

U-Cure 9531

聚氨酯丙烯酸树脂 / Polyurethane Acrylate Resin

Trifunctional Polyurethane Acrylate

KAISTER

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 9531 是一款三官能团聚氨酯丙烯酸树脂。该产品旨在平衡涂层的坚韧性与化学稳定性，具有极佳的耐黄变性能和极低的固化放热量，是高端光固化体系的理想选择。

U-Cure 9531 is a trifunctional polyurethane acrylate resin. It is designed to balance the toughness and chemical stability of coatings, featuring excellent non-yellowing properties and extremely low exothermic heat during curing.

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	澄清透明液体 / Clear Liquid	Visual
粘度 Viscosity (cps @ 60°C)	25,000 - 50,000	ASTM D2196
固含量 Solid Content (%)	100%	GB/T 1725
官能度 Functionality	3	Theoretical
NCO 残存 NCO Content (%)	< 0.2%	Internal Method
邵氏硬度 Shore Hardness	81D	ASTM D2240
拉伸强度 Tensile Strength	36 MPa	ASTM D638
断裂伸长率 Elongation	27%	ASTM D638

3 核心特性 Key Product Features

- 优异的坚韧性与附着平衡 (Superior Toughness & Adhesion)**
独特的分子结构赋予涂层极佳的断裂伸长率与机械强度。在提供高硬度的同时保持优异的抗冲击性能。
Unique molecular structure provides excellent elongation at break and mechanical strength while maintaining impact resistance.
- 卓越的耐黄变性 (Outstanding Non-yellowing)**
精选脂肪族异氰酸酯架构，确保涂层在长期紫外线照射下仍能保持极高的透明度。
Aliphatic isocyanate framework ensures high transparency and prevents yellowing under long-term UV exposure.
- 极低放热与收缩 (Low Exothermic Heat & Shrinkage)**
固化过程中释放热量极少，显著降低体积收缩率，有助于减少内部应力。
Minimal heat release during curing significantly reduces shrinkage and internal stress.

4 建议应用 Product Applications

- **甲油胶 (Nail Polish)**

提供持久且不发黄的修饰效果，具有良好的韧性和安全性。

Provides long-lasting, non-yellowing effects with good toughness and safety.

- **胶粘剂 (Adhesives)**

作为 UV 固化结构胶的主体树脂，提供强力的粘接强度。

Acts as a primary resin in UV structural adhesives for strong bonding strength.

- **塑胶漆 (Plastic Coatings)**

用于电子产品塑胶外壳涂装，增强耐刮擦性能。

Used for plastic shells of electronics to enhance scratch resistance.

5 常见问题解答 Q&A

Q: U-Cure 9531 为什么强调低放热量? (Why is low exothermic heat emphasized?)

A: 在厚涂应用中，高放热会导致基材变形或涂层开裂。U-Cure 9531 能显著降低这种风险。

In thick coating applications, high exothermic heat can cause substrate deformation. U-Cure 9531 minimizes this risk.

6 储存与安全 Storage and Safety

- **储存 (Storage):** 密封置于 -10°C 至 35°C 阴暗处，避光保存。保质期 12 个月。

Store in sealed containers at -10°C to 35°C in the dark. Shelf life is 12 months.

- **安全 (Safety):** 本品有刺激性。操作请佩戴个人防护装备，详见 SDS。

Irritating to eyes and skin. Wear personal protective equipment. Refer to SDS for details.

联系方式 Contact Information

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