

Substrate Cleaning Procedures at IITBNF

Germanium

Use either of the below mentioned methods for Germanium.

Method 1:

1. Sonication in Acetone for 60 seconds.
2. Sonication in IPA for 60 seconds.
3. DI Water Rinse.
4. 60 sec dip in 2 % HF followed by rinse in DI water. To be done cyclically 3 times. Use fresh 2 % HF solution for every dip.
5. Finally rinse the wafer in DI water few times and make sure no chemical remains on the wafer.
6. Dry with Nitrogen.

Method 2:

1. Sonication in Acetone for 60 seconds.
2. Sonication in IPA for 60 seconds.
3. DI water rinse
4. 60 sec dip in 2 % HF followed by rinse in DI water rinse. To be done cyclically 3 times. Use fresh 2 % HF solution for every dip.
5. 60 sec dip in 1:1 :: HCL:DI water solution
6. Rinse in DI water.
7. Drying with Nitrogen

Quartz

Method 1

1. TCE [Trichloroethelene] 10 minutes immersion in Ultrasonic bath.
2. Acetone 10 minutes immersion in Ultrasonic bath.
3. IPA 10 minutes immersion in Ultrasonic bath.
4. DI water Rinse 10 minutes immersion in Ultrasonic bath.
5. Drying with Nitrogen.

Silicon

Method 1

1. RCA 1 cleaning [for organic contaminants]
2. RCA 2 Cleaning [for inorganic/ionic contaminants]
Note: Please see SOP for RCA wet bench for complete procedure for RCA 1 and RCA2.

Method 2

1. Piranha Cleaning

Note: For new silicon wafer cleaning please discuss with Operator/LIC to know which method must be used.