

NANOCLEAN® AIR

Lider Dezynfekcji Klimatyzacji



I AM FOR CAR CONDITIONING

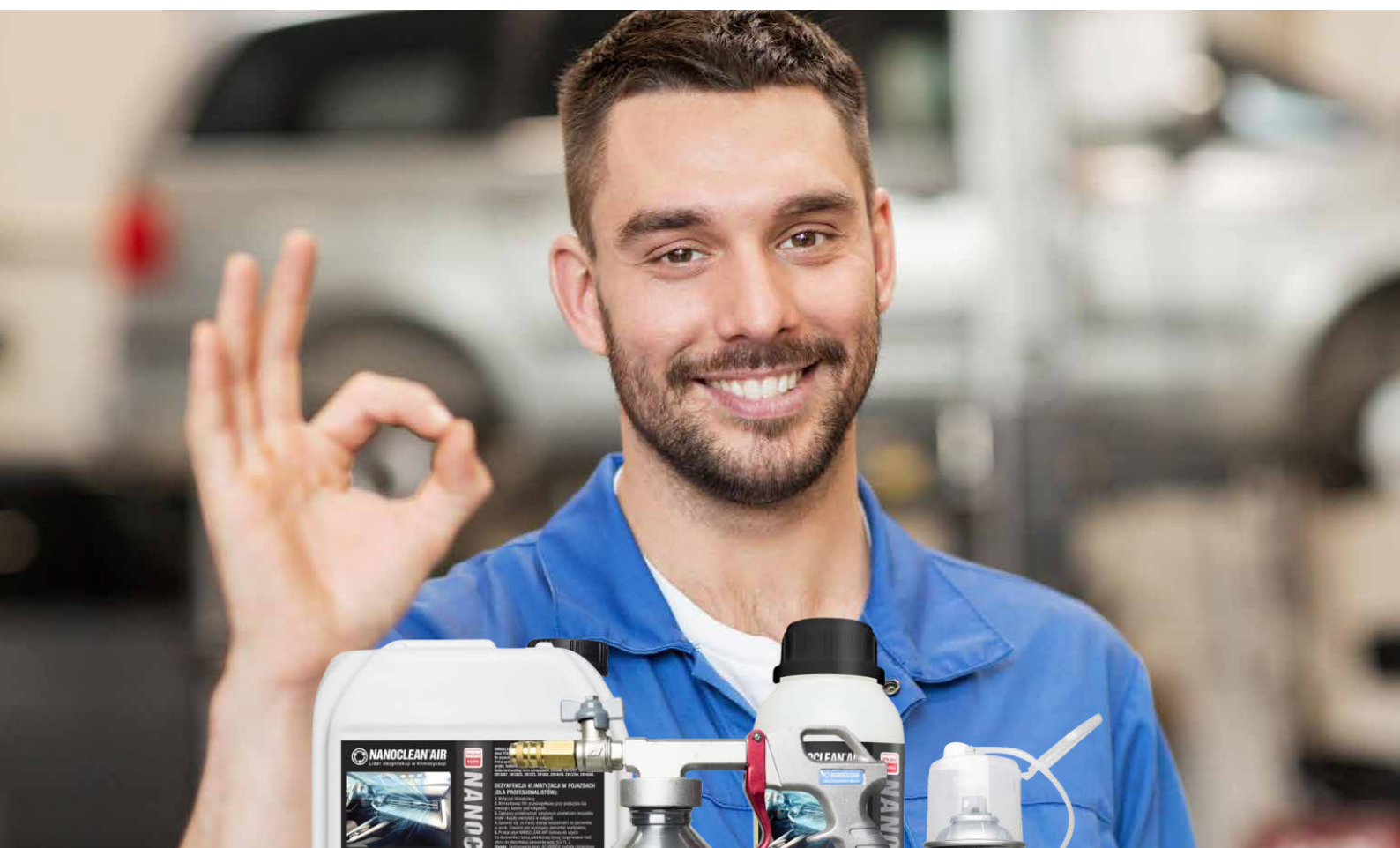
THE ONLY ALL-IN-ONE PRODUCTS ON THE MARKET FOR REFRESHING,
CLEANING, FUNGAL REMOVAL, AND DISINFECTION
OF VENTILATION AND AIR CONDITIONING SYSTEMS IN VEHICLES WITH A
FULL SPECTRUM OF ACTION:

VIRUSES - STOP COVID-19, FUNGI, BACTERIA, BACTERIAL SPORES,
TUBERCLE BACILLI
IN UP TO 15 MINUTES.



NANOCLEAN® AIR

Lider Dezynfekcji Klimatyzacji



ALL IN ONE

Did you know that...

NANOCLEAN® AIR

is currently the only range of cleaning and disinfecting products on the market with a full biocidal spectrum for air distribution channels and other HVAC system components in the shortest possible time? These products clean and disinfect in a single process, making it easier for service technicians, speeding up the process, and ensuring a high level of disinfection effectiveness. Using NANOCLEAN® AIR guarantees the satisfaction of end customers, that is, air conditioning users..

02



NANOCLEAN® AIR THE LEADER IN AIR CONDITIONING DISINFECTION

NANOCLEAN® AIR

ALL IN ONE

DECONTAMINATION

This broad concept involves the removal of contaminants and the destruction of biological pathogens, including processes such as cleaning and disinfection:

FIRST STAGE OF DECONTAMINATION

CLEANING:

The removal of visible contaminants and dirt from surfaces to a degree necessary for the next stage of decontamination, which is disinfection. The cleaning process is a very important step in decontamination, and when done correctly, it reduces up to 80% of microorganisms. However, the removed microorganisms remain alive. An improperly executed cleaning process can lead to increased contamination by microorganisms. It is important that disinfectants have good cleaning properties; for example, alcohol-based products do not have effective cleaning properties, which is why they are used on pre-cleaned surfaces.

SECOND STAGE OF DECONTAMINATION

DISINFECTION:

A comprehensive process aimed at destroying microorganisms and their spores from surfaces.

FUNGAL REMOVAL is just a part of the broader concept of the disinfection process. The goal of fungal removal is to reduce fungi to a level that does not pose a health risk. Fungal removal does not destroy other microorganisms such as viruses, bacteria, tubercle bacilli, or spores..

REFRESHES + CLEANS
+ REMOVES FUNGI + DISINFECT
+ ELIMINATES UNPLEASANT ODORS
LEAVING BEHIND A PLEASANT,
REFRESHING SCENT

Disinfection products for air conditioning and surfaces are classified as biocidal products, which, according to regulations, must be registered. One of the criteria for allowing biocidal products to be marketed is confirmation of their effectiveness within the declared scope. To compare disinfectant products and their biocidal activity, they should be tested in accordance with European standards concerning chemical disinfectants and antiseptics.

These standards are included in the set of norms used for testing biocidal products, approved by the Office for Registration of Medicinal Products, Medical Devices, and Biocidal Products.

Depending on the level of microorganism destruction, the disinfection process can be divided into three levels:

Low-Level Disinfection – removal and destruction of bacteria, fungi, and some sensitive viruses.

Intermediate-Level Disinfection – elimination of all bacteria, mycobacteria, fungi, and enveloped viruses such as HIV, HBV, and HCV.

High-Level Disinfection – reduction of bacteria, fungi, mycobacteria, enveloped viruses, and non-enveloped viruses (the most difficult to remove, such as Polioviruses, Adenoviruses, Noroviruses) as well as spores, which are bacterial dormant forms.

FULL SPECTRUM BIOCIDAL DISINFECTION

Disinfectant products with a full biocidal spectrum eliminate all microorganisms: bacteria, fungi, all viruses, mycobacteria, and spores.*

*Viral efficacy is defined by the standard EN14476.

If a biocidal product removes the most resistant non-enveloped virus strains, such as Poliovirus, Adenovirus, and Murine Norovirus, it is considered, according to European standards for chemical disinfectants, to exhibit full virucidal activity, meaning it removes all viruses.

ALL IN ONE

NANOCLEAN® AIR

CHOOSE YOUR FAVORITE PRODUCT

READY TO USE
AEROSOL

ALL IN ONE = REFRESHES + CLEANS

+ REMOVES FUNGI + DISINFECT
+ + ELIMINATES UNPLEASANT
ODORS LEAVING BEHIND A
PLEASANT, REFRESHING SCENT

100% FRESHNESS:

Eliminates unpleasant odors while leaving a pleasant, long-lasting scent.

100% SAFETY:

FULL BIOCIDAL SPECTRUM:

viruses, fungi, bacteria, spores, mycobacteria..
Legionella pneumophila in 1 minute.

100% CONFIDENCE AND EFFECTIVENESS:

Confirmed by tests according to European standards

100% CLEANING EFFECTIVENESS:

Thanks to a multi-component active base.

100% USER COMFORT AND SAFETY:

Due to an innovative, safe formula.

100% SATISFIED CUSTOMERS





ALL IN ONE

NANOCLEAN® AIR

FEEL THE POWER OF
NANOCLEAN® PRODUCTS

05

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01. ALL IN ONE

NANOCLEAN® AIR

READY TO USE

06

The only ready-to-use product on the market designed for refreshing, cleaning, fungal removal, and disinfecting air conditioning evaporators and HVAC systems in vehicles with A FULL BIOCIDAL SPECTRUM:

Viruses (including SARS-CoV-2), Fungi, Bacteria, Spores, Mycobacteria in up to 15 minutes.

Legionella pneumophila in 1 minute.

Permanently eliminates unpleasant odors and leaves a pleasant, long-lasting fragrance.

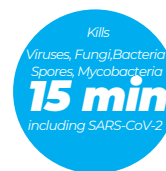
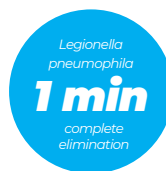
Effectiveness confirmed by tests according to European standards: EN14476, EN13697, EN1650, EN1275, EN1040, EN1276, EN13727, EN13623, EN13704, EN14348.

PZH Certificate No.: BK/K/0863/01/2018.
Biocidal Product Authorization No.: 7406/18



APPLICATION:

- Passenger cars
- Trucks
- Semi-trailers
- Buses
- Trams
- Trains
- Subways
- Airplanes
- Agricultural machinery
- Construction machinery
- Suitable for use in ultrasonic devices



PACKAGING:

NANOCLEAN AIR® Ready to use in a 5-liter canister

CATALOG NUMBER:

- AC-69G5C - with a citrus scent
- AC-69G5L - with a lavender scent



02. ALL IN ONE

NANOCLEAN® AIR

AEROSOL

07

The only aerosol foam on the market designed for refreshing, cleaning, fungal removal, and disinfecting air conditioning evaporators and HVAC systems in vehicles with a **FULL BIOCIDAL SPECTRUM**: Viruses (including SARS-CoV-2), Fungi, Bacteria, Spores, Mycobacteria in up to 15 minutes.

Legionella pneumophila in minute.

Permanently eliminates unpleasant odors and leaves a pleasant, long-lasting fragrance.

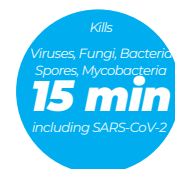
Effectiveness confirmed by tests according to European standards: EN14476, EN13697, EN1650, EN1275, EN1040, EN1276, EN13727, EN13623, EN13704, EN14348.

PZH Certificate No.: BK/K/0863/01/2018.
Biocidal Product Authorization No.: 7364/18.



APPLICATION:

- Passenger cars
- Trucks
- Semi-trails
- Buses
- Trams
- Trains
- Subways
- Airplanes
- Agricultural machinery
- Construction machinery



PACKAGING:

NANOCLEAN® AIR in an aerosol can, 520/400 ml

CATALOG NUMBER:

AC-69A400 - aerosol with a pleasant scent





PRODUCT TESTING

NANOCLEAN® AIR

READY TO USE
AEROSOL

08

GROUP:	DISINFECTION TIME:	STANDARD:
Viruses	5 minutes	EN 14476
Fungi	15 minutes	EN 13697
	5 minutes	EN 1650
	1 minute	EN 1275
Bacteria	5 minutes	EN 13697
	1 minute	EN 1276
	1 minute	EN 13727
	1 minute	EN 1040
	60 minutes	EN 13623
Mycobacteria	5 minutes	EN 14348
Spores	5 minutes	EN 13704

ORGANISM:

<i>Adenovirus ATCC VR-5</i>
<i>Murine norovirus RVB-651</i>
<i>Poliovirus LSC -2ab</i>
<i>Vaccinavirus ATCC-VR 1508</i>
<i>Candida albicans ATCC 10231</i>
<i>Aspergillus brasiliensis ATCC 16404 (Aspergillus Niger)</i>
<i>Candida albicans ATCC 10231</i>
<i>Candida albicans ATCC 10231</i>
<i>Pseudomonas aeruginosa ATCC 15442</i>
<i>Staphylococcus aureus ATCC 6538</i>
<i>Escherichia coli ATCC 10536</i>
<i>Enterococcus hirae ATCC 10541</i>
<i>Legionella pneumophila ATCC 33152</i>
<i>Escherichia coli ATCC 10536</i>
<i>Pseudomonas aeruginosa ATCC 15442</i>
<i>Staphylococcus aureus ATCC 6538</i>
<i>Enterococcus hirae ATCC 10541</i>
<i>Pseudomonas aeruginosa ATCC 15442</i>
<i>Staphylococcus aureus ATCC 6538</i>
<i>Enterococcus hirae ATCC 10541</i>
<i>Legionella pneumophila ATCC 33152</i>
<i>Legionella pneumophila ATCC 33152</i>
<i>Mycobacterium terrae DSM 43227</i>
<i>Mycobacterium avium DSM 44157</i>
<i>Bacillus subtilis ATCC6633</i>

03. ESSENTIAL ACCESSORIES

NANOCLEAN® INOX

INOX AC45

09

A pressure washer lance with side nozzles is significantly more effective than ozone treatment for air conditioning. By using a pressure lance and ensuring direct contact of NANOCLEAN® AIR with the evaporator, you can be confident of thorough pressure cleaning of the soiled areas of the evaporator and complete disinfection, including fungal removal, of the air conditioning system. Ozone merely masks unpleasant odors temporarily, penetrates seat materials, and has an oxidizing effect on vehicle electronics, which over time may lead to electronic issues.

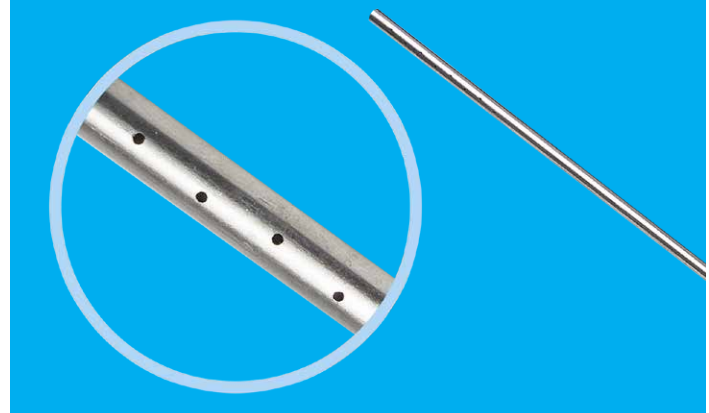
The NANOCLEAN® INOX AC45 (AC-69INOX) lance is made of soft stainless steel, allowing it to be bent in any direction and adapted to the air conditioning ducts to reach the evaporator..

SEE FOR YOURSELF the effectiveness of cleaning with the lance and NANOCLEAN® AIR.



APPLICATION:

NANOCLEAN® GUN + NANOCLEAN® INOX AC45 lance + NANOCLEAN® AIR creates an effective solution for cleaning, refreshing, fungal removal, and disinfecting air conditioning evaporators and ducts.



6 - 8
effective nozzles

50cm
long lance

80cm
length of nylon hose

SPECIFICATION:

Length of lance: 50 cm, 6-8 nozzles, hose: 80 cm

CATALOG NUMBER:

AC-69INOX



NANOCLEAN® GUN

PRESSURE GUN

The professional aluminum pressure gun NANOCLEAN® GUN, capable of withstanding up to 10 bar pressure, features a 1L tank and a connection for compressed air. When used with a lance or fogging head, it is designed for cleaning and disinfecting air conditioning systems in cars, public transportation vehicles, and for fogging applications.

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APPLICATION:

The AC-69GUN pressure gun, along with its accessories, creates the most effective system for cleaning, fungal removal, refreshing, and disinfecting air conditioning evaporators and HVAC ducts in vehicles.

Compatible accessories:

AC-69INOX
AC-69NYLON
AC-69FUMI

SPECIFICATION:

The gun's performance at a pressure of 5.5 bar is approximately 260 L/min without additional accessories.

CATALOG NUMBER:

AC-69GUN



05. ESSENTIAL ACCESSORIES

NANOCLEAN® NYLON

NYLON AC160

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Flexible nylon lance, 160 cm in length, with a 360° multi-directional nozzle for cleaning, fungal removal, refreshing, and disinfecting hard-to-reach areas in air conditioning ducts. It is used when access to the evaporator is not available for the NANOCLEAN® INOX AC45 (AC-69INOX) lance.



APPLICATION:

The NANOCLEAN® NYLON AC160 lance + NANOCLEAN® AIR + NANOCLEAN® GUN creates an effective solution for cleaning, fungal removal, refreshing, and disinfecting evaporators and air conditioning ducts in cases of difficult access to the evaporator.

160cm
nylon hose

360°
multi-directional
nozzle

SPECIFICATION:

LENGTH 160 cm

CATALOG NUMBER:

AC-69NYLON



NANOCLEAN® FUMI

FUMI-1

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Dry Fogging Head - Fogs, fungal removes, and disinfects the interior of the vehicle. Leaves a pleasant scent in the cabin.

The AC-69FUMI head is attached via a quick connector to the NANOCLEAN® GUN pressure gun (AC-69GUN). When used with NANOCLEAN® AIR (concentrate or ready-to-use), it ensures safety for both the staff and the customer.

It replaces interior ozone treatment.



APPLICATION:

NANOCLEAN® GUN + NANOCLEAN® FUMI-1 fogging head + NANOCLEAN® AIR is a proven solution for dry fogging the interiors of cars and rooms.

SPECIFICATION:

Dry zone:
>1,5 m.
Fogging efficiency:
15 m³/minute lub 5m²/minute.
Fluid consumption:
100 ml/min at pressure of 5,5 - 10 bar.

CATALOG NUMBER:

AC-69FUMI



WHY CLEAN AND DISINFECT AIR CONDITIONING EVAPORATORS?

The State Sanitary Institute (PZH) has long warned that uncleaned air conditioning systems can be very hazardous to health.

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ALLERGIES:

Typical allergens include dust mites, plant pollen, dust, pet dander, mold, fungi, and dandruff. The air circulated by air conditioning often contains microelements of all these allergens.

UPPER AND LOWER RESPIRATORY INFECTIONS:

Upper and lower respiratory infections often result from air pollution from undisinfected air conditioning systems and excessively low air conditioner temperatures. Particularly dangerous are large temperature differences between the outside air and the interior of the vehicle, which occur on hot days. Such infections can lead to fungal pneumonia.

LEGIONELLOSIS:

This disease manifests as a dry cough, fever up to 40°C, breathing difficulties, and altered consciousness. Infected individuals may also experience severe pneumonia. The disease progresses rapidly, and doctors struggle to treat it because the bacterium *Legionella pneumophila*, which causes it, is resistant to antibiotics. It develops in a damp environment, such as poorly cleaned, undisinfected air conditioning systems.

HERPESVIRUSES:

These viruses cause conditions such as conjunctivitis, chickenpox, and herpes. They enter the human body through contaminated air, which is also expelled by the air conditioning system.

BACTERIA:

Doctors report that 10-50% of the population carries *Staphylococcus* bacteria. For years, it may be asymptomatic until the immune system is weakened. At that point, the bacteria can cause skin infections (boils and abscesses), meningitis, pneumonia, and even endocarditis. Infection most commonly occurs through droplets, as well as through air conditioning systems.

TULAREMIA:

An acute and infectious bacterial disease with symptoms appearing suddenly about a month after infection. Common visible symptoms include exhaustion, high fever, vomiting, and rash.

MOLD AND FUNGAL INFECTIONS:

Metabolic products produced by molds and fungi are among the strongest natural toxins. Mild fungal infections manifest as itchy skin irritations and breathing problems. Interestingly, fungi can remain dormant for up to 12 years, waiting for better conditions to develop.

INFLUENZA:

Influenza symptoms are similar to those of a cold but more severe. They typically include headaches and muscle aches, a severe runny nose, weakness, and high fever. Influenza viruses also like to lurk in our air conditioning systems, waiting for a moment of weakened immunity to strike.

PZH OPINION ON OZONE TREATMENT

According to the National Institute of Public Health – National Institute of Hygiene (PZH), ozone treatment is a disinfection method with strong biocidal and oxidizing properties, primarily used for disinfecting water intended for human consumption and pool water. **However, there is no research on the effectiveness of ozone's virucidal action in its gaseous phase regarding the concentration of ozone in the air and the required humidity levels in indoor spaces. For some ozone generators, a reduction of 1-3 log has been observed, which is not sufficient to confirm effective virucidal action and suggests rather a hygienizing effect.**

“There are no criteria for evaluating the effectiveness of the disinfection performed [...]. Significant harm of ozone to human health, including residues after ozonation, is well documented. At biocidal concentrations, ozone, due to its oxidative properties, **has a pronounced irritating effect on the eyes and mucous membranes of the respiratory tract.** This can result in burning pain and redness of the eyes, cough, wheezing, difficulty breathing, worsening of lung function in spirometric tests, increased frequency and severity of asthma attacks in those suffering from the condition, and exacerbation of symptoms in individuals with pre-existing respiratory and cardiovascular diseases. Epidemiological observations conducted in several European countries have shown that an increase in ozone concentration in the air by 10 µg/m³ leads to a 0.3% increase in the daily number of deaths.”

Regarding air concentrations where the risk of harmful effects of ozone on human health is low, ozone does not exhibit a biocidal effect.

During the ozonation process, the concentration of ozone in the air of the disinfected room is several times higher than the recommended values for atmospheric air, as outlined in WHO recommendations (below 100 µg/m³).

It should also be noted that ozone present in atmospheric air, known as tropospheric ozone, is one of the most harmful pollutants from a health perspective, and the level of human exposure to it is considered excessive and requiring effective countermeasures by the World Health Organization. (3) Damage to room furnishings (especially materials containing rubber) and the need to remove them from the room before ozonation. [...] Ozone generators most often lack studies confirming their action against microorganisms according to the principles adopted for biocidal products, especially virucidal action [...] At the same time, the Institute informs that ozonation of rooms should not be considered as the sole measure to limit the spread of the SARS-CoV-2 virus and should only be used in justified cases [...] Hands and surfaces that may be exposed to contamination should be frequently washed and disinfected [...]

Source: NIZP-PZH, *Opinion of NIZP-PZH dated April 2, 2020, regarding the disinfection of office spaces through ozonation and the effectiveness of this method in combating SARS-CoV-2.*

Available at: <http://www.psse.sosnowiec.pl/art,156,opinia-narodowego-instytutu-zdrowia-publicznego-panstwowego-zakladu-higieny-z-dnia-2-kwietnia-2020-r-znak-b-bk-547-5420-dotyczaca-dezynfekcji-pomieszczen-biurowych-poprzez-ozonowanie-skuteczności-powyzszej-metody-w-zwalczaniu-sars-cov-2-oraz>

NANOCLEAN® AIR

BUY OUR PRODUCTS
YOU CAN FIND THE LIST OF
DISTRIBUTORS BY SCANNING THE QR
CODE

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NOTES:

ADVERTISE YOUR SERVICE FOR FREE!

<https://DezynfekcjaKlimatyzacji.pl/zarejestruj-sie/>

TOGHETER WE CAN ACHIEVE MORE!

EFFECTIVENESS EVALUATION TABLE FOR NANOCLEAN®

	CLEANING	DISINFECTION viruses, bacteria, fungi, mycobacteria, spores	SAFETY	SCENT	ACTION TIME
NANOCLEAN® AIR READY TO USE	*****	*****	*****	*****	*****
AC-69INOX WITH NANOCLEAN® AIR	*****	*****	*****	*****	*****
AC-69NYLON WITH NANOCLEAN® AIR	*****	*****	*****	*****	*****
NANOCLEAN® AIR-F FLAMMABLE AEROSOL	***	*****	*****	*****	*****
NANOCLEAN® AIR NON-FLAMMABLE AEROSOL	***	*****	*****	*****	*****
AC-69FUMI WITH NANOCLEAN® AIR	***	*****	***	*****	*****

NANOCLEAN® AIR THE LEADER IN AIR CONDITIONING DISINFECTION

NANOCLEAN® AIR

Lider Dezynfekcji Klimatyzacji

I AM FOR CAR CONDITIONING



THE ONLY ALL-IN-ONE PRODUCTS ON THE MARKET FOR REFRESHING, CLEANING, FUNGAL REMOVAL, AND DISINFECTION

OF VENTILATION AND AIR CONDITIONING SYSTEMS IN VEHICLES WITH A FULL SPECTRUM OF ACTION:
VIRUSES - STOP COVID-19, FUNGI, BACTERIA, BACTERIAL SPORES, TUBERCLE BACILLI
IN UP TO 15 MINUTES.

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