



Why Do We Need to Keep Everything Clean?

Computer chips have a lot of tiny **transistors** and wires on them. They are so small that a human hair is tens of thousands of times bigger than a single transistor! So if any dust, or lint, or even dead skin cells get onto the wafer, it would be like a giant boulder messing up the tiny wiring.

We have to keep everything clean when making **semiconductors** (computer chips), and we do this in several ways. First, we wear **bunny suits**, to keep the wafers clean from all of our lint, dust and dead skin cells. That's right, the bunny suits *protect the wafers from us*, not the other way around!

Second, the **wafers** are kept inside special containers to keep them clean. Third, the equipment is all enclosed; robot arms transport the wafers right into the equipment without ever being exposed to the outside air. You probably saw all of those things in the **fab** video!

Finally, we still have to take precautions and make sure the wafers are really clean. We use different kinds of chemicals to clean the wafers. The most important chemical we use is H₂O- that's right, water! We also use other chemicals you've probably heard of, like isopropyl alcohol and hydrogen peroxide. There are other chemicals used too, and they all help to clean the wafers. Just like in the penny cleaning experiment, we choose the chemicals that work best, depending on what we need to clean off.