

# U-Cure 9505

## 二官能团聚氨酯丙烯酸酯 / Urethane Acrylate

二官能团聚氨酯丙烯酸酯低聚物 / Difunctional Urethane Acrylate Oligomer

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 9505 是一种二官能团聚氨酯丙烯酸酯树脂。其设计旨在平衡中低粘度与高交联密度，为各种工业应用提供优异的耐化学性与表面性能。

U-Cure 9505 is a difunctional urethane acrylate oligomer. It is designed to balance low-to-medium viscosity with high crosslinking density, providing excellent chemical resistance and surface performance for various industrial applications.

## 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 @ 25°C) | 25,000 - 55,000       | ASTM D2196      |
| 固含量 Solid Content (%)     | 100%                  | GB/T 1725       |
| 官能度 Functionality         | 2                     | Theoretical     |
| NCO 残存 NCO Content (%)    | < 0.2                 | Internal Method |
| 邵氏硬度 Shore Hardness       | 84D                   | ASTM D2240      |
| 拉伸强度 Tensile Strength     | 43 MPa                | ASTM D638       |
| 断裂伸长率 Elongation          | 7%                    | ASTM D638       |

## 3 核心特性 Key Product Features

### • 优异的中低粘度表现 (Excellent Low-to-Medium Viscosity Profile)

在同类聚氨酯丙烯酸酯中具有极佳的流动性，显著优于传统高粘度低聚物。这有利于减少活性稀释剂的使用，保持配方的力学性能并提升施工润湿性。

Offers exceptional fluidity compared to traditional high-viscosity oligomers. This reduces the need for reactive diluents, maintaining the formula's mechanical properties while improving wetting.

### • 高效交联与密实固化 (High Crosslinking & Dense Curing)

具有较高的反应活性，固化膜形成的交联网络紧密且均匀，赋予涂层卓越的表面硬度和抗划伤性能，同时有效防止小分子物质渗透。

Features high reactivity, forming a dense and uniform crosslinked network upon curing. This provides the coating with superior surface hardness, scratch resistance, and an effective barrier against penetration.

### • 广谱耐化学性 (Broad-spectrum Chemical Resistance)

对醇类、酸碱以及常见的家庭日化用品具有优异的耐擦拭和耐浸泡性能，保证了涂层在苛刻环境下的光泽保持度和结构完整性。

Exhibits outstanding resistance to alcohols, acids/alkalis, and common household chemicals, ensuring gloss retention and structural integrity of the coating even in harsh environments.

## 4 建议应用 Product Applications

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- **塑胶漆 (Plastic Coatings)**

适用于一涂色漆、一涂银粉漆以及高流平镜面清漆，提供高亮度的装饰效果与耐用性。  
*Suitable for basecoats, silver paints, and high-leveling mirror-effect topcoats, providing high-gloss decorative effects and durability.*

- **UV 油墨 (UV Inks)**

提升印刷墨层的耐性、耐摩擦性能以及在金属、塑胶等难附着基材上的结合力。  
*Improves the durability, abrasion resistance, and adhesion of UV inks on challenging substrates such as metals and plastics.*

- **电子包封材料 (Electronic Encapsulation)**

用于 UV 固化三防漆或电子封装胶，提供优异的绝缘性、抗湿热性以及针对敏感元件的化学防护能力。  
*Used in UV-curable conformal coatings or encapsulation resins, providing excellent insulation, hydrothermal resistance, and chemical protection.*

## 5 常见问题解答 Q&A

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**Q:** U-Cure 9505 作为高交联度树脂，如何保证固化膜的坚韧性? (How to ensure the toughness of the cured film?)

**A:** 该树脂在分子设计中引入了特定的柔性聚氨酯链段。在保持高交联密度的同时，能够通过链段的微观形变吸收外力冲击，从而实现“刚而坚韧”的机械性能，有效防止涂层在应力下发生脆裂。  
*The resin incorporates specific flexible urethane segments in its molecular design. While maintaining high crosslinking density, it absorbs external impacts through microscopic deformation, achieving "rigid yet tough" mechanical properties and preventing brittle cracking under stress.*

## 6 储存与安全 Storage and Safety

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- **储存 (Storage):** 应存放于密封容器中，并置于温度在  $-10^{\circ}\text{C}$  至  $35^{\circ}\text{C}$  的阴暗通风环境中。保质期至少 12 个月。  
*Stored in sealed containers in a dark, ventilated environment at  $-10^{\circ}\text{C}$  to  $35^{\circ}\text{C}$ . Shelf life is 12 months.*
- **安全 (Safety):** 对眼睛有刺激性，对水生生物有毒。操作时请佩戴防护用品并参阅安全数据表 (SDS)。  
*Irritating to eyes and toxic to aquatic life. Wear protective equipment and refer to the SDS.*

## 联系方式 Contact Information

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