

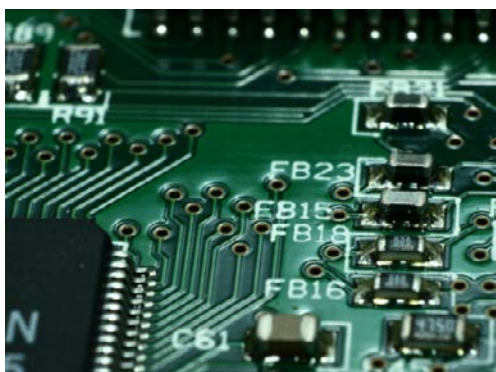
# DIGITAL

Microchips

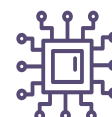
Wire winding

Cooling agents

Cleaning



## Microchips



Ultrapure or electronic-grade solvents (alcohols, esters and ketones) with very low levels of metal ions in the solvents are also used to produce microchips. Metal ions can cause short circuits that result in poor-quality microchips.

Electronic-grade solvents are used to dissolve a photo-sensitive polymer that is then spun on a silicon wafer to produce the micro-circuit. Solvents are also required to clean the surface of wafers and circuits.

## Wire winding



Insulated wires are used in transformers, inductors, motors, generators, magnets and other applications requiring tight coils of insulated wire; hence they are also part of electronic equipment. The manufacturing of winding wires involves a unique type of surface treatment using solvents. Electrical insulation layers (enamels) are applied onto the surface of copper wire (in some cases the conductor

material may be a different metal such as aluminium, copper-clad aluminium or brass). These insulation layers are applied for a variety of functional purposes, including a high and prolonged dielectric strength throughout the whole lifetime of the wire. The surface of round wires also needs a well-defined lubricant covering to ensure the necessary coiling performance and a smooth laying of the wire.





## Cooling Agents



The cooling of electronic circuitry has become a major challenge in recent times due to the progress in designing faster and smaller components. As a result, different cooling technologies have been developed to efficiently remove the heat from these components. The use of a liquid coolant has proved more efficient compared to air-cooling thanks to its higher

heat transfer coefficient. Aliphatic hydrocarbons solvents are contained in cooling liquids for electronics parts and transformers. These petroleum-based fluids do not form hazardous degradation by-products. Most of these fluids have a non-discernible odour and are non-toxic in case of contact with skin or ingestion.

## Cleaning

Organic solvents, above all isopropyl alcohol (IPA), are used in diverse products to clean screens and frames.



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