TECHNICAL PRODUCT INFORMATION

FUJIFILM

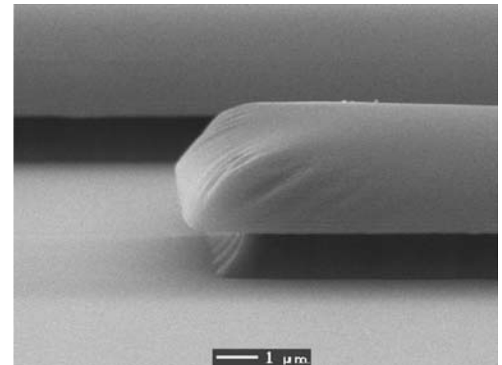
Microstrip® 6800

Product Description

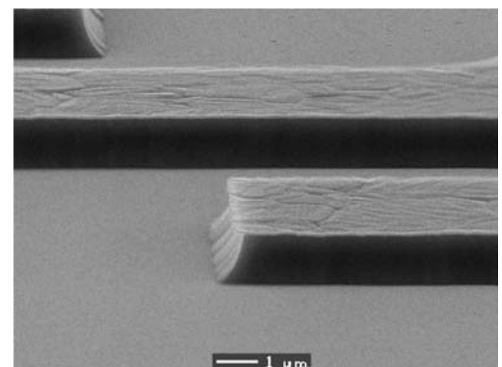
Fujifilm Electronic Materials' Microstrip® 6800 is a positive photoresist stripper designed to provide maximum cleaning efficacy while maintaining compatibility with typical metals and advanced FEOL integration materials. Microstrip® 6800 has improved EH&S properties over conventional NMP or hydroxyl amine based chemistries. With its high strip rate on various types of positive photoresist Microstrip® 6800 is particularly applicable on single wafer tools.

Microstrip® 6800 can be used with silicon, silicon dioxide, silicon nitride, titanium, tungsten aluminum and its alloys and other metal substrates. It will not stain aluminum, aluminum silicon alloys, titanium or tungsten, even with moisture present. Microstrip® 6800 is the preferred solvent stripper for advanced FEOL resist strip applications with its excellent compatibility with Hf-based high-k layers and gate metals.

Microstrip® 6800 provides good bath stability with low evaporation rates, and it is compatible with ultrasonic cleaning systems. Its low viscosity minimizes drag-out losses and typically requires only a DI-water rinse. Trace metals specifications are below 20 ppb.



Before Clean



Post Clean
5 minutes at 65°C

Recommended Process

For most process applications, Microstrip® 6800 can be used to strip positive photoresist under standard conditions. Typical process conditions are 10 to 30 min at temperatures between 50°C and 90°C, followed by a DI water rinse.

For wafers that have been subjected to higher hardbake temperatures, deep UV stabilization or high current ion implants elevate the bath temperature to 90°C. If an incomplete strip is observed, the use of an ultrasonic application during the strip process may be necessary.

Recommended process flow
(Resist Hardbake from 105°C – 140°C)

1. Heat two baths of Microstrip® 6800 to 70°C ± 5°C.
2. Insert wafers in a carrier and immerse in each bath for 5 to 15 minutes using mild agitation.
3. Rinse in deionized water to 18 MΩcm resistivity.
4. Spin dry.

Note:A strong DI rinse or Quick Dump Rinse is recommended to avoid an excessive metal etching during the DI rinse. As MS6800 is alkaline when mixed with water, an elevated etch rate can be observed during the DI rinse for some metals, including Al and Al alloys. For critical applications an intermediate IPA rinse may be required.

Product Data:

Microstrip® 6800 Metal Etch Rates (75°C)

Thickness measurements were made using a CDE ResMap 168 four-point probe

Metal	Etch Rate (Å/minute)
Al	1
Ti	< 1
TiN	< 1
TiW	2
Ni	< 1
Cu	66
Au	< 1
Ag	9

Microstrip® 6800 Dielectric Compatibility (75°C)

Thickness measurements were made using a Filmetrics F-series FB3B measurement system

Dielectric	Etch Rate (Å/minute)
FSG	< 1
BD1	< 1
Coral	< 1
TEOS	< 1

Microstrip® 6800 Physical Properties

Property	Value
Specific Gravity @ 25°C	1.08
Flash Point (°C) (closed cup)	86
Viscosity @ 25°C (cSt)	2.5-3.1
Freezing Point (°C)	< 0
pH (5% solution @ 25°C)	11-12

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