

## DESCRIPTION

**NSBC is Denka's trade name of Styrene-Butadiene Block Copolymer for general applications. NSBC is developed by Denka's unique polymerisation technology and have suitable Styrene and Butadiene combination to achieve excellent transparency and processing.**

**NSBC can be blended with GPPS in moulding process. It is used in wide range of applications such as food packaging, clear cup, industrial tray etc.**

## FEATURES

- GPPS Impact Modifier • High Transparency
- Well Printing • Cold Temperature Resistance
- Low Density (About 20%-30% lower than PVC and PET)

## PROCESSING

- Injection Moulding • Extrusion • Vacuum Forming
- Thermo Forming • Blow Moulding

## APPLICATIONS

- Household Miscellaneous, e.g. Clear Hanger
- Bottle Cap • Dessert Cup • Cup Lids
- Industrial Tray • Shoe Sole

Property   Test Condition	Standard	Unit	Values
<b>Melting Properties</b>			
Melt Mass-Flow Rate   200°C, 49N	ISO 1133	g/10min	8
<b>Mechanical Properties</b>			
Charpy Impact Strength   Notched, 23°C	ISO 179	kJ/m <sup>2</sup>	2.5
Tensile Stress at Yield   50mm/min, 23°C	ISO 527	MPa	27
Tensile Strain at Break   50mm/min, 23°C		%	140
Flexural Stress   2mm/min, 23°C	ISO 178	MPa	31
Flexural Modulus   2mm/min, 23°C		MPa	1,590
<b>Thermal Properties</b>			
Vicat Softening Temperature   A/50, 10N, 50°C/hr	ISO 306	°C	80
Deflection Temperature Under Load   1.8MPa, Flatwise Unannealed	ISO 75	°C	62
<b>Optical Properties</b>			
Haze   4mmt	ISO 14782	%	2.7
<b>Other Properties</b>			
Density   23°C	ISO 1183	kg/m <sup>3</sup>	1,020

Note: The data listed in the table represents typical values for NSBC obtained by reliable sources and is provided for informational purposes only. It is given in good faith and should not be used as a basis to establish specification limits or design criteria. It is the responsibility of the User to evaluate and determine the suitability of our product for a particular use or intended application.

### STORAGE RECOMMENDATION

Store at moderate temperature in dry and well-ventilated area.  
Keep away from heat, sparks and open flame.  
Protect against direct sunlight.  
Take precautionary measures against static discharges.  
Protect from moisture.  
Avoid dusty environment.  
Storage should be done in accordance with state and local regulations.  
For more information, please contact a Denka representative.

### PRODUCT SAFETY

Denka NSBC polymer contains very low levels of residual monomers and process chemicals that may be produced during thermal processing, along with possible decomposition or release of chemical fumes when subjected to excessive thermal stresses. It is therefore necessary to provide local exhaust ventilation in areas where Denka NSBC is exposed to high temperatures. As the identity and levels of these impurities produced depend upon the processing conditions (temperature etc.), it is the responsibility of the user to determine the adequacy of any protection (with personal protective equipment such as eye protection, thermal protection, respirators etc.) or safety measures. For more information, please refer to the Safety Data Sheet or contact a Denka representative.

### DISCLAIMER

This document is strictly informative in nature and is not meant to be a legally binding document which attracts any legally enforceable obligation whatsoever. To the maximum extent allowed under applicable laws, Denka Singapore Pte Ltd and all its related companies (together, "Denka") make no warranties or representations of any kind, whether express or implied, including any warranties and representations on non-infringement, merchantability or fitness for a particular purpose.

All technical information and data stated in this document has been prepared from actual data obtained from reliable sources based on our current knowledge and experience. We make no representation or warranty on such technical information and data. The data is presented without any guarantee or warranty as to its completeness or accuracy, whether express or implied, and we do not assume any responsibility over the same. The data does not relieve Users from carrying out their own investigations and tests (including safety tests) prior to use.

Denka NSBC is intended for use by persons having technical skills and the User shall ensure that all persons from the User have such technical skills. Such use is at their own discretion and risk. The handling precaution information contained herein is given with the understanding that the User will satisfy themselves that their particular conditions of use present no health or safety hazards. The User should be solely responsible for taking all safety measures customarily required. In no event shall we be liable for any loss or damage (whether direct, indirect, special or consequential) whatsoever arising out of or in connection with the use or misuse of Denka NSBC.

We do not guarantee results, freedom from patent infringement, or suitability for any application. The User is responsible for complying with all relevant laws and regulations irrespective of whether such laws and regulations are stated in this document or not.

Denka NSBC is not intended for special applications such as:

- medical equipment and medical applications implanted into body
- applications involving contact with mucous membrane
- applications involving contact with blood, bodily fluid, liquid medicine etc., or applications involving post contacted liquid that may be contacted with mucous membrane and inside of body.

Not all grades are appropriate for end products or materials for substances that come in contact with food.

It is advisable to contact a Denka representative for the latest position.

The information provided herein relates only to the specific product mentioned and may not be applicable when such product is used in combination with other materials or in any process. The User takes sole responsibility where the product is combined with other materials or processes.

The User is responsible for conducting their own independent tests and in determining satisfactory performance of the product before commercialisation of the same.

Denka reserves the right to amend the contents herein from time to time without notice.