U-Cure 9571

聚氨酯丙烯酸酯 / Polyurethane Acrylate

Trifunctional Polyurethane Acrylate Resin

KASTER

Innovation in Polymer Chemistry

昆山卡斯特高分子材料有限公司

技术资料表　Technical Data Sheet (TDS)

1　产品介绍 Product Introduction

U-Cure 9571 是一款高性能的三官能聚氨酯丙烯酸酯（*PUA*）*UV*树脂。该产品通过独特的分支结构设计，旨在平衡极高的固化活性与卓越的物理力学性能。其在固化后能形成一层兼具高硬度与优异韧性的防护膜，是各类高性能光固化配方中的核心成膜物质。

U-Cure 9571 is a high-performance trifunctional polyurethane acrylate (PUA) UV resin. Designed to balance exceptional curing speed with superior mechanical properties through its unique branched structure, it provides a protective layer that combines high hardness with excellent toughness.

2　物理及力学特性 Physical & Mechanical Properties

性能参数 Properties	典型指标 Typical Value	测试标准 Standard
外观 Appearance	透明澄清液体 / Clear Liquid	Visual
粘度 Viscosity (cps @ 60°C)	5,000 – 13,000	ASTM D2196
固含量 Solid Content (%)	100%	GB/T 1725
官能度 Functionality	3	Theoretical
NCO残存 NCO Content (%)	≤ 0.1	Titration
绍氏硬度 Shore Hardness	88D	ASTM D2240
拉伸强度 Tensile Strength	35 MPa	ASTM D638
断裂伸长率 Elongation	6%	ASTM D638

3　核心特性 Key Product Features

- **高固化速度 (High Curing Speed)**
  具备极高的光敏活性，可显著缩短光照时间并提升生产线加工效率。
  High photosensitivity, significantly reducing exposure time and enhancing production efficiency.
- **高硬度与高丰满度 (High Hardness & Fullness)**
  固化漆膜饱满、光泽度高，展现出极佳的肉厚感和表面平整度。
  The cured film is plump with high gloss, exhibiting excellent thickness perception and surface leveling.
- **坚韧平衡 (Balance of Strength and Toughness)**
  在维持 *35 MPa* 高强度的同时表现出优异的抗冲击性，有效防止涂层脆裂。
  Maintains 35 MPa tensile strength while showing excellent impact resistance to prevent brittleness.

4 建议应用 Product Applications

- **UV 甲油胶 (UV Nail Polish)**
  提供极佳的耐刮擦及饱满外观，防止美甲边缘崩边。
  Provides excellent scratch resistance and a plump appearance while preventing edge chipping.
- **3D 打印 (3D Printing)**
  适用于对成品尺寸稳定性、结构刚性有严格要求的模型或功能件。
  Suitable for models requiring high dimensional stability and structural rigidity.
- **高性能塑胶硬涂层 (Plastic Hard Coatings)**
  用于提升塑胶基材表面防护，形成高耐磨且坚韧的防护膜。
  Enhances surface protection for plastic substrates with a wear-resistant and tough film.

5 常见问题解答 Q&A

Q: U-Cure 9571 在配方中主要起到什么作用？ (What is its main role?)

A: 该树脂充当“刚性骨架”作用，提供优异硬度，同时聚氨酯结构保证了优于普通丙烯酸酯的韧性。
Acts as a ”rigid backbone,” providing high hardness with better toughness than standard acrylates.

6 储存与安全 Storage and Safety

- **储存 (Storage)***: 密封避光存放于 -10°C 至 35°C 环境。保质期为 12 个月。*
  Store in sealed containers at -10°C to 35°C. Shelf life: 12 months.
- **安全 (Safety)***: 对眼睛和皮肤有刺激性。操作请佩戴防护装备，详见 SDS。*
  Irritating to eyes and skin. Wear PPE and refer to SDS for details.

联系方式 Contact Information

昆山卡斯特高分子材料有限公司　Kunshan Kaster Polymer Co., Ltd.
地址：江苏省昆山市玉山镇祖冲之路 1666 号清华科技园
Tel: 0512-50137234　Web: www.kasterchem.com