KASTER

Innovation in Polymer Chemistry
昆山卡斯特高分子材料有限公司

U-Cure 9311

二官能团聚氨酯丙烯酸酯 / Difunctional Urethane Acrylate

专为高附着力涂层系统开发的柔韧性树脂 / *Flexible Resin for High Adhesion Systems*

技术资料表　Technical Data Sheet (TDS)

1　产品介绍 Product Introduction

U-Cure 9311 是一款高性能的二官能团聚氨酯丙烯酸酯 *UV* 树脂。该树脂专为对附着力要求严苛的涂层系统开发，通过优化分子链段，实现了坚韧性与柔韧性的平衡。其显著特点在于能有效提升在无机基材及极性塑胶表面的抓牢力。

U-Cure 9311 is a high-performance difunctional urethane acrylate UV resin. Specially developed for coating systems with strict adhesion requirements, it achieves a balance between toughness and flexibility by optimizing molecular segments. It effectively improves adhesion on inorganic substrates and polar plastic surfaces.

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)	42,000 – 55,000	ASTM D2196
固含量 Solid Content (%)	100%	GB/T 1725
官能度 Functionality	2	Theoretical
NCO 残存 NCO Content	无 / Negative	Internal Method
绍氏硬度 Shore Hardness	54D	ASTM D2240
拉伸强度 Tensile Strength	35 MPa	ASTM D638
断裂伸长率 Elongation at Break	67%	ASTM D638

3　核心特性 Key Product Features

- **优异附着力 (Excellent Adhesion)**
  针对金属、玻璃、陶瓷及多种塑胶（如 *ABS, PC, PET*）具有出色的粘接强度。
  Outstanding bonding strength on metal, glass, ceramics, and various plastics.
- **非黄变特性 (Non-yellowing Property)**
  具有极佳的耐候性，长时间光照下仍能保持晶莹剔透的外观。
  Excellent weatherability, maintaining a clear appearance under long-term light exposure.
- **低放热与低刺激 (Low Exotherm & Irritation)**
  固化过程中放热量低，减少内应力，且对皮肤刺激性较小。
  Low heat release during curing reduces internal stress, with low skin irritation.

4 建议应用 Product Applications

- **甲油胶 (Nail Polish Gel)**
  提供优异的韧性、高光泽及对指甲表面的良好附着力。
  Provides excellent toughness, high gloss, and good adhesion to nail surfaces.
- **工业涂料 (Industrial Coatings)**
  广泛用于玻璃涂料、金属涂层及电子产品的塑胶漆。
  Widely used in glass coatings, metal coatings, and plastic paints for electronics.

5 常见问题解答 Q&A

Q: 如何优化 U-Cure 9311 在极难附着金属上的表现? (How to optimize performance on difficult metal?)

A: 建议搭配小分子的磷酸酯单体使用，并确保底材表面清洁无油脂。
It is recommended to use with small-molecule phosphate monomers and ensure the substrate surface is clean and oil-free.

6 储存与安全 Storage and Safety

- **储存 (Storage)***:* 建议储存于密封容器中，存放于 $-10°C$ 至 $35°C$ 的阴暗干燥环境。保质期 *12* 个月。
  Store in sealed containers at $-10°C$ to $35°C$ in a dark, dry place. Shelf life: 12 months.
- **安全 (Safety)***:* 本产品对眼睛有刺激性。操作请佩戴个人防护装备，详见 *SDS*。
  Irritating to eyes. Wear personal protective equipment. Refer to SDS for details.

联系方式 Contact Information

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