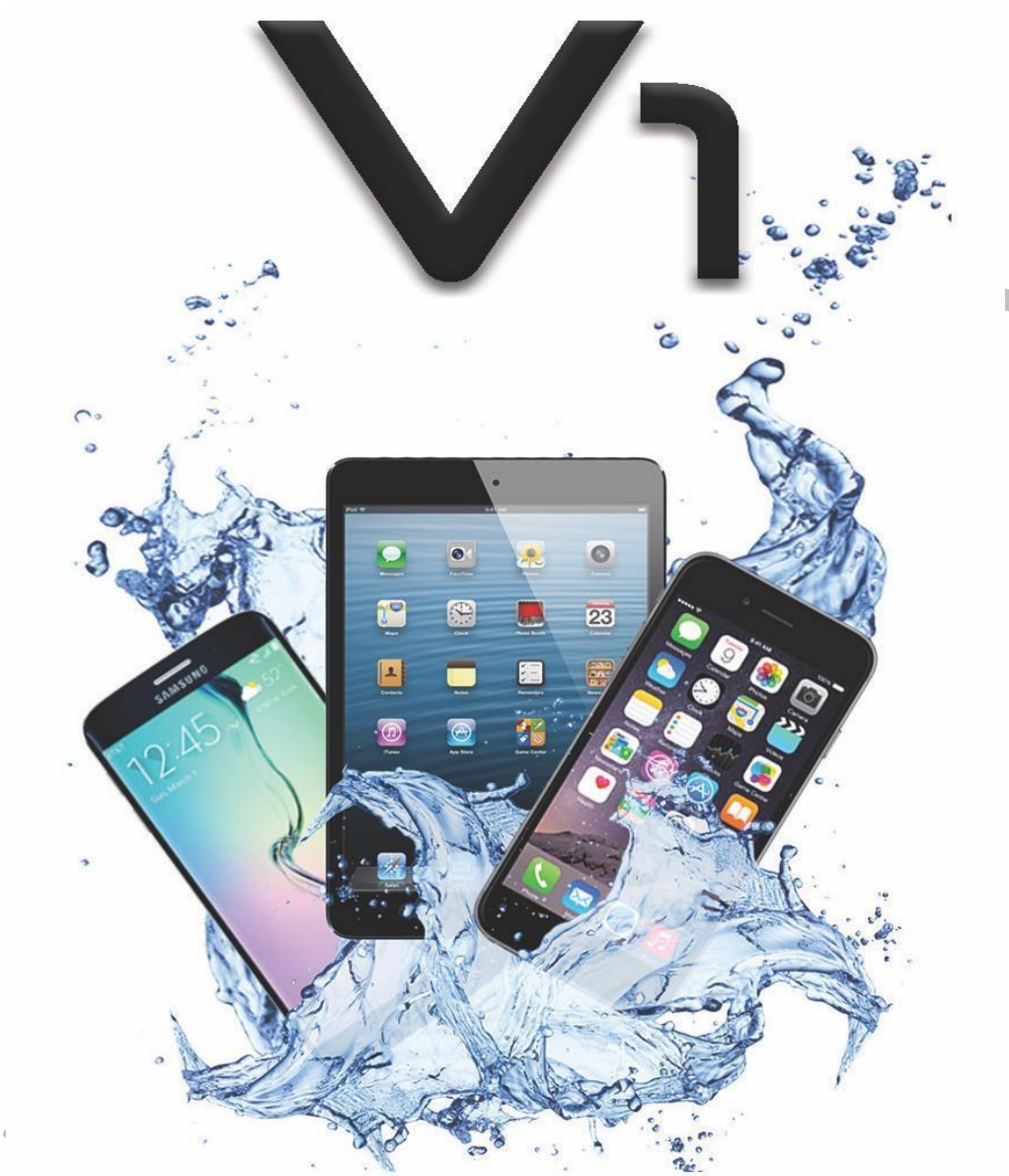
NANOFLOWX™



TECHNICAL DATA SHEET

OVERVIEW

NanoFlowX V1 is designed to protect electronic devices against dust, humidity, moisture, liquid and corrosion damage with added resistance to saltwater. The organosilicon polymer coating is thin, durable, quick curing and low-odor. In the quest to create more durable electronics, NanoFlowX can help increase the lifespan of all electronic devices. It is the easiest, fastest, and most affordable protection for any smartphone or tablet. With or without taking the device apart, our product uses invisible coating to protect tablet/smartphones against water, dust, and scratches. The application is quickly and easily done within minutes. Our Nanocoating for electronics is also non-flammable with an anti-microbial agent. It can also be used to coat printed circuit board (PCBs), speakers, and many other electronics. V1 offers a replacement for the outdated conformal, plasma, and vapor deposition coatings at a lower price with less impact on the environment.

APPLICATIONS

- PCB board and electronic components
- Consumer/Industrial Electronics
- Motors
- Drones, Robotics
- And More

FEATURES

- IPX65
- Protects against dust, humidity, liquids resistance
- Provides UV and corrosion resistance
- Invisible coating; firm and stable attachment to substrate surface Quick Process: 2 min Heat Thickness of 100 nm.
- No masking required.
- Low Odor
- Reworkable – unsolder components and reseal reworked area with a pipette and V1 solution Refractive index: 1.387

Chemical name	CAS No.	EC No.	Composition %
Ethyl perfluorobutyl ether	163702-05-4	639-028-9	80-90
Proprietary Polymer (CBI)	N/A	N/A	10-20

TYPICAL PROPERTIES

Test item	Test result
Exterior	Liquid
Color	Colorless
Odor	Low Odor
Flash point	23°C (73.4°F)
Solubility	5.3% of 20°C (68°F) water (by mass)
Density	0.76 g/cm^3

Declaration: the TDS by our company, in the forms of oral or written, is to provide guidance instead of guarantee. Our company does not guarantee application scope and its functions. Please consult technicians before using it. Product will be adjusted according to the requirements of the customers.

TECHNICAL DATA

Maximum allowable concentration: None **Short-term**

exposure limit: Not Specified.

Threshold Value: Not specified.

AEL*(Dupont): 1.5 ppm, 10 mg/m^3, 8 hours, time average

The AEL value is an acceptable exposure limit established by DuPont. When the occupational exposure limit specified by government takes precedence.

APPLICATION METHOD

NanoFlowX V1 is a custom solution developed to meet a specific need; therefore, application varies by product. Dipping process only.

Surface Preparation: Ensure electrical components are free of dust and oil. Contaminated components will prevent the coating from adhering to the surface which will result in an ineffective coating. Self-cleaning solder flux is not an issue. Do not submerge or apply solution to LCD screens.

Dipping Instructions:

1. Remove the electrical component(s) to be treated from original device if necessary. We do not recommend using V1 on devices with LCD display unless the display is completely sealed.
2. Use a clean glass or HDPE tray or beaker preferably a little larger than the electronic component to allow the device to be submerged in bath of V1 with the connectors downwards.
3. Slowly pour the solution on the electronic components in the tray ensuring the solution fully covers the electronic components.
4. Wait until all air bubbles from the electronic components are gone or for at least 5 seconds fully submerged.
5. Slowly remove the electronic component by tilting it to one side to allow excess solution to drain from the device making sure the electrical connectors are facing draining first. Place the device into curing oven or heat tunnel with temperature set at 80 ^{o}C (176 ^{o}F) and heat cure for up to 5 minutes.
6. Use a water dropper and place several drops of water over the component and check if the water beads and if there is a contact angle.
7. Solution will begin to evaporate if left exposed, please pour used solution into a HDPE bottle using a 100-micron strainer and tightly seal bottle.

Spray Instructions:

8. Heavily spray the electronic components to ensure the components are evenly coated. Overspray will not affect the board. Please follow the curing method beginning with step 6 above.

Rework Warning: Any new solder points and or connections may remove the coating. Place a few drops of V1 solution using a water dropper or spray bottle to touch up newly solder points and/or connections.

- Please be sure to refer to MSDS before you use the solution.
- Wear glasses during use and be careful to avoid contact with eyes. In case the product comes into contact with the eyes, immediately flush the contaminated eye(s) with a large amount of water for at least 15 minutes. Seek medical attention if irritation persists.
- Wear rubber gloves during use. If it comes into contact with skin, immediately remove contaminated clothing and flush skin with water and soap. If signs/symptoms develop, seek medical attention.
- Avoid inhaling vapors. Work in a well-ventilated place. For excessive inhalation, immediately transfer the patient to an area with fresh air. If the patient stops breathing, please provide artificial respiration. If breathing is difficult, provide oxygen and seek medical attention.
- Do not ingest. If the product is ingested, immediately obtain medical attention. Do not induce vomiting.
- Store at room temperature 7□C- 29□C (45□F - 85□F) and keep away from direct sunlight or heat. Keep lid tight and secure after usage.
- The shelf life of an unopened bottle is 2 years. The shelf life of an open bottle is 1 year.

FORM OF PRODUCTS, PACKAGING, AND AVAILABILITY

Volume of contents: 200 ml, 1L, 4L, 16L, 20L, 200L Drum

Packaging: Closed HDPE plastic bottles and/or Metal Drum

LIMITED WARRANTY INFORMATION

Unless an additional warranty is specifically stated on the applicable NanoFlowX product packaging or product literature, NanoFlowX warrants that each NanoFlowX product meets the applicable NanoFlowX product specification at the time NanoFlowX ships the product. NanoFlowX MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the NanoFlowX product does not conform to this warranty, then the sole and exclusive remedy is, at NanoFlowX's option, replacement of the NanoFlowX product or refund of the purchase price.

Limitation of Liability: Except where prohibited by law, NanoFlowX will not be liable for any loss or damage arising from the NanoFlowX product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

What is the expected evaporation rate? Do we have an evaporation curve vis-à-vis temperature and humidity?

- Evaporation rate is about 1ml per 10 min based on the sample tray size at ambient. The evaporation rate is 0.0357 mL / cm^2/ hour. However, this will vary depending on the type of board disturbing the surface of the solution and also the solution's exposed area. After 5 hours total time of dipping boards using the same solution, it is recommended to purchase more solutions as the solvent will evaporate off to the point where the solution is too concentrated. However, this can be experimentally streamlined if you want to use the same solution as one can continuously dilute the solution to maintain a specific concentration range

Health Hazards: If accidentally V1 goes in the eyes what would happen?

- MSDS has instructions regarding first aid; in our instructions we clearly state what people should have – lab coat, gloves, and goggles.

What is the consumption rate?

- *For example, how many 6" inch x 8" inch PCB boards can be coated with 1 liter of V1 Solution?*

  Calculation is based on surface area – general rule is using the square inch of the PCB board x 0.16

  Eg: 6 x 8 = 48 x 0.16 = 7.68 ml consumption rate - depending on the price per liter you sell for will be the price to coat each unit.

What is the order and delivery process like?

- This is all predicated on the customer, delivery time, freight cost, and customs clearance. We can typically fill orders in 2 -5 days depending on volume and container size the customer desires. Volumes come in 200ml, 1L, 4L, 16L, 20L and 200L Drum format.

Can we have a video of automated systems with conveyor belts and robotic arms in operation?

- While it is possible to automate the process of coating the products with conveyer belts and robotic arms, we are not allowed to take videos of customers' facilities. We do have videos of spray line, custom gig; there are no videos of robotics.

Is the coating reworkable?

- The coating is reworkable with either re-dipping into solution or individual spot-check rework with a pipette.

NanoFlowX will continue to recognize and pursue its responsibility to prevent pollution at the source, or even before, wherever and whenever it is possible. We will develop products that will have minimal effect on the environment; preserve and conserve natural resources through the use of reclamation and other appropriate methods; and assure that its facilities and products meet and sustain the regulations of all federal, state, and local environmental agencies either at locations in the USA or foreign territories (to the best of our abilities); and condone, promote, and assist, wherever possible, governmental agencies and other official organizations engaged in environmental activities. This includes but it not limited to researching and creating non-PFAs versions of the solutions.

RESOURCES

NanoFlowX solutions are supported by global sales, technical and customer service resources, and with technical laboratories in U.S.A. The products that NanoFlowX have researched and developed benefit the user by increasing product quality and durability.

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Updated Feb 2024