



Aculon NanoProof 1.0

Product Information

Aculon NanoProof 1.0 creates a nano-scale surface treatment imparting hydrophobicity and reduced friction to a printed circuit boards and electronic components. It is designed for general purpose protection of electronics and multi-surface treatment.

Solids	Solvent	Color
<10% Proprietary Ingredient	Hydrocarbon	Clear/ Colorless

Physical Properties of Formulation (all values @ 25°C)	
Viscosity*	<1 cP
Boiling Point of Solvent	93.3-104.4°C
Flash Point	-11 °C
Environmental	Non toxic, non-ozone depleting, flammable
Shelf Life	2 Years (Unopened container)
Specific Gravity	0.73

*Determined by Zahn Cup #1 testing

Physical Properties of Post Treatment Coating	
Coating Thickness (spray coating)	200 nm
Visible Light Transmission	100%, no change to substrate
Water Contact Angle	110°
Oil Contact Angle	19°

Features

- Protects electronics from accidental liquid contact, IPX4
- Allows push through conductivity
- Extremely simple to apply
- Contains a UV tracer
- Dried film is nontoxic/nonflammable and nonconductive
- Adhesion to a broad range of substrates
- Safe to use (take normal precautions with flammable solvents)
- Does not change the appearance of the surface (if applied at <20 nm thickness)
- No cure required
- RoHS compliant
- Contains no REACH SVHC compounds

Application Ideas

- Provide protection for electronics from incidental exposure to common liquids

Chemical Compatibility

Recommendation for tubing and plastics via application equipment

- Compatible with: Polyethylene terephthalate (PET), Polytetrafluoroethylene (PTFE), Viton
- Confirmed incompatible with: HDPE, LDPE, Polyurethane, PVC, Tygon, Noryl, ABS, PP, Polyphenol ethylene ether, silicone, neoprene, EPM, and natural rubber

Application Techniques

Surface Preparation/ Cleaning:

Ensure that the surface is free of any grease, fingerprints, adhesive residue or dirt. This can be accomplished by first degreasing with solvents or by rinsing with IPA. Depending on the sensitivity of your part to liquids, Kyzen cleaners like Ionox I3416 or Cybersolv 141-R may be most appropriate for removing surface contamination.

Treatment Application:

Dispense: Dispense product over the surface. Apply enough material to coat the surface. Allow excess material to drain.

Spray: Spray the solution on the substrate, air dry, then wipe clean with a microfiber cloth. If the coating is too thick, reduce the amount applied by changing the settings on the spray gun or request a sample of diluent from Aculon. Spray Equipment Suggestions; PVA FCS300 Front Closing Spray Valve, typically used settings are 40 psi main pressure, 8 psi coating pressure, 12 psi atomization pressure, micrometer = 10, 6" distance to part being coated, and one double pass with the sprayer.

Dip: Immerse the substrate in the solution for one minute, air dry till solvent evaporated. Recommended dip containers are stainless steel, glass or aluminum. Plastic containers are likely to contaminate the coating solution reducing performance.

Drying: Air dry at room temperature until the solvent is evaporated leaving an oily coating which is deformable to the touch. In some cases additional thermal treatment (e.g. 100°C for 5 minutes) will speed solvent evaporation.

Masking: Expect no mask to be compatible.

Testing For Hydrophobicity:

Allow droplets of water to fall onto the surface, they should bead up to a contact angle >90°. If the surface is not hydrophobic clean the surface again and reapply.

Safety, Handling, Storage, Shelf Life:

Store in a cool (~25°C) and dry area, and keep away from direct sun light. See this product's MSDS for proper handling and fire hazard data. This product does not contain any RoHS or REACH SVCH 168 compounds. When stored properly, product has a 2 year shelf life.

For Additional Information:

To request additional product information or sales assistance, contact Aculon's Technical Team, at 858-350-9474. For information on other Aculon products, please visit our website at www.aculon.com.

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