Advanced, High-Performance
DMSO Based Stripper

Historically, NMP has been a solvent that is widely used for its powerful stripping performance for photoresist removal and metal lift-off. Following international EH&S revisions, labeling it a reproductive toxin, many companies are looking for replacements to traditional NMP based stripping processes.

Technic has shown that the use of proprietary formulations using DMSO as a foundation is the best option for delivering equivalent and sometimes improved performance over NMP.

TechniStrip® MLO 07 is a powerful DMSO based stripper that, in addition to its low toxicity, also provides many other benefits over NMP based strippers.

This unique chemistry can also be used for metal lift-off applications. Metal lift-off is an alternative patterning method for etching. Metal lift-off is used for hard to etch or inert metals like gold.

Features

- Improved performance over NMP in many applications
- Provides dissolution for many positive resists
- High material compatibility on Cu, Sn, Ag, alumina, magnetic alloys and organic substrates
- Ideally suited for gold and other precious metal lift-off
- Formulated to minimize the formation of metal fragments during the lift-off process

Benefits

- Reduced cost of operation compared to NMP based products through process enhancement and extended bath life
- Elimination of exhausting harsh fumes from NMP
- Reduced defects by providing dissolution for a variety of resists and minimizing metal fragments during the lift-off process
- High material compatibility provides a wider processing window and ease of operation
- Enhanced safety for operators with a formulation that is NMP and TMAH free
TechniStrip® MLO 07  Advanced DMSO Photoresist Stripper

Metal Lift-Off Process

1. Substrate coated with resist
2. Develop resist to obtain desired pattern
3. Sputter or evaporate metal over entire wafer
4. Remove resist and “lift-off” excess metal with TechniStrip® MLO 07
5. Desired metal pattern is achieved

The low etch rate properties of TechniStrip® MLO 07 enables compatible photoresist stripping with many different material stacks.

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Etch Rate (Å/min @ 65°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al (5% Cu)</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Cu (PVD)</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Cu (ECD)</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Ni</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Ta/TaN</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Ti/TiN/TiW</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Au, Sn, Ag</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Thermal SiO₂</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Undoped Si</td>
<td>&lt; 1</td>
</tr>
</tbody>
</table>

Before Rinsing | Final

Silver Metal Lift-Off (Before and After)

Gold Metal Lift-Off (Before and After)

TechniStrip® MLO 07
14 minutes @ 65°C

NMP
90 minutes @ 65°C