



## Photo-Curing Adhesive for General Plastic Bonding

### Product Description

9023 is a photo-curing adhesive designed for general plastic (including ABS, HIPS, PS, PC, PVC, acrylic, etc.) bonding. This resin is colorless and transparent when applied in thin film bonding. Additionally, this adhesive is able to cure rapidly under visible light and demonstrates excellent adhesion strength. In many applications, cured product shows a significant increase in adhesion strength when comparing with original materials, such as anti-ultraviolet acrylic and PC surfaces. Through the excellent performance, this resin proves itself to be a considerably reliable photo-curing adhesive.

### Features

1. This product has good toughness, shock resistance, and thermal shock resistance.
2. This resin is able to react with plastics and exhibit high adhesion strength.
3. This product is suitable for many common plastics, which makes it an excellent solution to problems involving bonding plastics in various applications.
4. This product complies to the 2011/65/EU RoHS regulations.

### Typical Uncured Properties

Appearance	9023 Liquid
Color	Colorless
Viscosity 25°C, S14 50rpm, cps	3,600~5,000
Specific Gravity	1.096
Refractive Index n <sub>D</sub>	1.4834
Solvent Content, %	0
Heavy Metal Content, %	0

### Typical Curing Properties

Recommended Wavelength, nm	310~365
Minimum Light Intensity, mW/cm <sup>2</sup>	> 50
Minimum Light Energy, mJ/cm <sup>2</sup>	1,000~2,000

### Direction of Use

1. Clean the contact surface until it is free of dirt, grease or mold release. Generally, a simple solvent wipe is sufficient.
2. Real curing time depends on various factors, such as part geometry, materials to be bonded, bondline thickness and efficiency of the UV light. Confirm the real curing time and conditions with actual production parts and equipment.
3. Please standardize the UV lamp intensity and illumination. Over-exposure will not affect the product quality; however, under-exposure will severely change the resin properties. When under-exposure, the resin may have lower reaction rate and may not pass the environmental test experiments.
4. This product may cause skin irritation to sensitive personnel.

### Typical Cured Properties

Glass Transition Temp.(MDSC), °C	-12
Durometer Hardness, Shore D	69
Elongation, %	93
Working Temperature Range, °C	-40~100

### Mechanical Test



Item	Test Area of Specimen cm <sup>2</sup>	Maximum Strength, kgf	Bonding Strength kgf/cm <sup>2</sup>	Description of Material Failure
9023	0.71	60.37	85.56	Substrate Failure
9023	0.88	102.28	115.97	Substrate Failure
9023	0.71	82.15	115.96	Substrate Failure
9023	0.76	107.98	142.83	Substrate Failure
Average	0.76	88.19	115.08	Failure

### Storage and Shelf Life

This product should avoid any direct light exposure. Replace the lid immediately after use to prevent possible light exposure. This product has a one year minimum shelf life when stored under shades, room temperature (14~34°C), and in sealed containers.

### Caution

Some findings indicate a lack of potential for carcinogenicity with the compositions of this product by long term recurrent application to the skin. However, direct contact with the skin is likely to produce mild transient reddening and allergic reaction. If contacted directly, remove the adhesive from skin with soap and water thoroughly. DO NOT use solvents for cleaning hands. This product is of moderate acute toxicity by swallowing. If swallowed, contact the hospital immediately. Avoid any contact with eyes. In case of contact, flush with water for at least 15 minutes and get medical attention immediately. For specific information on this product, consult the Material Safety Data Sheet.

The data contained in this bulletin is provided only as a guide for evaluation/consideration. These material characteristics are typical properties that are based on a limited number of samples tested in the laboratory. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any product or method. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide.