



MicroChem Remover 1112A

Description

MicroChem Remover 1112A is an aqueous alkaline remover supplied as a ready-to-use concentrate. It is designed to strip photoresist coatings on photo-masks, optoelectronic displays, thin film circuits, and other microelectronic devices.

Features

Clean Efficient Removal

- Residue-free removal with less agitation

Aqueous Alkaline, Metal Ion Free

- Reduced device contamination
- Especially useful for LCD and electroluminescent displays
- Excellent for mask cleaning

Simplified Waste Treatment

- No phenols, phosphates, fluorides, chromates, or metal ions

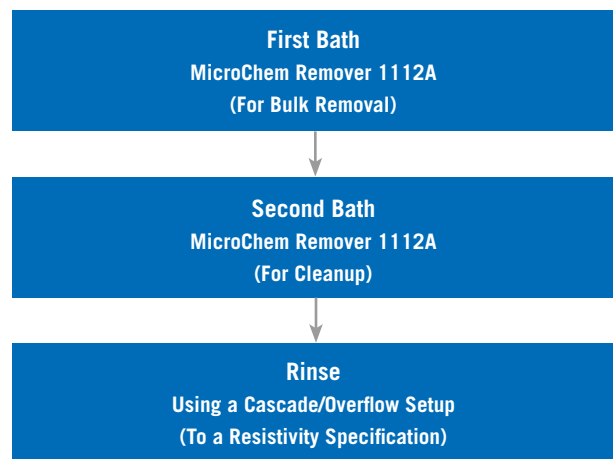
Ease of Operation

- Rinses completely in water
- No strong objectionable odor
- Simple replenishment
- Cost effective two bath system

Flexibility for Custom Dilutions

- Aqueous mixtures for addressing specific applications

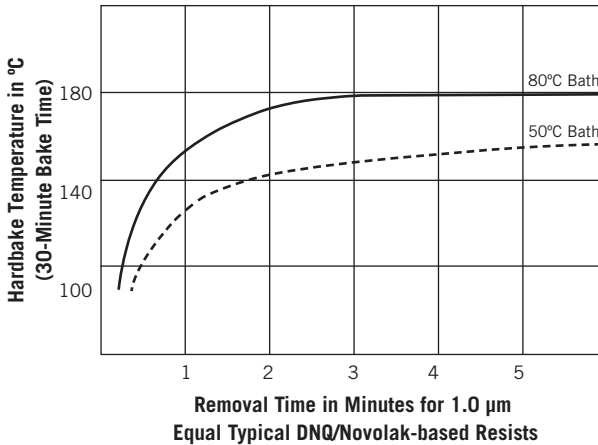
Process Flow





MicroChem Remover 1112A

Common Removal Time of Typical DNQ/Novolak-based Resists
Using MicroChem Remover 1112A
(As a Function of Hardbake Temperature)



COMPARISON OF ETCHING PROPERTIES Etch Rate in Å/Minute @ 65°C

Substrate	1112A	Custom 1:2 Dilution (1112A: H ₂ O)
(100) Si	<14.0	107.0
(111) Si	<3.4	13.0
99.999% Al	<112.0	366.0
Al/4% Cu/2% Si	<128.0	272.0
Polysilicon	<4.5	51.6
SiO ₂	<0.1	<0.1

Typical photoresist removal rates: 1 minute in an 80°C MicroChem Remover 1112A bath removes 1.0 μm of typical DNQ/Novolak-based resist that has been hardbaked up to 155°C for 30 minutes.

INSTRUCTIONS FOR USE

Bath Make-up

MicroChem Remover 1112A is supplied as a ready-to-use solution. The graph on the left shows MicroChem Remover 1112A removal time of typical DNQ/Novolak-based resists at two different bath operating temperatures. The table below compares etch rates on various substrates, respectively.

In general, a two bath system is recommended. The first bath removes the bulk of the photoresist while the second bath cleans up any remaining traces of photoresist.

Temperature

Operate MicroChem Remover 1112A baths between 50° and 80°C with the temperature controlled to ±5°C.

The higher bath temperature is recommended for effective stripping of photoresist which has been hardbaked.

A lower temperature range is recommended to minimize attack rate on silicon, polysilicon, and aluminum during photoresist removal.

Time

Immerse substrates for 3 to 5 minutes in each bath.

Agitation

Good mechanical agitation of substrates is recommended.

Rinse

A deionized water rinse is recommended using a cascade/overflow setup. Rinsing should continue until a desired resistivity is reached.

Bath Control & Analysis

Maintain volume level with deionized water. Replace bath when removal time exceeds 5 minutes.

If a two bath system is being used, the first or bulk removal bath is sent to waste treatment and the second bath is then used for bulk removal. This is an efficient and economical approach to material conservation.



Equipment

MicroChem Remover 1112A is compatible with high density polyethylene, unfilled polypropylene, and 316 stainless steel. In addition, polytetrafluoroethylene or 316 stainless steel immersion heaters can be used. Finally, whenever absolute metal ion free operation is required, use of polytetrafluoroethylene is recommended.

Storage

Store MicroChem Remover 1112A only in upright, original containers in a dry area at 50° to 90°F (10° to 32°C). Store away from oxidants. Do not store in sunlight. Store away from heat and sources of ignition. Keep containers sealed when not in use. MicroChem Remover 1112A has a limited shelf life.

Properties as Delivered

MicroChem Remover 1112A is manufactured with advanced manufacturing techniques in state-of-the-art facilities to the highest quality standards. It is then subjected to state-of-the-art testing for physical, chemical and functional properties to assure the user of maximum lot-to-lot reproducibility.

Certificates of analysis will be supplied with each shipment upon request. Quality Assurance Material Specifications and Analytical Testing Procedures may be obtained from your Kayaku Advanced Materials' Technical Sales Representative.

MicroChem Remover 1112A has the following typical properties:

Specific gravity at 20/20°C: ~0.963
Color: Pale yellow to yellow solution
Turbidity: 1 NTU Maximum
Total Alkaline Normality: 2.65–02.75 N

Disposal

The material and its container must be disposed in accordance with all local, state, federal and/or international regulations.

Handling

Consult Safety Data Sheet (SDS) for details on the

handling procedures and product hazards prior to use. If you have any questions regarding handling precautions or product hazards, please email productsafety@kayakuAM.com.

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