

U-Cure 9502

聚氨酯丙烯酸树脂 / Polyurethane Acrylate Resin

二官能团聚氨酯丙烯酸树脂 / Difunctional Polyurethane Acrylate Resin

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 9502 是一款基于改性的二官能团聚氨酯丙烯酸树脂。该产品通过分子链段设计，在保证高反应活性的同时，引入了特定的柔韧化长链结构，旨在解决光固化体系中由于快速交联导致的内应力收缩问题。其分子结构经优化，表现出对窄波段 LED 光源的卓越响应性。

U-Cure 9502 is a difunctional polyurethane acrylate resin based on a modified backbone. It balances high reactivity with specialized flexible long-chain structures, effectively mitigating internal stress and shrinkage. Optimized for narrow-band LED light sources, it is an ideal candidate for high-performance flexible coatings.

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)	3,000 - 6,000	ASTM D2196
固含量 Solid Content (%)	100%	GB/T 1725
官能度 Functionality	2	Theoretical
NCO 残存 (%)	< 0.2	Internal Method
绍氏硬度 Shore Hardness	60D	ASTM D2240
拉伸强度 Tensile Strength (MPa)	–	ASTM D638
断裂伸长率 Elongation (%)	60%	ASTM D638

3 核心特性 Key Product Features

- 低能量/LED 适配性 (Low Energy & LED Compatibility)**
针对 365nm-405nm 波段进行了感度优化，即使在低能量条件下亦能实现深度交联。
Optimized sensitivity for the 365nm-405nm wavelength, achieving deep cross-linking even under low-energy conditions.
- 网状结构柔韧性 (Network Structure Flexibility)**
具有优异的断裂伸长率与弹性恢复率，赋予涂膜卓越的抗弯挠性与层间附着力。
Features excellent elongation at break and elastic recovery, providing superior flexural resistance.

4 建议应用 Product Applications

- 精密软质涂层 (Precision Flexible Coatings)**
应用于 3C 产品外壳、合成皮革及特种薄膜的表面功能化涂层。
Applied in functional surface coatings for 3C electronics and specialty films.

- **LED 固化甲油胶体系 (LED-curable Nail Polish Systems)**

作为主体树脂提供快速干爽度及优异的韧性，避免脆裂脱落。

Used as a primary resin to provide fast surface dryness and toughness in nail polish.

5 常见问题解答 Q&A

Q: 该树脂在 LED 体系中如何平衡固化速度与氧抑制效应？ (How does this resin balance cure speed and oxygen inhibition?)

A: U-Cure 9502 优化了自由基捕获效率。建议配合适当的胺类助引发剂，以在低能 LED 照射下进一步抵消表层氧抑制。

U-Cure 9502 optimizes radical capture efficiency. We recommend combining it with amine synergists to counteract oxygen inhibition.

6 储存与安全 Storage and Safety

- **储存 (Storage):** 需密封遮光存储，避免接触高温。建议存储温度为 -10°C 至 35°C 。保质期 12 个月。

Store in sealed, light-proof containers at -10°C to 35°C . Shelf life: 12 months.

- **安全 (Safety):** 本品对皮肤及眼睛有中度刺激性。操作请佩戴个人防护装备，详见 SDS。

Irritates skin and eyes. Wear personal protective equipment. 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