



MicroSpray Photoresist

Description

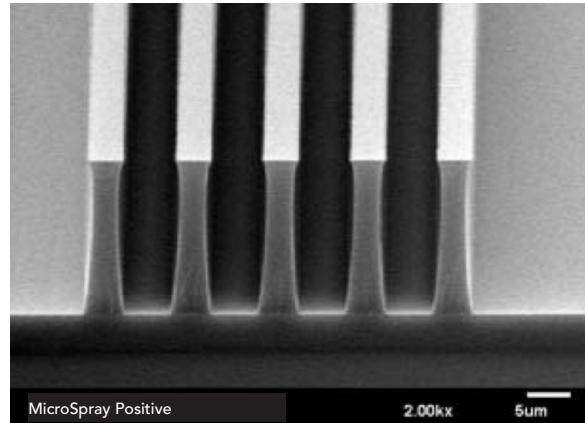
MicroSpray is a positive acting, aerosol resist, well suited for a broad range of lithographic purposes. This cost effective, easy to use, spray can eliminates many of the process problems associated with spin coating thick resists and non-planar substrates such as those found in MEMS, opto-electronics and other non-standard applications.

Applications

- Conformal coatings
- Ideal for perforated, small, large & irregular shaped substrates
- Backside wafer coatings
- Severe topography, v-grooves, vias & other MEMS structures
- Microfluidic electrophoresis analysis (Lab-on-a-chip)

Product Attributes

- Multipurpose resist product—excellent R&D tool
- No expensive coating equipment required
- Thick resist coatings demonstrated from 6–16 μm
- Compatible with MIF and metal-ion aqueous developers
- High throughput for thick films



4 μm Lines/Spaces in 16 μm Thick Spray Coating of MicroSpray

MicroSpray Product Specifications

Container:	Aerosol can
Weight:	16 ounces (454 grams)
Dimensions:	8 inches tall, 2.5 inches diameter
Resist volume:	14.5 ounces (411 grams)
Coatings:	200, 4 inch wafers (approximate)
Shipping:	Air or ground

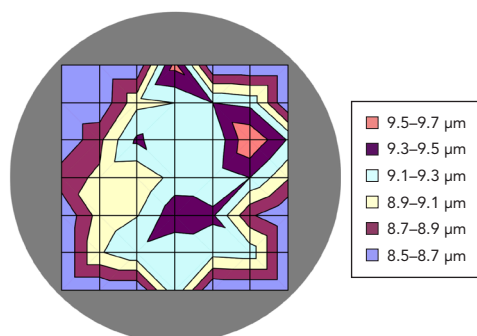
Table 1. Process Parameters



How to Use MicroSpray

- Store can refrigerated for best use
- Place can at room temperature 1 hour prior to use
- Shake can vigorously 10 times
- Wait 5 minutes
- Make sure substrate is clean
- Prime wafer with HMDS
- Spray distance 3 inches
- Spray surface with 6 passes and change direction of spray after 3 passes to form an overlapping pattern
- Wait 5 minutes (micro-bubbles will disappear)
- Bake coated substrate for 3 minutes at 110°C
- Expose coated substrate to UV light (350-450 mJ/cm²)
- Develop for 4-6 minutes in 2.38% TMAH (or NaOH)
- Rinse and dry

Coating Uniformity



Coating thickness (100 mm) 9.14 μm
Standard deviation 0.24 μm

Handling

MicroSpray is an extremely flammable aerosol. Keep from open flames, electrostatic discharges and other sources of ignition. Avoid contact with eyes, skin and clothing. Use with adequate ventilation and avoid breathing chemical spray. Wear chemical-resistant eye protection, chemical-resistant gloves and protective clothing when handling MicroSpray. Exposure from MicroSpray products may cause drowsiness or dizziness, skin irritation, allergic skin reactions and/or serious eye irritation. If inhaled, supply fresh air and

contact physician if symptoms of exposure persist. In the case of exposure to skin, immediately wash with water and soap and rinse thoroughly. If there is an exposure to the eyes, rinse cautiously with water for at least 20 minutes. remove contact lenses, if present and easy to do. Review all sections of the Safety Data Sheet before using.

Consult Safety Data Sheet (SDS) for details on the handling procedures and product hazards prior to use. If you have any questions regarding handling precautions or product hazards, please email productsafety@kayakuAM.com.

Material and Equipment

MicroSpray is compatible with glass, ceramic, unfilled polypropylene, high-density polyethylene, polytetrafluoroethylene, stainless steel and equivalent materials. MicroSpray products are compatible with most commercial resist processing equipment.

Storage

Store upright in original sealed containers in a dry area between 10°C and 21°C (50-70°F). Keep away from sources of ignition, light, heat, oxidants, acids and reducers. Do not use product after the expiration date (13 months from date of manufacture).

Disposal

The material and its container must be disposed in accordance with all local, state, federal and/or international regulations.

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