

## 产品介绍

聚邻苯二甲酰胺，可浅色着色，具有高熔点，无卤素阻燃剂，极低的吸水性，高温下良好的机械和介电性能以及出色的耐化学性，耐焊锡槽。有着色产品（例如橙色 RAL 2003）。

## 市场与应用

汽车：汽车电子电气,传感器,燃料电池,电动汽车  
E&E：连接器，SMT（表面安装技术）应用，能源分配  
消费品：家电，消费电子，手机零件

## 物理形态和储存

The product is supplied in the form of granules with a bulk density of approx. 0.7 g/cm<sup>3</sup>. Standard packs are bag and bulk container (octagonal IBC=intermediate bulk container made from corrugated board with a liner bag). Other packaging materials and shipping in road or rail silo wagons are possible by agreement. The containers should only be opened immediately before processing or drying. To ensure that the delivered product absorbs as little moisture as possible, the containers should be stored in dry rooms and always carefully closed again after partial quantities have been withdrawn. In principle, the product can be stored for a long period of time. Containers stored in cold rooms should be equalized to ambient temperature before opening in order to avoid condensation on the granules. Regardless of the storage conditions, the product should be pre-dried according to our recommendations and the machine should preferably be loaded using a closed conveyor system.

## 安全

如果在推荐的条件下进行加工（参见加工数据表），熔体是热稳定的，不会因分子降解或气体和蒸汽的释放而产生危害。像所有热塑性聚合物一样，产品在过度的热负荷下分解，例如过热或通过燃烧进行清洁时。更多信息可从安全数据表中获得。

## 注

本资料内容基于本公司目前掌握的知识和经验。  
由于存在很多因素可能影响我们产品的应用和加工，因此本公司不排除用户进行试验研究的必要。  
本资料也不保证具体应用的适应性或某些性能的可靠性。这里的任何描述、图纸、照片、数据、大小、重量等可能不事先通知而更改，但不包括已经达成一致。我们产品的使用者应确保遵守所有权及现有的法律法规。

有关BASF产品有效性，请联系我们或我们的销售代理。

## 产品信息

未着色产品的典型值, 在23 °C下 <sup>1)</sup>	测试方法	单位	代表值 <sup>2)</sup>
<b>特征</b>			
树脂缩写	-	-	PA9T-GF30 FR(40)
密度	ISO 1183	kg/m <sup>3</sup>	1440
粘度 (0.5% in 96% H <sub>2</sub> SO <sub>4</sub> )	ISO 307, 1157, 1628	cm <sup>3</sup> /g	100
饱和吸湿率, 在标准环境下23 °C / 50%相对湿度	类似 ISO 62	%	0.7 - 1
吸水性	类似 ISO 62	%	1.9 - 2.3
<b>加工</b>			
熔融温度, DSC	ISO 11357-1/-3	°C	300
熔体温度范围, 注塑成型/挤出成型	-	°C	310 - 340
模具温度范围, 注塑成型	-	°C	100 - 160
成型收缩率(平行)	ISO 294-4	%	0.30
成型收缩率(垂直)	ISO 294-4	%	1.00
MVR 325 °C/5 kg	ISO 1133	cm <sup>3</sup> /10min	30
Test specimen production, injection moulding, melt temp.	ISO 294	°C	330
Test specimen production, injection moulding, mould temp.	ISO 294	°C	140
<b>燃烧特性</b>			
1.5mm名义厚度时的燃烧性	IEC 60695-11-10	class	V-0
Yellow Card available	-	-	yes
UL 94 rating at 0.25 mm thickness	IEC 60695-11-10	class	V-0
Yellow Card available	-	-	yes
UL 94 rating at 0.25 mm thickness	UL-94, IEC 60695	class	V-0
Yellow Card available	UL-94, IEC 60695	-	yes
灼热丝燃烧指数, GWFI	IEC 60695-2-12	°C	960
厚度 GWFI	IEC 60695-2-12	mm	1
灼热丝起燃温度, GWIT	IEC 60695-2-13	°C	775
厚度 GWIT	IEC 60695-2-13	mm	1
<b>机械性能</b>			
干 / 湿			
拉伸模量	ISO 527-1/-2	MPa	10500 / 10500
断裂应力	ISO 527-1/-2	MPa	140 / 130
断裂应变	ISO 527-1/-2	%	2.2 / 2.2
拉伸模量 120 °C	ISO 527-1/-2	MPa	7500 / -
弯曲模量	ISO 178	MPa	10500 / 10500
弯曲强度	ISO 178	MPa	220 / 210
无缺口简支梁冲击强度 ISO 179-1eU(-30 °C)	ISO 179/1eU	kJ/m <sup>2</sup>	60 / -
无缺口简支梁冲击强度 ISO 179-1eU(23 °C)	ISO 179/1eU	kJ/m <sup>2</sup>	60 / 50
简支梁缺口冲击强度 ISO 179-1eA(23 °C)	ISO 179/1eA	kJ/m <sup>2</sup>	6.5 / 6.5
<b>热性能</b>			
热变形温度, 1.8MPa负荷 (HDT A)	ISO 75-1/-2	°C	265
线膨胀系数 23 °C-55 °C (平行)	ISO 11359-1/-2	E-6/K	19
线膨胀系数 23 °C-55 °C (垂直)	ISO 11359-1/-2	E-6/K	53
<b>电性能</b>			
干 / 湿			
体积电阻率 100 V	IEC 62631-3-1	Ohm*m	1E13 / 1E13
表面电阻率 100 V	IEC 62631-3-2	Ohm	- / 1E15
介电强度 K20/K20, (60*60*1 mm)	IEC 60243-1	kV/mm	45 / 44
相对漏电起痕指数, CTI, 试验溶液A	IEC 60112	-	- / 600

注

1) 对于只提供着色粒子的产品, 测定值针对表中所指定的特殊色。

2) 星号(\*) 出现在定量性能参数值的位置表示“不合适”的值。

BASF SE

67056 Ludwigshafen, Germany

Component - Plastics

E41871

BASF SE

Performance Materials Europe, PMD/EX - H201, Ludwigshafen 67056 DE

Advanced N3U41G6 (t) (f2)(w2)

Polyamide 9T (PA9T), flame retardant "Ultramid", furnished as pellets

Color	Min. Thk (mm)	Flame Class	HWI	HAI	RTI Elec (°C)	RTI Imp (°C)	RTI Str (°C)
ALL	0.25	V-0	2	1	85	85	85
	0.40	V-0	1	0	150	110	125
	0.75	V-0	0	0	150	115	130
	1.5	V-0, 5VA	0	0	150	115	130
	3.0	V-0, 5VA	0	0	150	130	140

Comparative Tracking Index (CTI): 0

Inclined Plane Tracking (IPT) kV: 1.5

Dielectric Strength (kV/mm): 35

Volume Resistivity (10<sup>x</sup>ohm-cm): -

High-Voltage Arc Tracking Rate (HVTR): -

Surface Resistivity (10<sup>x</sup>ohms/square): -

Dimensional Change (%): -

High Volt, Low Current Arc Resis (D495): -

(f2) - Subjected to one or more of the following tests: Ultraviolet Light, Water Exposure or Immersion in accordance with UL 746C, where the acceptability for outdoor use is to be determined by UL.

(t) - May be followed by the letters LS and a color code indicating laser sensitive coloring.

(w2) - Virgin and regrind up to 50% by weight have the same basic characteristics for BK color, with the exception of the weatherability testing

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

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### IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10, IEC 60695-11-20	Class (color)	0.25	V-0 (ALL)
			0.40	V-0 (ALL)
			0.75	V-0 (ALL)
			1.5	V-0, 5VA (ALL)
			3.0	V-0, 5VA (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	°C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	°C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC AC Dielectric Strength (AC DS)	IEC 60243-1	kV/mm	-	-
IEC DC Dielectric Strength (DC DS)	IEC 60243-2	kV/mm	-	-
IEC Volume Resistivity (VR)	IEC 62631-3-1	10x ohm-m	-	-

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# Ultramid® Advanced N3U41G6



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## UL - Yellow Card

IEC Surface Resistivity (SR)	IEC 62631-3-2	10x ohms	-	-
IEC Inclined Plane Tracking (IPT)	IEC 60587	kV	-	-
IEC Ball Pressure	IEC 60695-10-2	°C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	°C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m <sup>2</sup>	-	-
ISO Izod Impact	ISO 180	kJ/m <sup>2</sup>	-	-
ISO Charpy Impact	ISO 179-1	kJ/m <sup>2</sup>	-	-

Component - Plastics

E41871

BASF SE

Performance Materials Europe, PMD/EX - H201, Ludwigshafen 67056 DE

Advanced N3U41G6 (t) (f1)(g)

Polyamide 9T (PA9T), flame retardant "Ultramid", furnished as pellets

Color	Min. Thk (mm)	Flame Class	HWI	HAI	RTI Elec (°C)	RTI Imp (°C)	RTI Str (°C)
BK	0.75	V-0	0	0	150	115	130
	1.5	V-0, 5VA	0	0	150	115	130
	3.0	V-0, 5VA	0	0	150	130	140

Comparative Tracking Index (CTI): 0

Inclined Plane Tracking (IPT) kV: 1.5

Dielectric Strength (kV/mm): 35

Volume Resistivity (10<sup>x</sup>ohm-cm): -

High-Voltage Arc Tracking Rate (HVTR): -

Surface Resistivity (10<sup>x</sup>ohms/square): -

Dimensional Change (%): -

High Volt, Low Current Arc Resis (D495): -

(f1) - Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and Immersion in accordance with UL 746C.

(g) - Virgin and regrind up to 50% by weight have the same basic characteristics with the exception of the weatherability testing.

(t) - May be followed by the letters LS and a color code indicating laser sensitive coloring.

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

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### IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10, IEC 60695-11-20	Class (color)	0.75	V-0 (BK)
			1.5	V-0, 5VA (BK)
			3.0	V-0, 5VA (BK)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	°C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	°C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC AC Dielectric Strength (AC DS)	IEC 60243-1	kV/mm	-	-
IEC DC Dielectric Strength (DC DS)	IEC 60243-2	kV/mm	-	-
IEC Volume Resistivity (VR)	IEC 62631-3-1	10x ohm-m	-	-
IEC Surface Resistivity (SR)	IEC 62631-3-2	10x ohms	-	-
IEC Inclined Plane Tracking (IPT)	IEC 60587	kV	-	-
IEC Ball Pressure	IEC 60695-10-2	°C	-	-

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## UL - Yellow Card

ISO Heat Deflection (1.80 MPa)	ISO 75-2	°C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m <sup>2</sup>	-	-
ISO Izod Impact	ISO 180	kJ/m <sup>2</sup>	-	-
ISO Charpy Impact	ISO 179-1	kJ/m <sup>2</sup>	-	-