



## PLANARCLEAN® LIQUID WAFER SOLUTION

*Effective post-CMP cleaning chemistry*

### Overview

PlanarClean® is the next-generation post-CMP copper cleaning product designed for use following the barrier CMP step. Formulated using our high-productivity testing and development process, PlanarClean comes as an aqueous solution with strong-acting agents that are very effective at preventing copper corrosion during and after the cleaning process. In addition, PlanarClean is compatible with copper and various dielectric materials, including porous low-k. It is also compatible with all major CMP platforms (Applied Materials®, Ebara®, etc.). PlanarClean requires no additional heating (used at ambient temperature). With PlanarClean, you can proceed with the confidence, effectiveness and efficiency that come from using Entegris copper integration products.

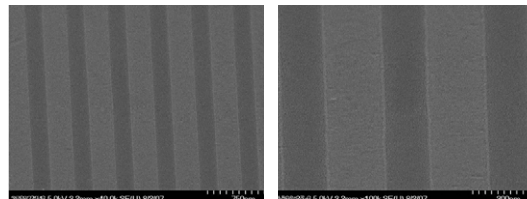


### Highlights

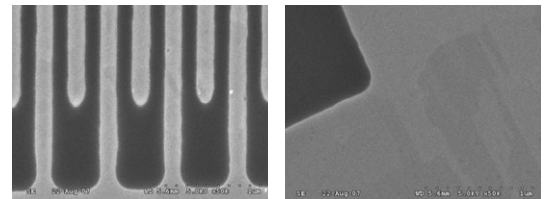
- Compatible with low-k
- Applicable for all CMP platforms
- Excellent organic residue removal
- Improved electrical performance (TDDB)
- Low copper roughness
- Low cost of ownership
- No special waste treatment required for disposal
- Effective metallic contamination removal from dielectric
- No copper corrosion during extended queue time

### Performance Data

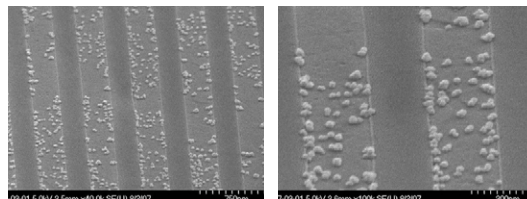
With PlanarClean



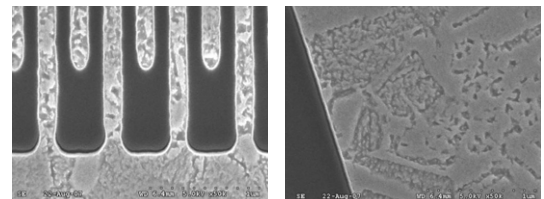
With PlanarClean



Without PlanarClean



Without PlanarClean



*With PlanarClean there is no copper corrosion during extended queue time.*

*With PlanarClean you get a smoother surface with no roughness after each use.*

## Material Compatibility

High density polyethylene (HDPE), PFA, polypropylene, 316L stainless steel, quartz and Teflon® (PTFE) are normally suitable materials of construction. Diluted PlanarClean is compatible with PVA brushes.

## Handling, Storage and Packaging

Before using this product, read the MSDS, as well as the *PlanarClean Instructions for Use and Evaluation* document. PlanarClean is available in 5-gallon and 55-gallon HDPE drums. Smaller sizes may be available upon request.

For PlanarClean applications, customized recipes may be needed to meet application-specific requirements. Contact Entegris technical personnel for assistance in adjusting process variables (time, pressure, rpm, dilution, etc.). Adjusting these variables can optimize performance and cost of ownership.

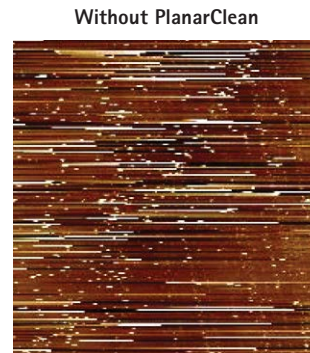
## Process Recommendations

Total chemical process time:	60 seconds
Brush box 1 process time:	30 seconds (+30 second DI rinse)
Brush box 2 process time:	30 seconds (+30 second DI rinse)
Dilution:	30:1 to 60:1 (with DI water)
SRD:	30 seconds
Temperature:	Ambient

*Chemical delivery system requires pressurized inert gas blanketing (N<sub>2</sub>).*

## For More Information

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit [www.entegris.com](http://www.entegris.com) and select the Customer Service link for the center nearest you.



*PlanarClean's formulation is designed to eliminate defects and leave a smooth surface.*

For PlanarClean applications, customized recipes may be needed to meet application-specific requirements. Before conducting any trials, please contact Entegris Customer Service at 1-888-301-4401 for assistance in adjusting process variables (time, pressure, rpm, dilution, etc.). Adjusting these variables can optimize performance, total cost of ownership and overall effectiveness of PlanarClean product use.

## Terms and Conditions of Sale

All purchases are subject to Entegris' Terms and Conditions of Sale. To view and print this information, visit [www.entegris.com](http://www.entegris.com) and select the Legal Notices link from the footer.

Entegris®, the Entegris Rings Design®, Creating a Material Advantage® and PlanarClean® are registered trademarks of Entegris, Inc. Teflon® is a registered trademark of E. I. du Pont de Nemours and Company. Applied Materials® is a trademark of Applied Materials, Inc. Ebara® is a trademark of Ebara Corporation.

### ENTEGRIS, INC.

Corporate Headquarters | 129 Concord Road | Billerica, MA 01821 USA  
Customer Service Tel. +1 952 556 4181 | Customer Service Fax +1 952 556 8022  
In North America 800 394 4083 | [www.entegris.com](http://www.entegris.com)