

# MicroFogger 4 Pro Manual

## Quick start guide

The following guide will show you how to setup your new MicroFogger 4 Pro for the first time. Follow each step carefully - failure to do so can damage the product and cause frustration!

**Read the “safety” part of this manual to familiarize yourself with the safety procedures before operating the MicroFogger.**

1. Upon unboxing your parcel, locate the MicroFogger and the USB charging cable. **Turn the MicroFogger ON using the black toggle switch** on the bottom and plug it into a charger using the included cable. **The MicroFogger can only be charged while it is turned ON.** We recommend that you allow the MicroFogger to fully charge before beginning to use it. This will usually take 3 to 4 hours.
2. Once charged, you can fill up the fog liquid tank. Simply lift up the rubber cover to open the fill port, as shown in figures A and B. **Do not pour any liquid onto the central opening.**
3. Locate the bottle of fog liquid and unscrew the top cap. Using the pipette-style tip, carefully pour fog liquid into the fill port. Take your time and don't fill too quickly as this can make the process harder. We recommend getting the tip of the pipette inside the fill port, and off to one side for easier filling as shown in figure C.
4. Once the fluid tank is nearly full, remove the fog liquid bottle and re-install the rubber fill port cover. Immediately after, hold the MicroFogger upside-down and tap out any excess liquid on a paper towel.
5. Let the MicroFogger rest in an upright position for a minimum of 15 minutes. This ensures that the liquid has a chance to seep into the dry heating coil for the first time. Failure to wait may result in damage to the heating coil.



Figure A



Figure B



Figure C

6. Your MicroFogger is ready for use! Now, when you hold down the trigger button, the MicroFogger will produce smoke. Remember that the MicroFogger is designed to be used in bursts - using it continuously will make the heating coil wear out faster. It can easily fog up a room but be patient and let it rest for 10 seconds between each burst!

**When you are done using it, ensure you empty out the fog liquid tank and turn the toggle switch OFF. Failure to turn the MicroFogger OFF will lead to permanent battery damage and will require a replacement battery.**

Although you can store fog liquid inside the MicroFogger for short periods of time, we always recommend to leave the fluid tank empty if you aren't going to be using it for more than a few hours to prevent potential leaks.

## **On-board user interface**

By now, you've probably noticed that there are three buttons, a toggle switch and a screen on the device.

### **Toggle switch**

- Move to the I (ON) position to turn the device on either for operation or for charging.
- Move to the 0 (OFF) position to completely turn the device off when not in use. When the switch is off, the MicroFogger cannot be charged

### **Main trigger button**

- Hold down when the device is on to begin smoke production, let go to stop
- Press once to return to home screen from advanced settings menu

### **Mode button**

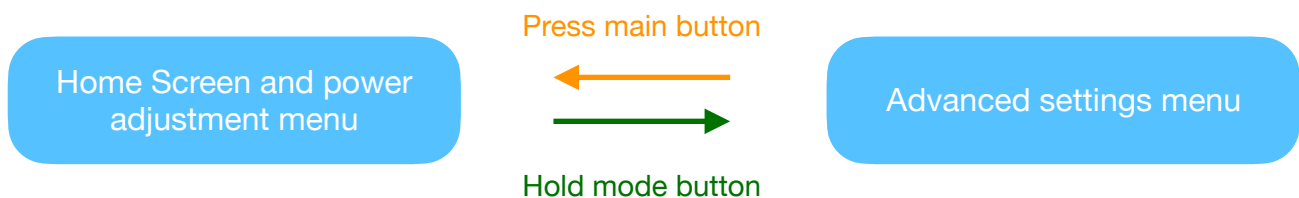
- Press to change between fan speed and coil power adjustment
- Hold down for 4 seconds to enter the advanced settings menu
- In the advanced settings menu, press to cycle through settings

### **Select button**

- Press to cycle through fan/coil power levels on the home screen
- Press to cycle through individual setting adjustments in the advanced settings menu
- Hold on certain settings to quickly cycle through number values

### **Screen user interface**

The on-board screen interface will allow you to change the MicroFogger's power levels and adjust various advanced settings. The overall structure of the menu is as shown:

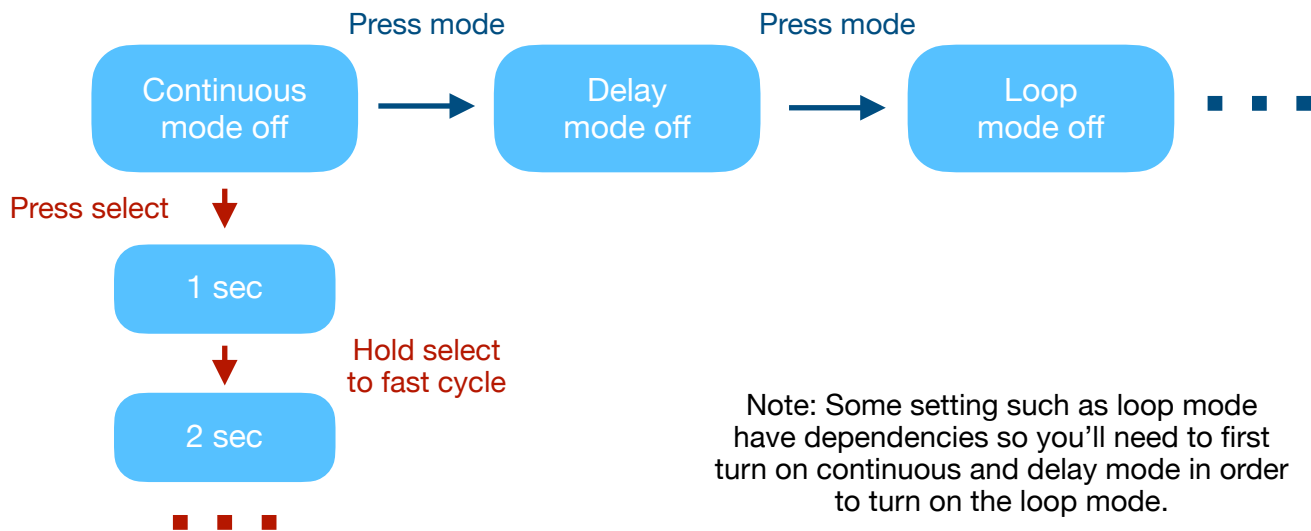


### Home and power adjustment menu

On the home screen, you'll be able to adjust the density of the smoke produced (coil power) by pressing the select button. Every time you press the select button, the power level will increase by one bar until all 8 bars are filled at which point it will loop back to 1 bar. More bars equals to a higher power level. Once the desired density is achieved, mode can be pressed again to begin adjusting the speed of the smoke (fan power level) in the same way as detailed above. When you switch to adjusting the speed, you'll notice the highlighted rectangle move from the smoke power to the smoke speed level. Throughout this process, you can hold the trigger button to see how changes to these settings impact the smoke production in real-time.

### Advanced settings menu

This interface can be entered by holding the mode button for 4 seconds while you are on the home screen. Once entered, the mode button will cycle the setting that you are adjusting and select will cycle through the different options the setting can be adjusted to. Here is a visual representation of the menu:



Below is brief overview of each of the settings:

**Continuous mode** - selects a duration for which the MicroFogger will stay activated after the trigger is pressed. When in this mode, the continuous operation can be cancelled by pressing trigger again. Usually limited to 10s but with time limits off, this is extended to 60s

**Delay mode** - Selects the duration for which the MicroFogger will wait until continuous mode is activated. Requires continuous mode to be on in order to work. Limited to 15 minutes

**Loop Mode** - Selects the number of operational loops that the MicroFogger will perform. Requires continuous and delay mode to be turned on. Usually limited to 5 but with time limits off, this is extended to infinite loops (indicated by the - - - symbol)

**RC channel** - Allows you to adjust the remote control channel configuration. By default, all 4 remote control buttons are in use for various power levels but once a specific letter is selected, the MicroFogger will only be triggered when that button is pressed on the remote. This allows for up to 4 independently controlled MicroFoggers.

**RC program** - Allows you to bind the MicroFogger to any 433mhz frequency remote control. Simply press select and follow the on-screen instructions. If your remote control has less than 4 buttons, you can re-press the same buttons again to complete the process.

**Remote ON/OFF/TRG** - Lets you turn off the MicroFogger's remote control functionality to avoid unintentional activation during important performances. When set to the TRG (trigger) mode, the remote control will also let you activate loops and timers since by default, in the ON setting, the remote control will act independently of timers.

**Time limit ON/OFF** - Toggles whether the time limit is on or off. When it is off, the MicroFogger will not turn off after 10 seconds of continuous operation. It will also unlock greater values in the continuous and loop mode menus. This is an advanced feature and can be dangerous if used improperly. We recommend keeping it ON at all times.

**Charge lock ON/OFF** - Sets whether the MicroFogger can be activated while it is charging. Keep this setting ON at all times unless you are both charging and triggering the MicroFogger simultaneously. Turning it OFF may result in unintentional activation while charging. Please note that with charge lock ON, you'll need to restart the MicroFogger to unlock it after charging.

**Control cable ON/OFF** - Toggles the ability to trigger the MicroFogger via its USB port. By default, this is ON however if you are trying to run the MicroFogger while it is charging and are having trouble with it incorrectly detecting your charger as an signal input source, you can turn this setting OFF. Typical behavior to indicate that your charger is being detected as a control cable is the MicroFogger activating the moment you plug it in to charge.

**Coil Priming** - Allows you to pre-warm the heating coil in cold climates. We recommend running this procedure prior to use outdoors, in cold climates.

**Info** - This screen will display the software version number. If the select button is pressed on this menu item, the screen will rotate though either diagnostic information such as total runtime and battery voltage.

## **Normal operation**

Holding down the trigger button while the MicroFogger is turned on will begin smoke production. To maximize heating coil lifespan, we recommend a 10 second limit on continuous use after which you should wait another few seconds before the next burst to allow the fog fluid to be re-absorbed. Failure to do so will cause excessive coil wear and may make the smoke smell burnt. If you observe this, follow the instructions in the “storage and maintenance” section of this manual to replace the heating coil.

**Never run the MicroFogger without fog liquid in the fluid tank.** This will instantly wear out the heating coil and make the smoke smell burnt. In extreme cases, if you keep running the MicroFogger after this, small burning fragments of the absorbent material may be ejected out of the nozzle.

Although the MicroFogger can be used in any orientation provided that the tank is mostly full, we still recommend that you keep it upright (with the nozzle pointing vertically upwards) as much as possible. This position allows the coil to optimally absorb the liquid, even if the tank is near-empty. If there isn't much fog liquid remaining in the tank, avoid using the MicroFogger in any orientation other than upwards as this would have the same effect as running it without any liquid. If you are mounting the MicroFogger in a static position and require smoke output in a downward direction, we would recommend using our hose adapter accessory to route the smoke using a hose.

After each use, we recommend ejecting any excess fog liquid that may have re-condensed within the barrel of the MicroFogger. This can be done by simply holding and “flicking” the MicroFogger to eject any excess liquid from the barrel. Alternatively, you can tap the MicroFogger's barrel on a surface while keeping it upside-down to encourage the liquid to drip out. Failure to eject excess liquid after use may result in liquid damage in the long term. This procedure is especially important if you are using the MicroFogger at a low fan power level and a high coil power level as this increases condensation of the fog inside the barrel.

When you are done, remember to always turn the toggle switch OFF. Leaving the MicroFogger ON for extended periods of time will cause the battery to over-discharge since the screen is still consuming power. This will lead to permanent battery damage and may cause unpredictable behavior, such as spontaneous activation. Also, remember to completely empty out the fluid tank to prevent potential fluid leaks.

## **Storage and maintenance**

To store the MicroFogger, fully charge it and turn it off using the toggle switch. Place it in a cool, dry place that is away from direct sunlight and any potentially flammable materials. Unscrew the fluid tank and heating coil and give them a quick rinse to remove any remaining fog liquid. Dry these components after washing and do not install them back onto the MicroFogger for storage. Do not store the MicroFogger for extended periods of time (more than a few hours) with fog liquid still in the fluid tank as this increases the probability of leaks.

If, during normal use, you notice that the smoke produced starts smelling burnt, it's time to replace your heating coil by following the steps below:

1. Unscrew the black fluid tank cap and clear housing while keeping the nozzle pointed down to prevent liquid from spilling back into the device as shown in figure D. Rinse out any liquid residue. The top may be very tight, so will require some effort. Feel free to use gripping tools to assist in this procedure.
2. Unscrew the heating coil by rotating it anti-clockwise as shown in figure E. You may need to use a tool to get more torque if you are unable to loosen it using your fingers. Sometimes, the heating coil may unscrew together with the fluid tank cap, in which case you can skip this step.
3. If you notice any liquid in the airflow channel under the heating coil (figure F), try to wipe away as much of it as possible using a paper towel.
4. Locate the spare heating coil which was included in your package
5. Screw the new heating coil into the slot. Make sure it is fairly tight - a loose heating coil can cause the MicroFogger to leak or not produce smoke.
6. Repeat step 1 in reverse to re-assemble the fluid tank. As with the first-time setup guide, please allow the liquid to absorb for at least 15 minutes before using the MicroFogger.



Figure D



Figure E



Figure F

We recommend conducting step 3 in the guide above every 30 minutes of continuous use to prevent condensate build-up over time in the MicroFogger's airflow port. You can see how long your MicroFogger has been continuously used in the info section of the advanced menu.

## **Troubleshooting**

Before attempting any troubleshooting steps, please reset the MicroFogger first by holding the select and mode buttons at the same time for 10 seconds until "reset" is displayed on the screen. This will fix many common software problems.

*No smoke is emitted even though the fan spins when you press the trigger button* - Ensure the heating coil is fully tightened. If the problem persists, carefully insert a fine screwdriver or other rod-like object into the barrel of the MicroFogger (the hole from which smoke is emitted) while the unit is turned off. Briefly apply light pressure to the screwdriver, this will ensure that proper electrical contact is restored. Remove the screwdriver and try again. Should this error persist, please follow the procedure below:

- Take your heating coil out of the MicroFogger
- On the bottom part of the heating coil, you will notice a small metal "loop" shape
- Carefully pull out the loop shape by about 1 to 2mm from the heating coil
- Re-install the heating coil into the MicroFogger (making sure it is tight), re-install the liquid tank (with sufficient liquid inside) and then try it again

*Fluid tank leaking* - Ensure that the tank and heating coil are fully screwed in. If the leaks persists, ensure that all gaskets on the heating coil and tank are in place and undamaged. There should be two black gaskets around the top and bottom of the fluid tank enclosure as well as one smaller gasket around where fluid tank cap screws into the heating coil. Please remember that fog liquid can only be stored in the MicroFogger while you are using it, you need to empty out the fluid tank for storage.

*MicroFogger won't turn on* - Plug it in to charge (while the toggle switch is in the ON position) and wait 4 hours while the MicroFogger recharges. If the MicroFogger is unresponsive, this may be due to leaving it ON for a long time. [Please click this link to see how to resolve this.](#)

*MicroFogger won't charge* - If the MicroFogger is in a critically low battery state, the screen may not come on for the first 30 minutes of charging. If the MicroFogger proceeds to not display anything after this time, please try using another charger and micro-USB cable to diagnose whether it is an issue with the MicroFogger or not. Please remember that the toggle switch needs to be in the ON position in order for it to charge.

*MicroFogger keeps charging forever* - If the MicroFogger's battery level doesn't increase at all even though you have charged it for many hours, make sure that the bottom toggle switch is in the ON position.

*MicroFogger turns on when the USB cable is plugged into it but the other end of the cable is not in a charger* - This can occur when charge lock is OFF. Some cables make the MicroFogger recognize them as trigger inputs (a feature that allows you to trigger it through a cable). To fix, turn charge lock back ON or turn the control cable setting to OFF. Also, please remember to plug the cable into the charger prior to plugging the other end of the cable into the MicroFogger.

*MicroFogger produces a burning smell even with a new heating coil* - There may be a very slight burning smell present in the first few second of operation with a new coil, this is normal. If the smell does not disappear or gets more severe, stop using the MicroFogger and allow it to rest for at least another 15 minutes before continuing. Ensure that the fluid tank is fully filled. In cold environments, the fog liquid becomes more viscous and will take longer to absorb into the heating coil. If this is the case, use the priming setting prior to use to avoid this.

*MicroFogger is leaking and fog liquid can be observed inside the case* - This can happen if the procedure for flicking/tapping out excess fog liquid is not respected, or if liquid is left in the fluid tank for a long time. It is, however, possible for the user to disassemble and clean the MicroFogger by following the videos below:

-Opening the MicroFogger's top cover

-Cleaning the MicroFogger

Please note that these are advanced procedures and should only be attempted by users with good technical knowledge.

## **Safety**

*The MicroFogger 4 Pro is powered by a high-performance Lithium-ion battery. This type of battery presents a potential fire risk if handled improperly. The following safety guidelines aim to prevent any issues from arising:*

- Never leave the MicroFogger charging while unattended
- Never run the MicroFogger in automatic modes while unattended
- Never charge a MicroFogger using a computer or battery bank
- Always keep the MicroFogger away from any flammable materials
- Never expose the MicroFogger to temperatures over 40 degrees Celsius
- Never attempt to disassemble the MicroFogger unless instructed
- Never expose the MicroFogger to direct sunlight for extended periods of time
- Always ensure the MicroFogger's heating coil compartment is clear of debris
- If the MicroFogger sustains a significant impact through a drop or other mistake that punctures its battery, immediately cease operation (unplug it if it is charging) and place it in a safe area outdoors to prevent any further damage to its surrounds should the battery over-heat.
- If the lower half of the MicroFogger heats up to uncomfortable temperatures of over 40 degrees Celsius, immediately cease operation (unplug it if it is charging) and place it in a safe area outdoors and wait for at least 10 minutes. If the MicroFogger has cooled down to operational temperatures, you may proceed to use it.



- Never attempt to power the MicroFogger using a home-made charging cable. If you do so, this will be at your own risk.
- Never attach, strap or secure the MicroFogger to a person or animal
- Always store the MicroFogger with the heating coil unscrewed and toggle switch in the off position as this is the most stable and safe state that it could be in.

*To produce smoke, the MicroFogger evaporates a mix of Propylene Glycol and Vegetable Glycerin. Although these chemicals are both generally recognized as safe and are commonly used in food additives and skin lotions, you must always follow the following safety points:*

- Do not consume the fog liquid
- Do not get any fog liquid into your eyes
- Never use the MicroFogger near children under the age of 4 or pregnant women
- Never use the MicroFogger near people with renal health issues
- Never deliberately inhale the smoke produced
- Never operate the MicroFogger if the liquid tank is empty
- Never fog up a room to a visibility of less than 3m
- Never use any fog liquid other than the liquid which provided by us. If you decide to do so, this would be at your own risk as we can only guarantee the safety and performance of our own liquid.

If you feel nauseous, light-headed or exhibit any other adverse health-related side-effect, immediately cease operation and go to well-ventilated room with fresh air. Call a doctor if symptoms continue. Similarly, call a doctor if you are concerned about the impact of these chemical on your health. Safety data sheets (MSDS) for the constituent chemicals can be found on [the fog liquid product page here](#).

*During operation, the MicroFogger heats an internal metal coil in order to achieve the afore-mentioned evaporation of chemicals. To prevent any heat-related issues please follow these guidelines:*

- Never touch the fluid tank during operation as it can burn you
- Always allow the fluid tank to cool down before changing coils or refilling liquid
- Never aim the MicroFogger at people or animals that are within 1m of range as sometimes, small droplets of hot fog fluid can exit the nozzle
- Never look directly into the MicroFogger's nozzle while it is running
- If the MicroFogger is used without liquid, the heated metal coil will start burning the absorbent material surrounding it. This may cause a small flame to appear from the tip of the MicroFogger. Ensure that you never run the MicroFogger without liquid as this sort of incorrect operation can cause injury and damage.

*Finally, there are a few more miscellaneous guidelines that must be respected:*

- Never allow anyone under the age of 18 to use the MicroFogger
- If the smoke starts smelling burnt, immediately cease operation and replace the heating coil with a new one.
- Never leave the MicroFogger in a car that is exposed to direct sunlight during hot weather as this is likely to cause the plastic case to degrade and potentially soften. This could result in gaps forming around the edges of the top cover.

**Vosentech LLC will not accept any responsibility for property damage or bodily harm caused by the improper use of the MicroFogger or any other of its products. It is the user's responsibility to use good judgement and knowledge of the risks detailed above to correctly and safely operate the device. If you are unwilling to accept the risks associated with the use of this device, immediately return it back to us for a refund.**

## **Package contents**

The following base items should be included in your order of the MicroFogger 4.

- MicroFogger 4 Pro
- Dropper bottle with 50ml of fog liquid
- Replacement heating coil
- Remote control
- Instruction manual download link
- USB charging cable

Depending on your order, any of the following additional items may be included in the box. The general layout of the parcel may be different should you purchase more than one of these items.

- Set of 2 additional replacement coils
- Remote control and dongle (located under replacement coils/charging cable)
- Extra bottle of fog fluid
- Hose adapter
- Control cable
- Rake attachment
- Circular diffuser
- Liquid fog attachment
- Loc-Line adapter
- Loc-Line tubing
- Nimbus heating coils
- Silicone tubing

## **Additional features**

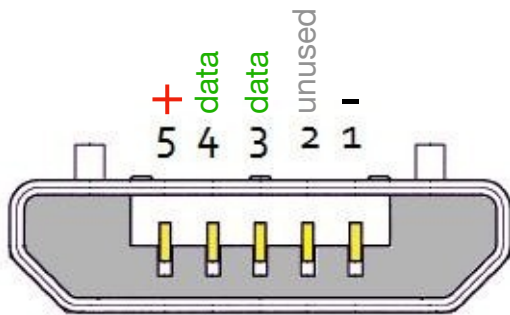
The MicroFogger 4 Pro supports several additional features that'll make it easier for you to incorporate it into your own custom projects should you decide to do so. Please note that although these modifications are officially supported, you will void your

MicroFogger's warranty should you decide to proceed since there is a potential damage the internal electronics if you are not careful. Whilst the following guides will detail each step to make the process as easy as possible, we still advise that you only attempt these modifications if you believe you have sufficient technical knowledge.

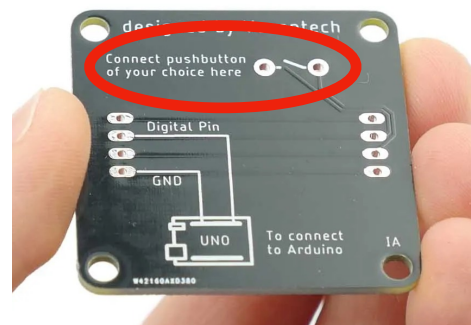
**Proceed at your own risk**

### ***Wired manual control***

The MicroFogger can be triggered via its USB port to allow for automated control or to let you reliably activate it over long distances where the remote control may be unsuitable. This can be done by simply connecting the two data pins (pins 3 and 4) of the micro USB port together. To access these pins, you'll need to get one of our control cable break boards. Using the diagram on the back of the breakout board, connect your switch or relay to the two pins on either side of the button symbol.



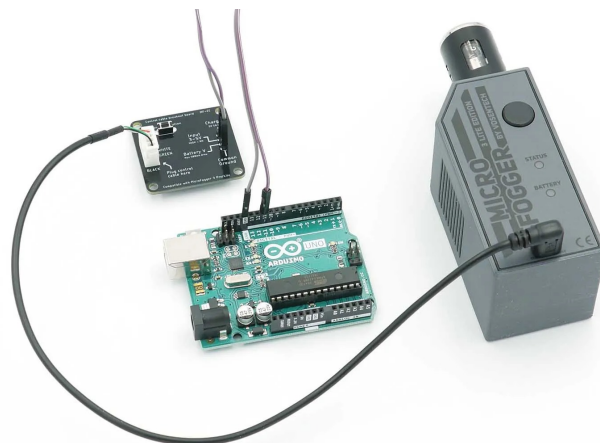
MicroFogger 4 female micro USB type B port top view



**Incorrectly wiring or accidental contact between any wires other than the data ones can lead to irreversible damage that is not covered by the warranty.**

### ***Wired digital control***

Similarly, the MicroFogger can also be controlled using a common microcontroller such as an Arduino. In order to do so, you'll need to connect the black GND pin of the breakout board to the ground pin of the microcontroller. You'll then be able to send a HIGH or LOW signal to the input pin in order to turn the MicroFogger on or off. The signal voltage can range from 3V to 5V.



### ***External Power***

The MicroFogger 4 Pro can be configured to operate while charging so it is possible to power it off of a USB battery bank or any other other 5V power supply. If using a battery bank, you can connect it using the included micro USB cable. If a USB port is inaccessible, our control cable breakout board can be used. Simply connect the positive terminal of a 5V power supply to the charging pin on the breakout board and the black wire to the ground pin. This will also allow you to use wired control while keeping the MicroFogger on charge as long as you have turned off the charge lock setting in the advanced menu.

### **Support and FAQs**

#### *Can the MicroFogger trigger smoke alarms?*

Yes, if enough smoke is produced then ionization and photoelectric smoke alarms will be activated. Traditional heat-activated smoke alarms and sprinklers won't be affected

#### *Is it possible to change the smoke color?*

Unfortunately not. The MicroFogger produces smoke through the evaporation of a fog liquid so it can only be white, adding a dye to the liquid will not change this. The only way to simulate colored smoke using the MicroFogger would be to light up the white smoke using some external lights.

#### *Can I breathe in the smoke?*

During proper operation, the fog produced is considered to be non-toxic but we do not recommend breathing it in anyway. The smoke can only become toxic if the safety precautions regarding the replacement of worn-out heating coils are not followed.

#### *What is the fog liquid made out of?*

Our fog liquid consists of a high purity vegetable glycerin and propylene glycol mixture. These chemicals are commonly-available and may be found in local vape shops as a base liquids for electronic cigarettes. The MSDS documents for these chemicals can be found on the fog liquid product page on our website, [linked here](#).

#### *Can I use liquids from other smoke machines?*

Liquids from other fog machines are usually far less viscous than our composition so if used in the MicroFogger, they are unlikely to produce any smoke. We can only guarantee the safety and performance of the fog liquid that we sell so if you decide to experiment with other compositions, this would be at your own risk.

#### *How long does the smoke linger in the air?*

Depending on the atmospheric conditions, the smoke can remain in the air for up to an hour after being released. The main factor affecting this is whether or not there is any air movement, drafts or wind will greatly accelerate the smoke dispersion.

*Do original MicroFogger/MicroFogger 2 heating coils work with the MicroFogger 4 Pro?*  
Due to the increased power and improved design of the new MicroFogger 4 Pro heating coil, older MicroFogger heating coils are not compatible with it. Nimbus tank upgrade kit coils are, however, compatible.

*What obstacles can the remote control signal go through?*

It really depends on the exact situation but in general, as a rough guideline, you will be able to control the MicroFogger through several thin plaster walls. Similarly, if you decide to put it into cardboard or fabric enclosure, you shouldn't encounter any issues. On the other hand, metal barrier such as car doors will usually block the signal although we have even had luck with activating the MicroFogger while it was inside a car hood!

*Can I control the MicroFogger 4 Pro via a wired remote?*

Yes, the usb charging port also doubles as a signal input which allows you to trigger the MicroFogger using a switch, relay or microcontroller of your choice. You'll need our control cable accessory to access this functionality.

If you believe that your Microfogger is faulty, please check the troubleshooting section of this manual. If your problem still persists, please consult the following page:

<https://vosentech.com/index.php/repairs-and-replacements/>

If, after reading the above page, you'd like to return the item, please see the instructions below:

<https://vosentech.com/index.php/returns-refunds/>

If you'd like to contact us, feel free to use the email address or phone numbers below. If it is a specific question about your order, please include your 4-digit order number which can be found on your printed invoice.

**[support@vosentech.com](mailto:support@vosentech.com)**

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