATIONS COMPLIANCE

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This product is not intended to be used for the following regulated market: food contact, drinking water, toys, cosmetics or medical devices.

This grade complies with ROHS Directive 2011/65/EU and 2015/863 as amended.

Grades produced or imported in Europe comply with REACH directive 1907/2006/EC as amended.

## CUSTOMER SERVICES

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Our customer services are not only concerned with manufacturing and supply of Engineering Plastics products. We are available to assist our customers in finding technical solutions that meet their requirements. Specific support is in particular offered on:

- Material selection
- Material testing
- Parts design advice, training for design engineers
- Part testing
- Design simulation
- Processing through different technologies
- Assembly and post-processing technology expertise
- Parts optimization through Computer Aided Design

You can find more information on Solvay Product range on our internet product finder at the following address: <http://www.technyl.com>

### Notes

Typical properties: these are not to be construed as specifications.

