NANOCLEAN®AIR

Lider Dezynfekcji Klimatyzacji

I AM FOR THE AIR CONDITIONING

THE ONLY ALL-IN-ONE PRODUCTS ON THE MARKET FOR REFRESHING, CLEANING, MOLD REMOVAL, DISINFECTION, VENTILATION, AND AIR CONDITIONING (HVAC) WITH A FULL SPECTRUM OF ACTION:

VIRUSES - STOP COVID-19, FUNGI, BACTERIA, SPORES, BACTERIA, MYCOBACTERIA IN UP TO 15 MINUTES

EUROPEAN NORM EN 14476 PASSED STANDARD
EUROPEAN NORM EN 13697 PASSED STANDARD
EUROPEAN NORM EN 1650 PASSED STANDARD
EUROPEAN NORM EN 1275 PASSED STANDARD
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EUROPEAN NORM EN 14348 PASSED STANDARD
EUROPEAN NORM EN 13704 PASSED STANDARD

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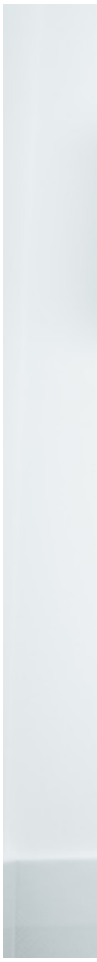

NANOCLEAN® AIR

Lider Dezynfekcji Klimatyzacji

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ALL IN ONE

Did you know that...

NANOCLEAN® AIR

is currently the only product range on the market offering a complete biocidal spectrum for cleaning and disinfecting air distribution ducts and other HVAC system components in the shortest time possible? The products clean and disinfect in one process, which makes the technicians' job easier, speeds up the process, and guarantees high-level disinfection effectiveness.
Using NANOCLEAN® AIR ensures customer satisfaction, meaning the end-users of the air conditioning systems.

NANOCLEAN® AIR

ALL IN ONE

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

DECONTAMINATION

This broad term 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 subsequent decontamination stage, which is disinfection. The cleaning process is a critical stage in decontamination; when performed correctly, it can reduce microorganisms by up to 80%, although the removed microorganisms may still be alive. Improper cleaning can lead to increased microbial contamination. It is important that disinfectant products have good cleaning properties. For example, alcohol-based products lack effective cleaning properties, so they should be used on surfaces that have already been cleaned.

SECOND STAGE OF DECONTAMINATION

DISINFECTION:
A broad process aimed at destroying microorganisms and their spores on surfaces. MOLD REMOVAL is only a part of the broader disinfection process. The goal of mold removal is to reduce mold to a level that does not pose a health risk. Mold removal does not destroy other microorganisms such as viruses, bacteria, mycobacteria, or spores.

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
CONCENTRATE
AEROSOL

ALL IN ONE
REFRESH + CLEANS
+ MOLD REMOVAL + DISINFECTION
+ + PERMANENTLY ELIMINATES UNPLEASANT ODORS, LEAVING A PLEASANT, FRESH SCENT

100% FRESHNESS:
Eliminates unpleasant odors, leaving a pleasant, long-lasting scent.

100% SAFETY,
FULL BIOCIDAL SPECTRUM:
Viruses, fungi, bacteria, spores, mycobacteria. Legionella pneumophila in just 1 minute.

100% RELIABILITY AND EFFECTIVENESS:
Confirmed by testing according to European standards.

100% CLEANING EFFECTIVENESS: Thanks to a multi-component active base.

100% COMFORT AND SAFETY FOR USERS:
Due to an innovative, safe formula.

100% CUSTOMER SATISFACTION

EUROPEAN NORM EN 14476 PASSED STANDARD
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EUROPEAN NORM EN 13704 PASSED STANDARD

ALL IN ONE

NANOCLEAN® AIR

FEEL THE POWER OF NANOCLEAN® AIR PRODUCTS

05

TABLE OF CONTENTS:

01. **ALL IN ONE**

NANOCLEAN® AIR

READY TO USE

The only ready-to-use product on the market designed for cleaning, refreshing, mold removal, and disinfection of air conditioner evaporators and other HVAC ventilation and cooling devices, with a **FULL BIOCIDAL SPECTRUM:** Viruses (including SARS-CoV-2), Fungi, Bacteria, Spores, Mycobacteria within 15 minutes.

Legionella pneumophila within 1 minute..

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

Effectiveness confirmed by testing according to European standards EN:
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:

- Air conditioner evaporators
- Ventilation units
- Air coolers
- Heat exchangers
- Ventilation ducts
- Fan coils
- Recuperators
- Air distribution ducts in heat pumps
- Portable air conditioners
- Other HVAC equipment

Legionella pneumophila **1 min** complete elimination

Kills: Viruses, Funghi Bacteria, Spores, Mycobacteria **15 min** including SARS-CoV-2

Leaves **a pleasant scent**

PACKAGING:

NANOCLEAN® Ready to Use in a 5L Canister

CATALOG NUMBER

AC-79G5B	- odorless
AC-79G5C	- citrus-scented
AC-79G5L	- lavender-scented
AC-79G5O	- orchid-scented

NEW

ALL IN ONE

02.

NANOCLEAN® AIR

READY TO USE IN A SPRAY BOTTLE

TOP QUALITY NANOCLEAN® AIR IN AN ERGONOMIC SPRAY BOTTLE

Legionella pneumophila within 1 minute.

Quick and easy application without the need for additional equipment.

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

ADVANTAGES OF THE NEW PACKAGING:

- New suction system – allows 360° spraying and works in any position
- Smooth nozzle spray adjustment from mist to stream
- Long, ergonomic handle for operation with three fingers
- Increased nozzle spray pressure
- Transparent container for monitoring liquid levels
- Extended lifespan
- Chemically resistant

PACKAGING:

NANOCLEAN® AIR Ready to use in a 500ml Spray bottle

CATALOG NUMBER:

AC-79G500B - odorless
AC-79G500C - citrus-scented
AC-79G500L - lavender-scented
AC-79G500O - orchid-scented

NANOCLEAN® AIR

CONCENTRATE

The only concentrate on the market designed for cleaning, refreshing, mold removal, and disinfection of air conditioner evaporators and other HVAC ventilation and cooling devices, with a **FULL BIOCIDAL SPECTRUM:** Viruses (including SARS-CoV-2), Fungi, Bacteria, Spores, Mycobacteria within 15 minutes.

Legionella pneumophila within 1 minute.

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

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

PZH Certificate No: BK/K/0863/01/2018.
Biocidal Product Authorization No: 7420/18..

APPLICATION:

- Air conditioner evaporators
- Ventilation units
- Air coolers
- Heat exchangers
- Ventilation ducts
- Fan coils
- Recuperators
- Air distribution ducts in heat pumps
- Portable air conditioners
- Other HVAC equipment

Legionella pneumophila **1 min** complete elimination

Kills: Viruses, Funghi Bacteria, Spores, Mycobacteria **15 min** including SARS-CoV-2

Leaves **a pleasant scent**

PACKAGING:

NANOCLEAN® AIR Concentrate in a 1-liter container with a measuring cup

CATALOG NUMBER:

AC-79K1B	- odorless
AC-79K1C	- citrus-scented
AC-79K1L	- lavender-scented
AC-79K1O	- orchid-scented

NEW

ALL IN ONE

04.

NANOCLEAN® AIR

AEROSOL

The only foam aerosol on the market for cleaning, refreshing, mold removal, and disinfection of air conditioner evaporators and other HVAC ventilation and cooling devices, with a **FULL BIOCIDAL SPECTRUM:** Viruses (including SARS-CoV-2), Fungi, Bacteria, Spores, Mycobacteria within 15 minutes.

Legionella pneumophila within 1 minute.

Effectiveness confirmed by testing according to European standards EN:
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:

- Air conditioner evaporators
- Ventilation units
- Air coolers
- Heat exchangers
- Ventilation ducts
- Fan coils
- Recuperators
- Air distribution ducts in heat pumps
- Portable air conditioners
- Other HVAC equipment

The set includes two nozzles: a surface spray nozzle and a 60cm hose with a 360° nozzle for enclosed ducts.

PACKAGING:

NANOCLEAN® AIR in a 520/400 ml aerosol

CATALOG NUMBER:

AC-79A400 - with a pleasant scent

AC-FOAMCLEAN

SUPERCONCENTRATE

A highly potent alkaline active foam designed for cleaning cooling units.

The most effective solution for tough dirt and grime.

100% safe for all surfaces, leaving no residues or deposits.

Removes: grease, oils, dirt, fat, organic particles, deposits, tarnish, resin, insects, moss, and tobacco stains. Brightens condensers.

Contains corrosion inhibitors.

Mix with water at concentrations of 1-25%.

APPLICATION:

- External and internal air conditioning units
- Ventilation units
- Heavily soiled fans
- Drip trays, condensers
- Other HVAC system components
- Air filters
- Oily equipment
- Gutters, roofs, floors, car rims
- Heavy dirt and grime

Safe **100%** safety for all surfaces

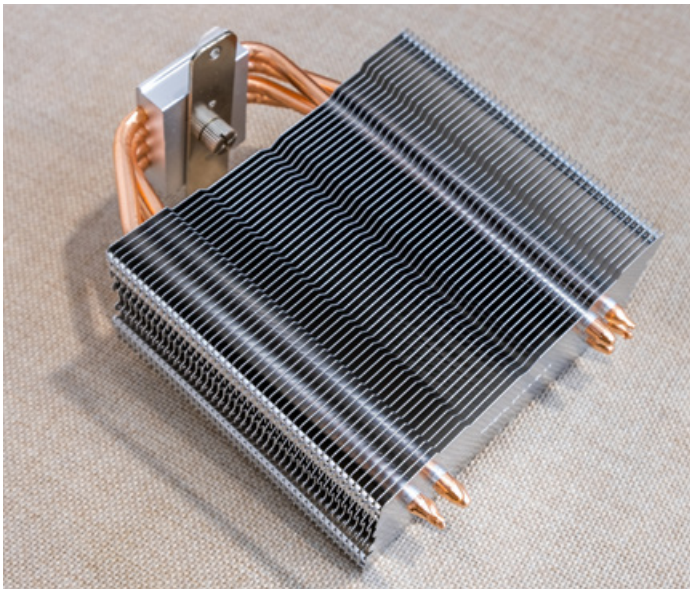
Kills: Viruses, Funghi Bacteria, Spores, Mycobacteria **15 min** including SARS-CoV-2

Leaves **a pleasant scent**

PACKAGING:

MC-6125 bottle 1kg
MC-6125 canister 5kg

SUPERCONCENTRATES



AC-DESCALER-ECO

SUPERCONCENTRATE

Effective and economical acidic descaler for cooling and heating equipment. Removes scale deposits in air conditioning, cooling, and heating systems. Brightens components such as cooling fins.

Contains corrosion inhibitors.

Mix with water at concentrations of 5-50%.

APPLICATION:

- Coolers
- Heat exchangers
- Condensers
- Drip trays
- Drainage ducts
- Filters
- Drain grates
- Boilers, radiators, central heating systems
- Descaling closed-loop systems

PACKAGING:

MC-6129 bottle 1kg
MC-6129 canister 5kg

PV NEW

SUPERCONCENTRATE

Fills the micropores of surfaces and leaves a glossy finish. Creates an invisible protective coating on all types of painted surfaces. Exhibits hydrophobic properties (water-repellent effect). Provides antistatic protection (reduces dust attraction). Safe for solar collectors, photovoltaic cells, glass surfaces, plastic surfaces, aluminum frames, steel, and ceramics. Protects against performance loss of installations over time. Mix with water at concentrations of 1-5%.

APPLICATION:

- Initial cleaning of heavily soiled solar and photovoltaic panels
- Periodic washing of solar and photovoltaic panels
- Cleaning of facades, roofs (including moss removal), windows, fences, gates, and paving stones
- Cleaning with active foam through a foam lance
- Removal of greasy dirt, dried grime, deposits, water stains, and organic stains
- Safe cleaning of aluminum parts and non-ferrous metals

PACKAGING:

MC-6840 bottle 1kg
MC-6840 canister 5kg

NANOCLEAN® AIR

READY TO USE
CONCENTRATE
AEROSOL

GROUP:	DESINFECTION TIME:	STANDARD:	ORGANISM:
Viruses	5 minutes	EN 14476	*Adenovirus ATCC VR-5*
			Murine norovirus RVB-651
			Poliovirus LSC -2ab
			Vaccinavirus ATCC-VR 1508
Fungi	15 minutes	EN 13697	*Candida albicans ATCC 10231*
			Aspergillus brasiliensis ATCC 16404 (Aspergillus Niger)
	5 minutes	EN 1650	*Candida albicans ATCC 10231*
	1 minute	EN 1275	*Candida albicans ATCC 10231*
Bacteria	5 minutes	EN 13697	*Pseudomonas aeruginosa ATCC 15442*
			Staphylococcus aureus ATCC 6538
			Escherichia coli ATCC 10536
			Enterococcus hirae ATCC 10541
	1 minute	EN 1276	*Legionella pneumophila ATCC 33152*
			Escherichia coli ATCC 10536
			Pseudomonas aeruginosa ATCC 15442
			Staphylococcus aureus ATCC 6538
			Enterococcus hirae ATCC 10541
	1 minute	EN 13727	*Pseudomonas aeruginosa ATCC 15442*
			Staphylococcus aureus ATCC 6538
			Enterococcus hirae ATCC 10541
	1 minute	EN 1040	*Legionella pneumophila ATCC 33152*
	60 minutes	EN 13623	*Legionella pneumophila ATCC 33152*
Mycobateria	5 minutes	EN 14348	*Mycobactrium terrae DSM 43227*
			Mycobacterium avium DSM 44157
Spores	5 minutes	EN 13704	*Bacillus subtilis ATCC6633*

WHY CLEAN AND DISINFECT

HVAC SYSTEMS

The National Institute of Public Health (PZH) has long warned that uncleaned air conditioning systems can pose significant health risks..

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

UPPER AND LOWER RESPIRATORY INFECTIONS:
Upper and lower respiratory infections often result from air pollution caused by inadequately cleaned air conditioning systems and from setting the air conditioner temperature too low. Large temperature differences between the outside and inside air, especially on hot days, are particularly dangerous. Such infections can lead to fungal pneumonia.

LEGIONELLOSIS:
This disease presents with a dry cough, fever up to 40°C, breathing difficulties, and altered mental state. Infected individuals also experience severe pneumonia. The disease progresses rapidly and is difficult to treat because the bacteria Legionella pneumophila, which causes the illness, is resistant to antibiotics. It develops in humid environments, such as poorly cleaned and inadequately disinfected air conditioning systems.

HERPESVIRUSES:
These viruses can cause conjunctivitis, chickenpox, and herpes. They can enter the human body through contaminated air expelled by air conditioning systems.

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 position of the National Institute of Public Health – National Hygiene Institute, ozone treatment is a disinfection method with strong biocidal and oxidizing properties, primarily used for disinfecting drinking water and swimming pool water. **However, there is no research on the effectiveness of ozone in its gaseous phase** specifically regarding the concentration of ozone in the air and the required humidity levels in rooms. Some ozone generators have shown a reduction of 1-3 log, **which is not sufficient to confirm effective virucidal action and is more indicative of a hygienizing effect.**
"There are no criteria for evaluating the effectiveness of the disinfection performed [...] (2) Significant harm to human health, including residual effects after ozone treatment. At concentrations that exert biocidal effects, ozone, due to its oxidizing 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, coughing, wheezing, difficulty breathing, worsening lung function in spirometry tests, increased frequency and severity of asthma attacks in sufferers, and exacerbation of symptoms in individuals with pre-existing respiratory and cardiovascular conditions. **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-skutecznosci-powyzszej-metody-w-zwalczaniu-sars-cov-2-oraz"

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NOTES:

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