# MP-397

## 3-Isocyanatopropyltrimethoxysilane

## 异氰酸酯基硅烷偶联剂

***INTRODUTION***

It is used as a crosslinking agent and adhesion promoter in coatings, inks, and adhesives. Its excellent wet adhesion properties make it widely applicable on glass, metals, and other inorganic substrates; it also adheres well to difficult-to-adhere organic materials, such as nylon and other plastic products. It hydrolyzes rapidly in the presence of atmospheric humidity, does not yellow, and exhibits excellent thermal, chemical, and UV stability. Suitable polymers include acrylics, silicones (Si), and PU prepolymers, where the isocyanate end reacts with the hydroxyl groups of the resin (such as polyesters, acrylic polyols, and epoxy resins).

***TYPICAL VALUES***

| | |
|---|---|
| MW(GPC) | 270 |
| Effective content | 99.5% |
| Colour, Gardner | >2 |
| Refractive Index | 1.41 |
| Specific Gravity | 0.92 |
| Viscosity at 25℃,cPa.s | 20 |

## Coating Applications:

Silane terminals form strong covalent bonds with oxides/hydroxyl groups on metal surfaces (aluminum, steel, galvanized sheet) or with glass and ceramic surfaces. In humid, water-immersed, or salt spray environments, it effectively resists the erosion of the interface by water molecules, providing reliable chemical bonding. On low surface energy plastics such as PP and PA, it can interact with trace polar points on the plastic substrate, acting as an adhesion promoter (primer or direct addition) in industrial coatings, anti-corrosion coatings, and plastic coatings (mobile phone casings, automotive interiors).

**Ink Applications:**

In two-component inks or closed-type crosslinking applications, strong interfacial bonding and potential crosslinking effects result in a harder and more wear-resistant coating. Improved Chemical Resistance: The dense interfacial layer better blocks the penetration of acids, alkalis, solvents, and other media.

**Adhesive Applications:**

The addition of MP-397 to highly stable structural adhesives and moisture-curing polyurethane adhesives further enhances adhesion through a dual reaction with the substrate and moisture in the air. This allows for penetration of oil stains and humid environments on material surfaces, and complex chemical interfacial reactions, providing more reliable bonding.

**Recommended addition amount: 0.5-2%**

***packing*：20kg 塑料桶 ， 200kg 铁桶**

*更详尽的应用参考资料及 MSDS 备索……*