



EPL8105 Cleaning Solution

DESCRIPTION

EPL8105 is a cleaning solution that eliminates the buildup of copper oxides on polish pads during copper CMP and is also very effective at removing the passivation layer that forms on copper wafer surfaces.

Physical Properties

Item	Test Method	Range
pH (25°C)	RCM-INS-201 (3.6)	4.2 – 4.7
Specific Gravity (25°C)	RCM-INS-201 (3.4)	1.016 ± 0.006
Viscosity (cps, 25°C)	RCM-INS-201 (3.3)	< 5 cps

STABILITY

EPL8105 cleaning solution for polishing pads has a shelf life of 12 months from the date of manufacture.

KEY BENEFITS

- EPL8105 cleaning solution for polishing pads is highly effective at removing copper oxides from the surface of copper wafers but will not remove copper during over polish. It has a very low static etch rate on copper (<10 Å min.) and will not cause copper corrosion.
- EPL8105 cleaning solution improves pad life by removing copper residual build up on the polish pads over a large number of wafers in production environments.
- EPL8105 cleaning solution is very effective at removing the passivation layer of copper oxides that forms on copper wafer surfaces either during the post electroplating annealing process, or native oxide growth that may occur before the wafers are polished.

RECOMMENDATIONS FOR USE

EPL8105 cleaning solution can be used directly without dilution for either post-CMP cleaning of polish pads or removal of copper oxides on wafers.

For Pad Cleaning

EPL8105 cleaning solution is dispensed during pad conditioning.

Removal of Copper Oxides on Wafers

EPL8105 cleaning solution is dispensed on the polish pad and the wafer is polished at low down force to remove copper oxides prior to introduction of copper CMP slurry.

MIXING AND DISPENSING

Mixing

The incoming cleaning solution is homogeneous. However, five minutes of stirring at 250–500 RPM depending upon stirrer type, should be implemented to ensure complete homogeneity and re-dispersion of abrasive in the container due to differences in undisturbed storage time. Consult your local representative for detailed mixing instructions.

Dispensing

Storage tanks and distribution piping should be constructed of engineering plastic such as polyethylene, polypropylene, or PTFE. Materials such as aluminum, copper, brass, or PVC should be avoided. Avoid leaving slurry containers open for extended periods of time. Leaving containers open may result in drying and crystallization of the silica abrasive component, which can cause wafer scratching. Open daytanks should be humidified to prevent drying.



creating the
flawless surface

Rinse all transport lines, flow meters and other equipment with pH adjusted DI water after use before exposing to air so that the risk of slurry drying on or within them is minimized.

PACKAGING

EPL8105 cleaning solution is packaged in 20L and 200L HDPE non-returnable drums and 1040L tote.

Storage

Always check the condition of containers (drums, pails, and totes) immediately upon delivery. Accept deliveries only if the shipment and recorders are intact and do not indicate exposure to freezing temperatures. Shippers are responsible for damaged material until shipments are accepted. It is very difficult to hold the shipper liable for damaged material once a shipment is accepted. If material is damaged (by handling or temperature exposure) the shipments should be refused, and a claim should be filed with the carrier handling the delivery.

EPL8105 cleaning solution may degrade if exposed to temperatures below 10°C (50°F). Freezing will cause irreversible product degradation. EPL8105 can be stored for up to one year from manufacture between 10°C –38°C (50°F–100°F). Maintain storage in a temperature controlled environment for best results. Avoid prolonged exposure to temperatures at either extreme. Storage in aluminum, copper, brass, or PVC is not recommended. Storage equipment should be made of polyethylene, polypropylene, PTFE, or other reinforced engineering plastic. Tanks, piping and handling equipment can be washed and cleaned with water to remove any deposits due to evaporation.

As a safeguard against potential supply shortage due to frozen shipments, it is suggested that an inventory be built prior to the onset of the winter months.

Consult your local Rohm and Haas Electronic Materials representative for recommendations when designing equipment or handling systems.

PRECAUTIONARY NOTES

Follow all MSDS and label precautions and use good industrial safety and hygiene practices when handling or using this product. Keep this and all industrial materials away from untrained personnel.

DISPOSAL

Dispose in accordance with all applicable regulations.

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