Ultrason® S **Product Information**

6010 NAT



PSU 11/2024

Product description

Unreinforced, higher viscosity grade, tougher and with improved chemical resistance. Abbreviated designation according to ISO 1043-1: PSU

Physical form and storage

Ultrason® pellets are supplied in bags and/or octabins. The bulk density ranges between 700 and 800 g/l. Provided the packaging remains undamaged, Ultrason® can be stored indefinitely. Ultrason® pellets absorb moisture very rapidly. Therefore, the pellets need to be dried at least 4h at 130 °C to 150 °C in a vacuum or dry air drier prior to processing.

Product safety

From our experience and information, proper treatment and reasonable use of the product will not have any health

In view of the high temperatures involved in processing Ultrason®, great care must be exercised -even more than for other

thermoplastics- in handling the machinery, molds, moldings and residual melts. If there are concerns or doubts on the thermal capacity and limits, the machinery manufacturer should be consulted.

Any product that has decomposed during injection molding must be removed from the barrel by injection into the atmosphere and simultaneous reduction of the barrel temperature. Noxious odors that could form during this procedure can be reduced by rapid cooling of the degraded material, e.g. in a water bath. If the degraded material is not pumped out of the barrel, gas pressure may build up, particularly if nozzle shutoff devices are used. The built-up pressure could then release violently around the nozzle or hopper areas, and explosions would therefore be expected in the course of

pumping.

If the normal precautions are taken and the upper temperature limit, i.e. 390 °C, is not exceeded, no health hazardous vapors are formed while Ultrason® is being processed. In common with all other thermoplastics, Ultrason® decomposes on exposure to excessive heat, for instance if the melt temperature is too high and/or the residence time in the plasticizing unit is too long or if residues are burned off during cleaning of the machinery. The figures laid down for the maximum allowable dust concentrations (e.g. MAK value in Germany) must be met in further processing.

The work place must be well ventilated, preferably by means of an extraction system installed above the barrel unit.

Irrespective of this, all precautions relating to accident prevention must strictly be taken. Under no circumstances may the plasticizing units be dismantled after a breakdown while they are still hot.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may Change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. In order to ensure supply ability, our products are produced in several production lines on different sites of the BASF Group. All production lines produce according to identical specifications. In order to check the availability of products please contact us or our sales agency.

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| Typical values for uncoloured product at 23 °C¹) | Test method | Unit | Values ²⁾ |
|---|---|---|---|
| Properties | | | |
| Polymer abbreviation Density Viscosity number Water absorption, equilibrium in water at 23°C Moisture absorption, equilibrium 23°C/50% r.h. Glass transition temperature, DSC (10°C/min) | ISO 1183 ISO 307, 1157, 1628 similar to ISO 62 similar to ISO 62 ISO 11357-1/-2 | - kg/m³ cm³/g % % | PSU 1230 81 0.8 0.3 187 |
| Processing | | | |
| Processing: Injection moulding (M), Extrusion (E), Film-Extrsuion (F), Blow moulding (B) Melt volume-flow rate MVR 360 °C/10 kg Melt temperature, injection moulding/extrusion Mould temperature, injection moulding Molding shrinkage, parallel Molding shrinkage, normal | - ISO 1133 - - ISO 294-4 ISO 294-4 | - cm³/10min °C °C % % | M, E 30 330 - 390 120 - 160 0.72 0.77 |
| Mechanical properties | | | |
| Tensile modulus Yield stress, 50 mm/min Yield strain, 50 mm/min Charpy unnotched impact strength (23°C) Charpy unnotched impact strength (-30°C) Charpy notched impact strength (23°C`) Charpy notched impact strength (-30°C) Izod notched impact strength (23°C) Izod notched impact strength (-30°C) Ball indentation hardness at 358 N/30 s | ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 179/1eU ISO 179/1eU ISO 179/1eA ISO 180/A ISO 180/A ISO 2039-1 | MPa MPa % kJ/m² kJ/m² kJ/m² kJ/m² kJ/m² kJ/m² kJ/m² kJ/m² | 2560 74 5.7 N N 6 6.5 6 |
| Thermal properties | | | |
| HDT A (1.80 MPa) Coefficient of linear thermal expansion, longitudinal (23-80°C) Coefficient of linear thermal expansion, longitudinal (140°C) | ISO 75-1/-2 ISO 11359-1/-2 DIN 53752 | °C E-6/K E-6/K | 177 53 60 |
| Electrical properties | | | |
| Relative permittivity (100 Hz) Relative permittivity (1 MHz) Dissipation factor (100 Hz) Dissipation factor (1 MHz) Volume resistivity Surface resistivity Comparative tracking index, CTI, test liquid A Electric strength K20/K20 | IEC 62631-2-1 IEC 62631-2-1 IEC 62631-2-1 IEC 62631-2-1 IEC 62631-3-1 IEC 62631-3-2 IEC 60112 IEC 60243-1 | - E-4 E-4 Ohm*m Ohm - kV/mm | 3.5 3.4 11 71 >1E13 >1E15 125 37 |
| Optical properties | | | |
| Refractive index (d = 1mm) Degree of light transmission (d = 2 mm) | ISO 489 DIN 5036-3 | - % | 1.610 87 |
| Molecular weights | | | |
| Molecular weight Mw (GPC in THF, PS standard) Mw/Mn (GPC in THF) | - | g/mol - | 62000 3.9 |

Footnotes

1) If product name or properties don't state otherwise.

2) The asterisk symbol **' signifies inapplicable properties.