

Typical Solvent Clean SOP

It is very common and often recommended to clean substrates/devices prior to inspection, bonding, functionalization, or other process steps. (Especially for glass and silicon-based work) This is important for minimizing contamination, as well as providing smooth flat surfaces for bonding.

A common technique is to rinse the substrate with few solvents in series, specifically:

1. Acetone
2. Isopropyl Alcohol (IPA)
3. Water (Optional)

Each of these solvents serves a different purpose. Acetone is a very strong solvent that will quickly dissolve oils and other non-desirables, however it evaporates very quickly and leaves a residue. IPA displaces the acetone and leaves minimal residue. Water displaces the IPA and evaporates slowly at standard conditions.

PPE REQUIREMENTS

- All solvent cleaning should be performed in a fume hood with adequate space to work comfortably.
- Wear gloves & safety goggles. A lab coat is recommended.
- Use an appropriate holder for your sample, such as wafer tweezers.

Procedure

- Obtain a glass beaker or crystalizing dish that is large enough to rinse into.
- Line up your desired solvent bottles. (acetone, IPA, water)
- Hold your sample over your container and rinse thoroughly with acetone.
- Immediately repeat with IPA and then water. Try not to let your sample dry out in between rinses.
- Blow-dry your sample with compressed nitrogen or clean dry air (CDA). For wafers or glass slides, it helps to do this against a paper towel or cleanroom wipe. For other samples, make sure you have a good grip and always blow away from yourself and into the fume hood.
- Empty your solvent waste into an appropriate waste container.
- Restore the fume hood to its original state with the light off and the sash closed.

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Last update: **2023/01/18 19:39**

