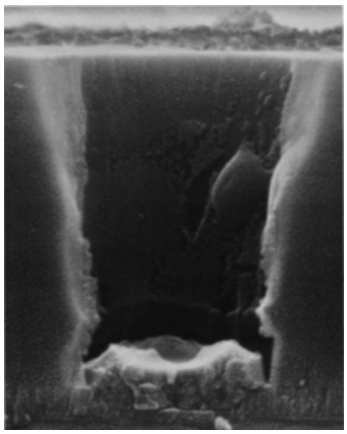
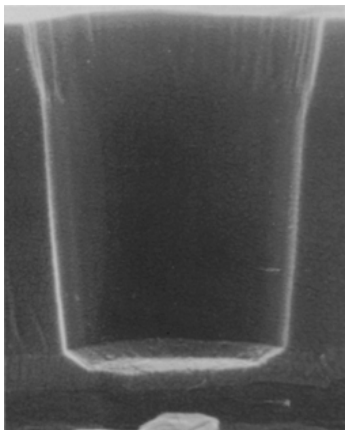
ST-26S

Al compatible post etch/post ash clean

ST-26S solution contains a complexing agent which greatly enhances the removal of residual metal oxides and other inorganics formed during aggressive plasma etching and ashing. This unique solution effectively permeates heavily oxidized residues and rapidly dissolves them before they can redeposit back onto the substrate. Formulated with an extremely low operating viscosity and a corrosion reducing component, ST-26S is ideal for use in automated photoresist stripping equipment.



TiN via after etch and O_2 plasma.



TiN via after etch, O_2 plasma, and stripping with ST-26S solution.

BENEFITS

- Strips plasma deposited oxides and other inorganic residues
- Strips positive photoresist
- Non-corrosive to metals
- Low toxicity, odor and volatility
- Low operating temperature and extremely low solution viscosity ideal for automated spray processing units

BATH MAKE-UP

ST-26S solution is formulated as a ready-to-use solution, and is optimized for semi-automatic spray equipment use. In immersion applications, a two-bath system is recommended: the first bath to remove the bulk of the residue, and the second to remove any remaining residue.

PROCESS

In processing, always load dry wafers into ST-26S solution.

Set-up for a One Bath System

1. Heat ST-26S to 35° – 55°C (95° – 131°F).
2. Immerse dry wafers into the ST-26S and mildly agitate for 20 – 25 minutes.
3. Transfer wafers to DI water rinse for 15 minutes.

   NOTE: A 1 – 2 minute dip in one of Entegris' post stripper rinse solutions or isopropyl alcohol prior to DI water rinsing may enhance cleaning and inhibit corrosion of sensitive metal alloys.

4. Spin dry wafers.

Set-up for a Two Bath System

1. Heat two baths of ST-26S to 35° – 55°C (95° – 131°F).
2. Immerse dry wafers into the first bath of ST-26S and mildly agitate for 10 – 15 minutes.
3. Transfer wafers to second bath and mildly agitate for 15 – 20 minutes.
4. Transfer wafers to DI water rinse for 15 minutes.

   NOTE: A 1 – 2 minute dip in one of Entegris' post stripper rinse solutions or isopropyl alcohol prior to DI water rinsing may enhance cleaning and inhibit corrosion of sensitive metal alloys.

5. Spin dry the wafers.

Use in Automatic Strip Equipment

ST-26S solution is especially effective in automatic strip equipment. A typical automatic spray process is shown in the chart on the following page.

Partial O2 (1500 –2000Å) ASH/ST-26S Process

Step	Solution	RPM	Time/Temp	Comments
1	ST-26S (manifold 1)	50	20:00/35° – 55°C (95° – 131°F)	No pre-wet step required
2	N_2 (manifold 1)	50	15 sec	N_2 purge of manifold
3	Post strip rinse	50	15 sec	PSR/PSR II spray to waste
4	Post strip rinse	50	1:00	Low speed PSR/PSR II rinse
5	Post strip rinse	500	2:00	High speed PSR/PSR II rinse
6	N_2 to tank-1	50	15 sec	N_2 purge back to PSR/PSR II
7	DI water (manifold 1)	50	30 sec	DI water rinse to drain
8	DI water (manifold 1)	50	1:00	Low rpm DI water rinse
9	DI water (manifold 1)	500	2:15	High rpm DI water rinse
10	N_2 (manifold 2)	1200	15 sec	N_2 purge
11	N_2 (manifold 3)	1200	1:00	Dry 1
12	N_2 (manifold 3)	500	5:00	Dry 2

BATH LIFE

Utilizing either a semi-automatic spray system or a two-bath immersion system, ST-26S solution is estimated to clean a minimum of 1,000 6-inch wafers with 1.5 microns of resist. Bath life numbers may vary with resist thickness, resist thermal history, pre-treatment (deep UV, ion implant treatment, etc.), bath temperature, bath configuration, and exhaust flow rate.

QUALITY CONTROL

ST-26S is manufactured utilizing strict quality controls to maintain Entegris' high standards and to ensure batch-to-batch consistency.

STORAGE AND HANDLING

The shelf life of ST-26S is one year from date of manufacture if stored in its original, unopened container at 10° – 32°C (50° – 89.6°F), out of direct sunlight. Refer to Entegris' material safety data sheet for additional precautions on storage and handling.

EQUIPMENT COMPATIBILITY

CAUTION: ST-26S will attack many plastic materials used in piping and other process equipment. The following chart should serve as a guide for selecting materials compatible with its use. For information on materials not listed, contact Entegris' technical staff.

Incompatible materials

BUNA-N rubber	Neoprene	Polyacrylate
PVDC	Hypalon®	CPVC
PVC	Tygon® (some types)	Acrylics
Viton®- A	Polyurethane	

Compatible materials

Teflon® (PTFE)	316 Stainless steel	Quartz
Pyrex®	Kalrez®	PFA

DISPOSAL

All waste materials must be disposed of in accordance with local, state and federal regulations. Refer to Entegris' material safety data sheet for additional data.

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit **entegris.com** and select the Contact Us link to find the customer service center nearest you.

TERMS AND CONDITIONS OF SALE

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