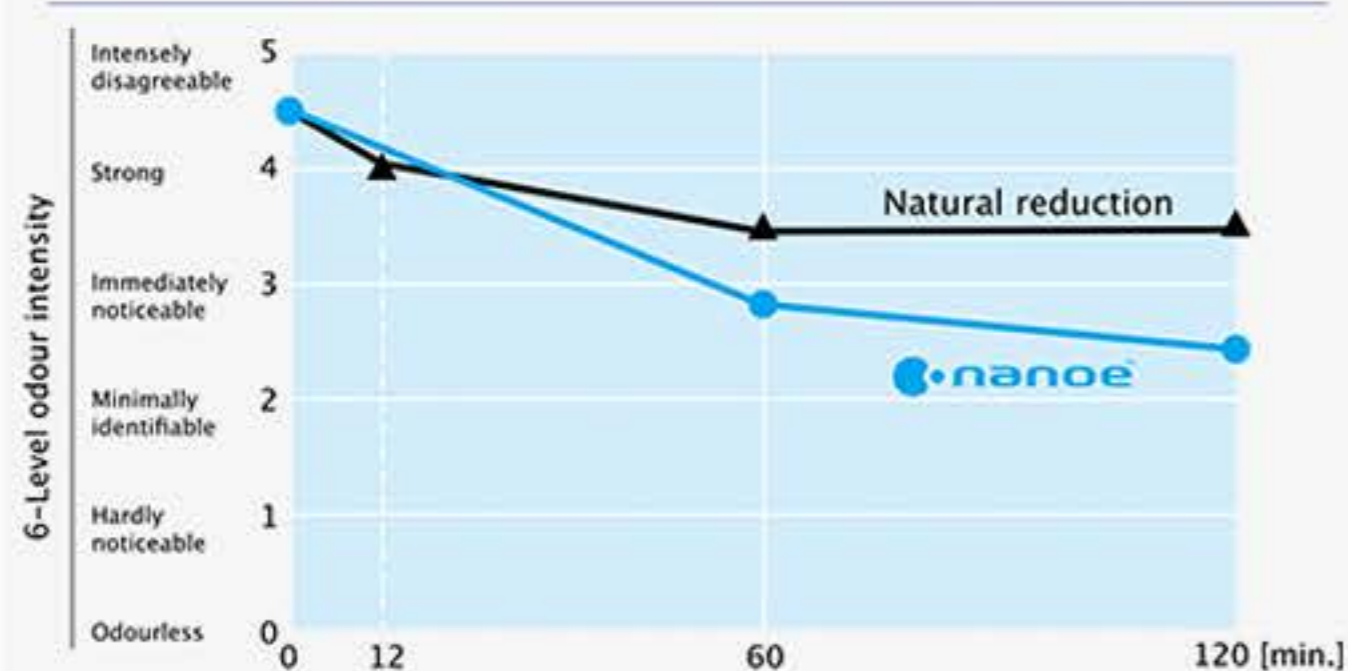


Effects of nanoe™
and nanoe™ X
nanoe™ Technology

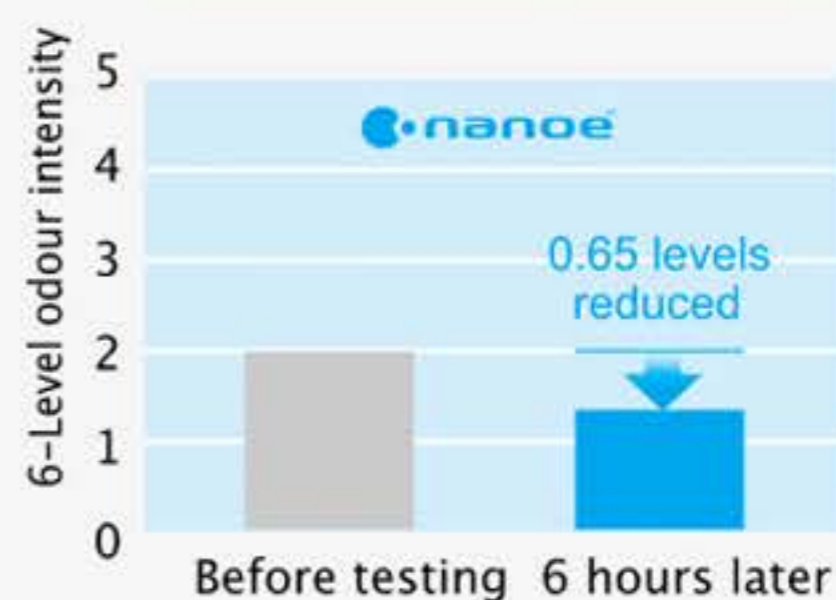
Eliminates Frequently Encountered Odours



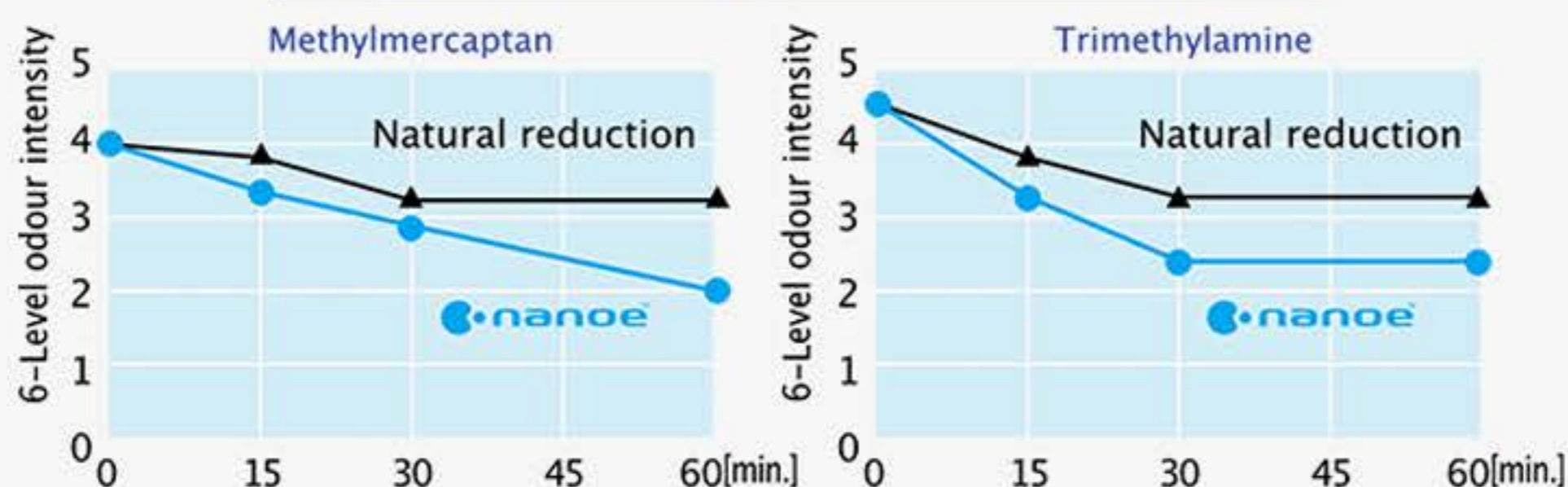
Cigarette smoke odour ^{*1}



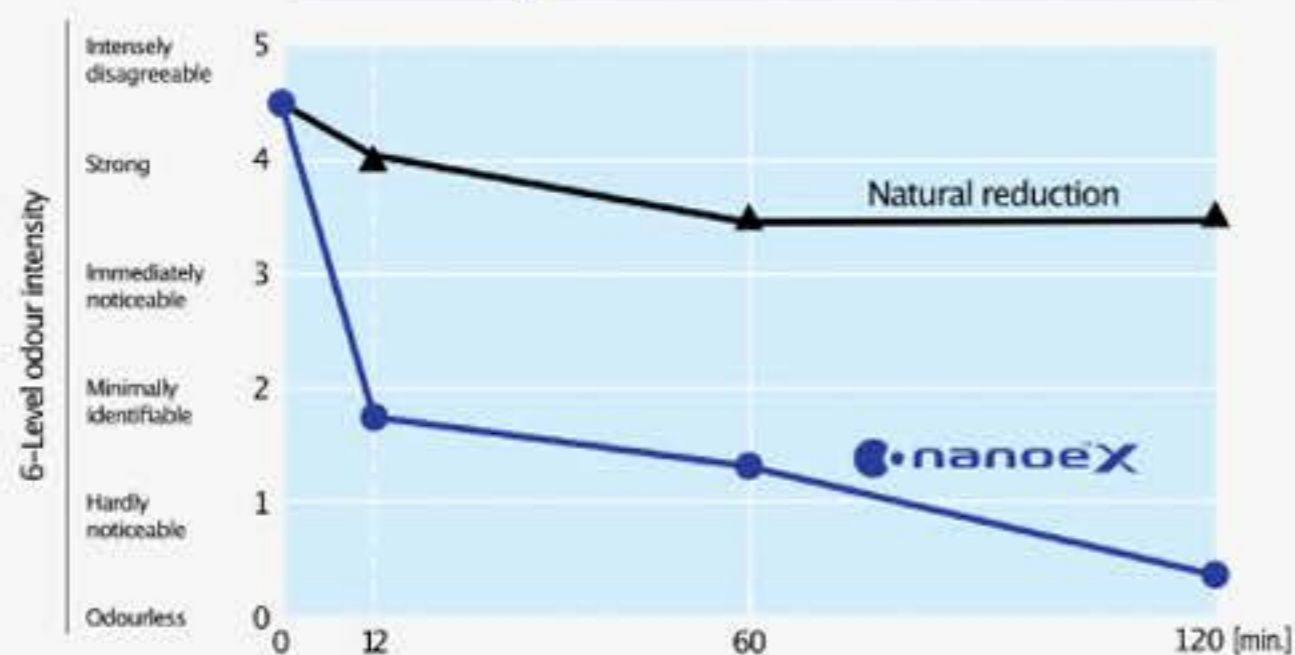
Scalp odour ^{*2}



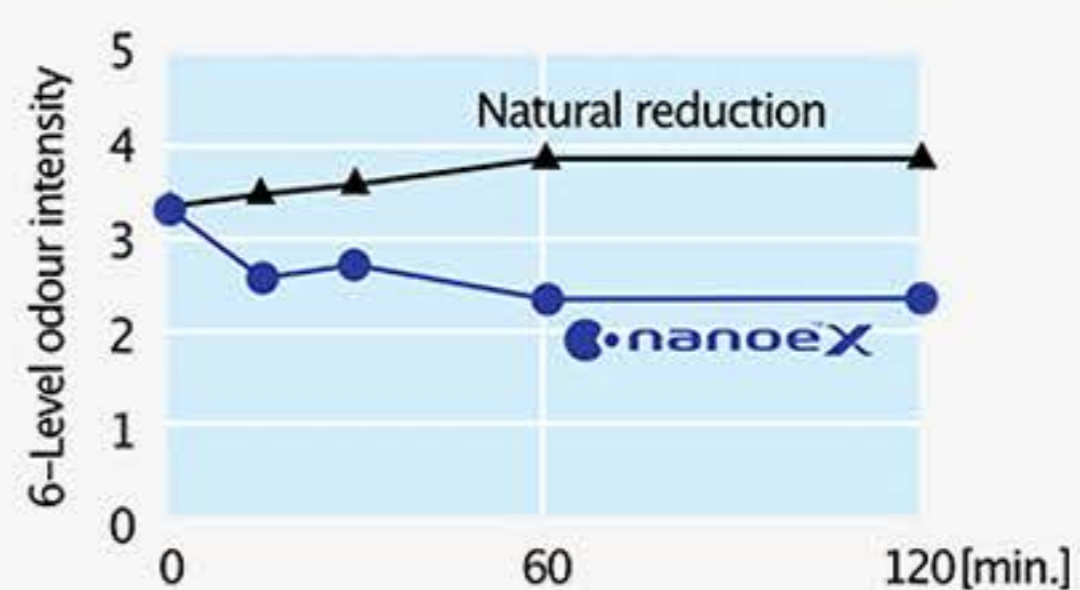
Garbage odour ^{*3}



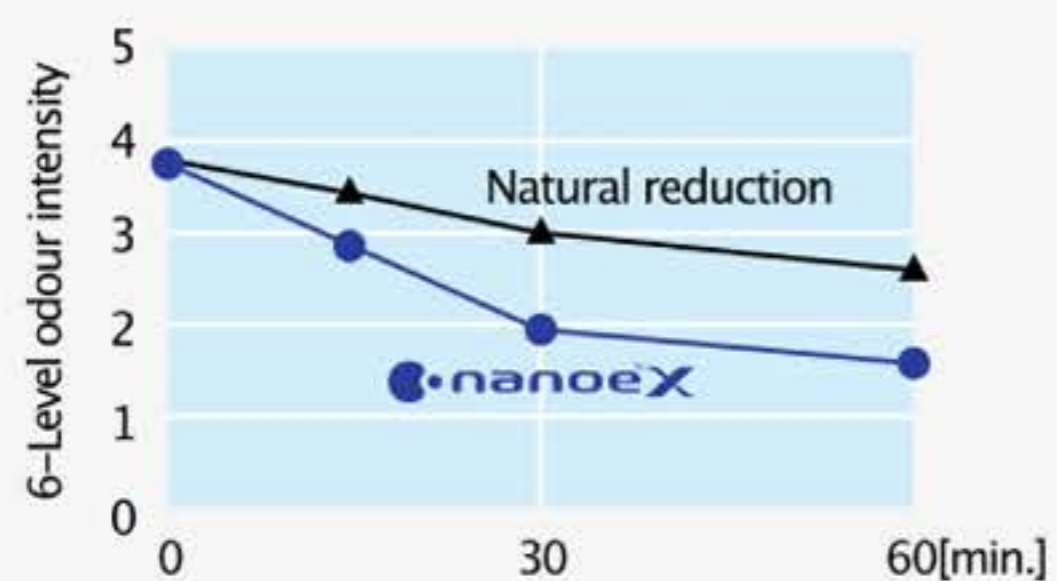
Cigarette smoke odour ^{*4}



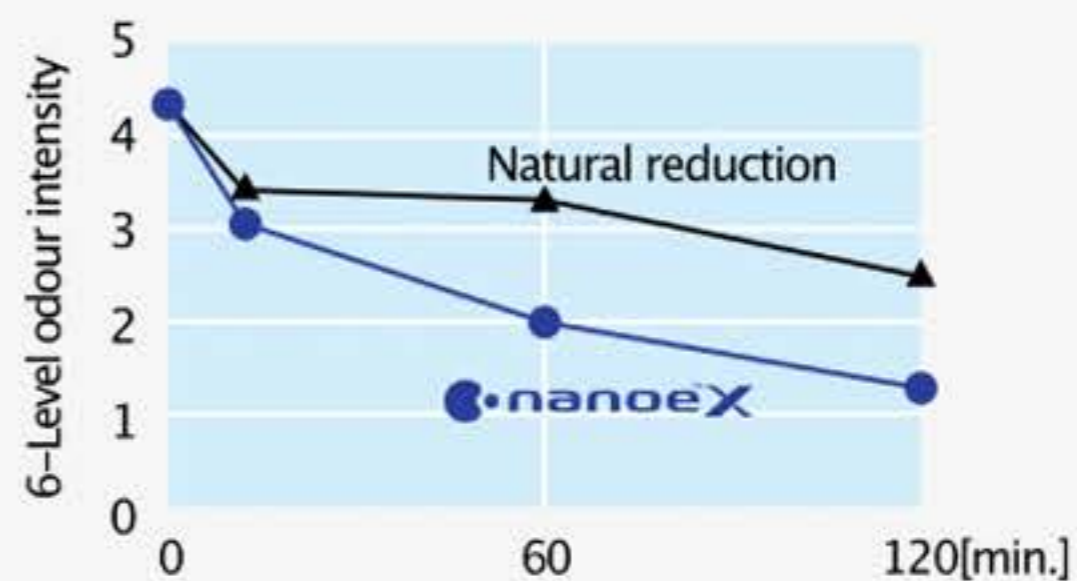
Pet odour ^{*5}



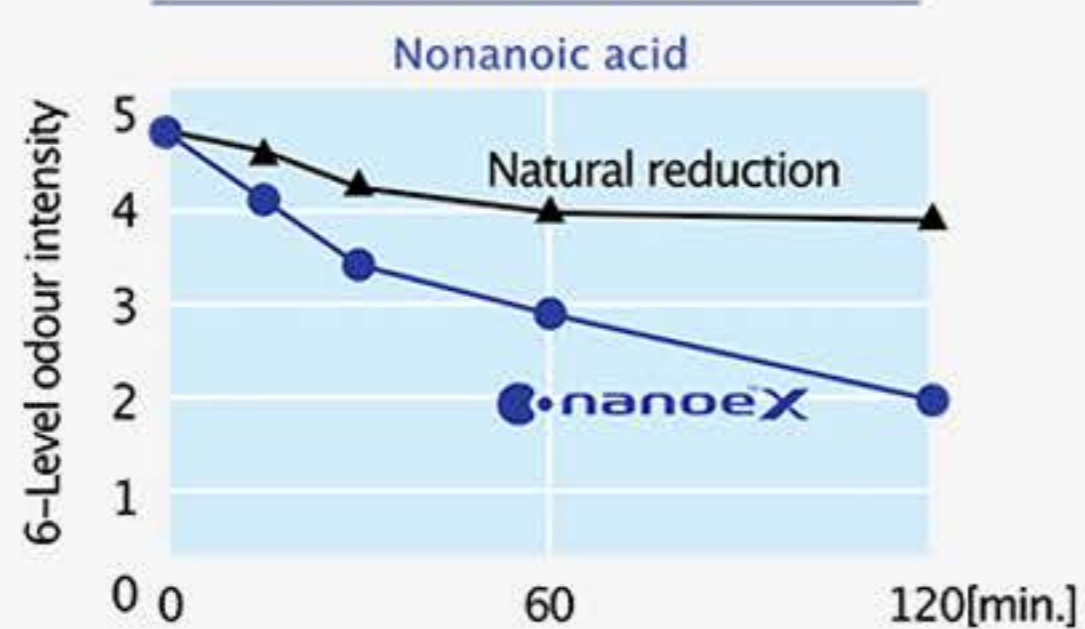
Durian odour ^{*6}



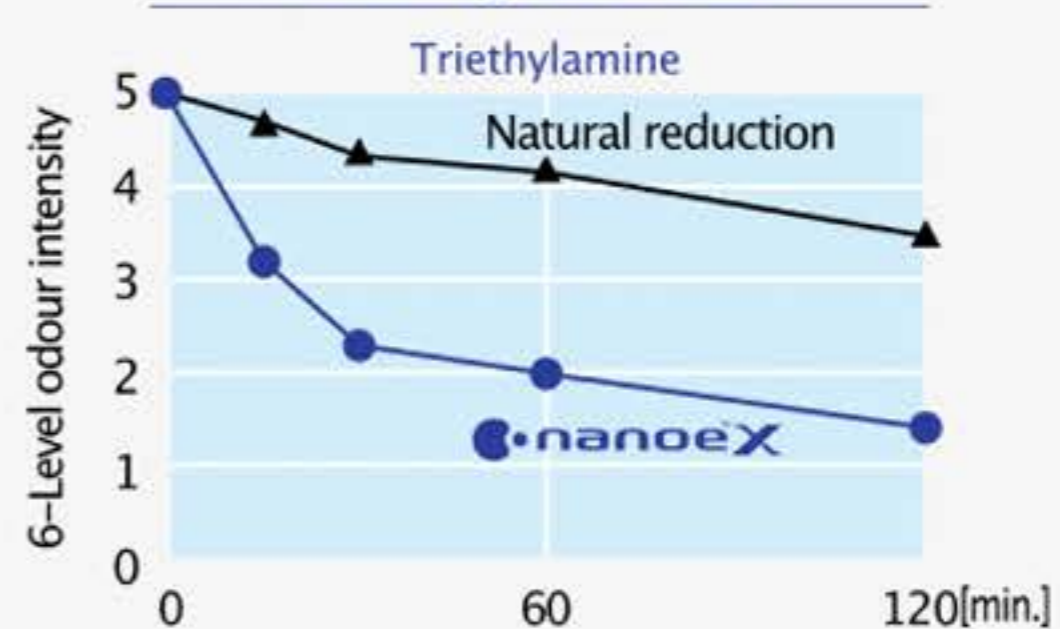
BBQ odour ^{*7}



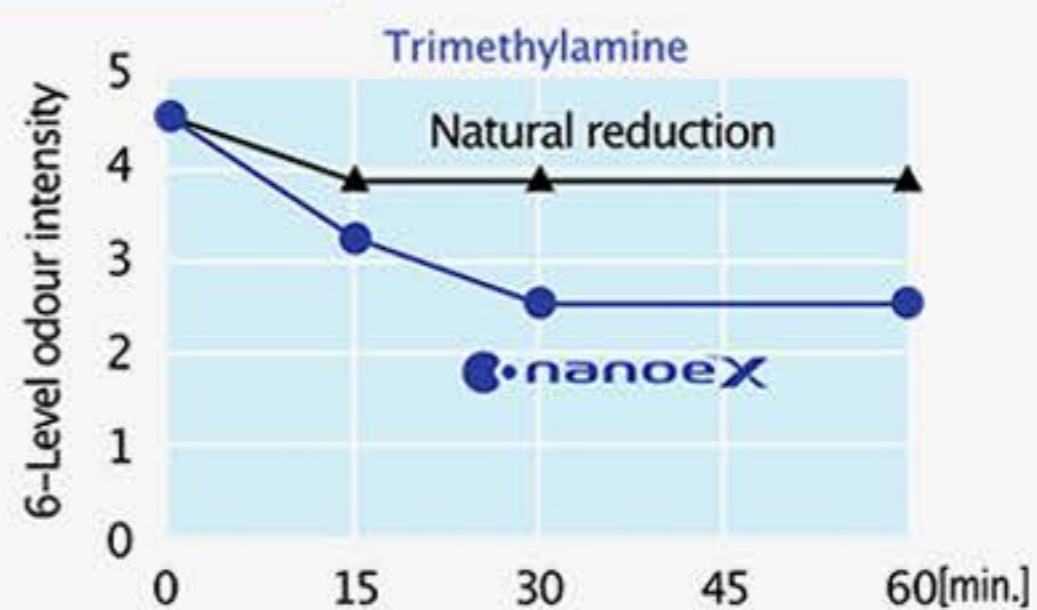
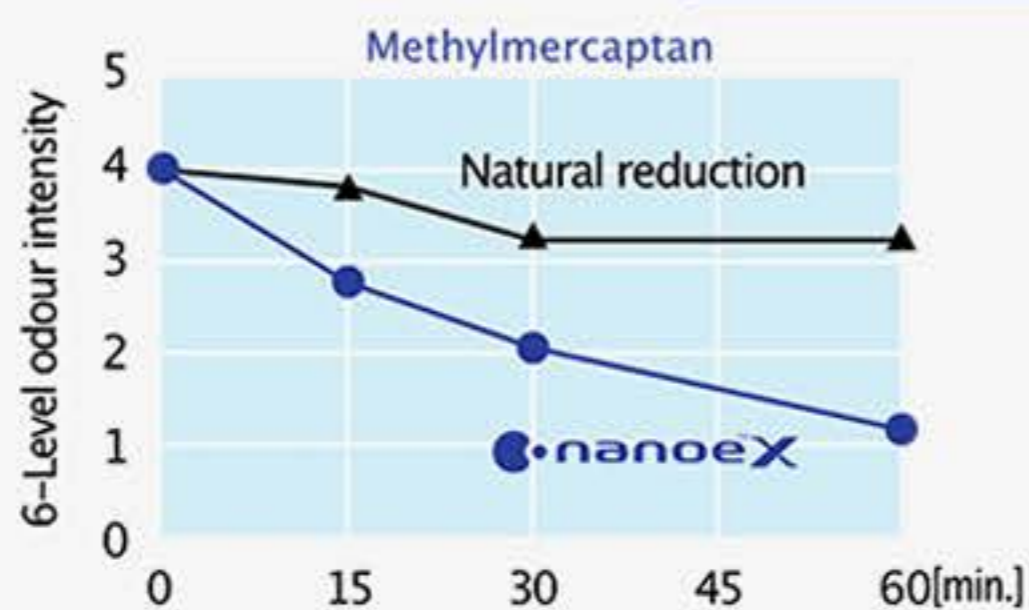
Sweat odour ^{*8}



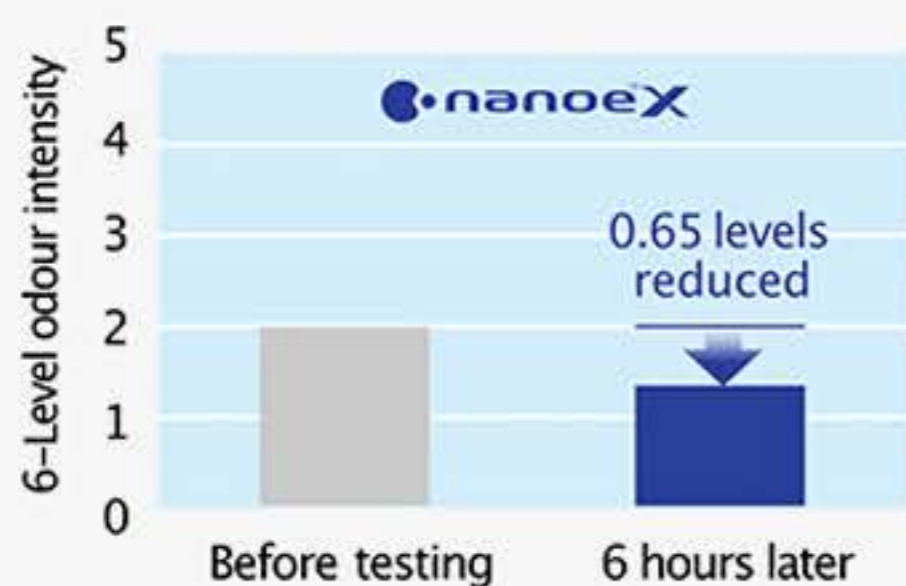
Damp odour ^{*9}



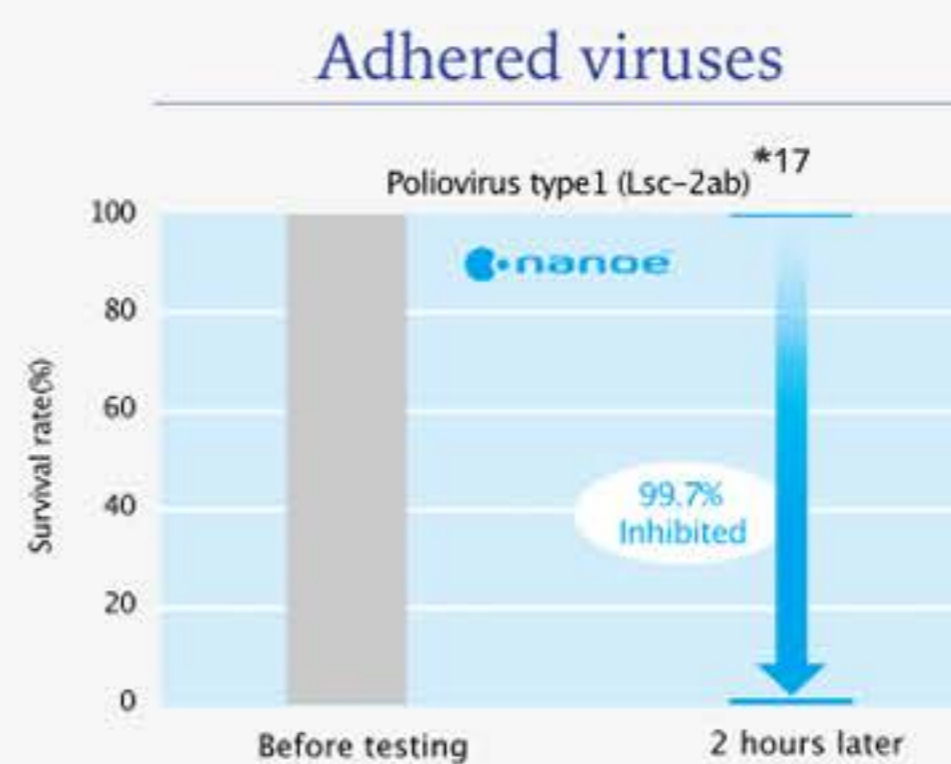
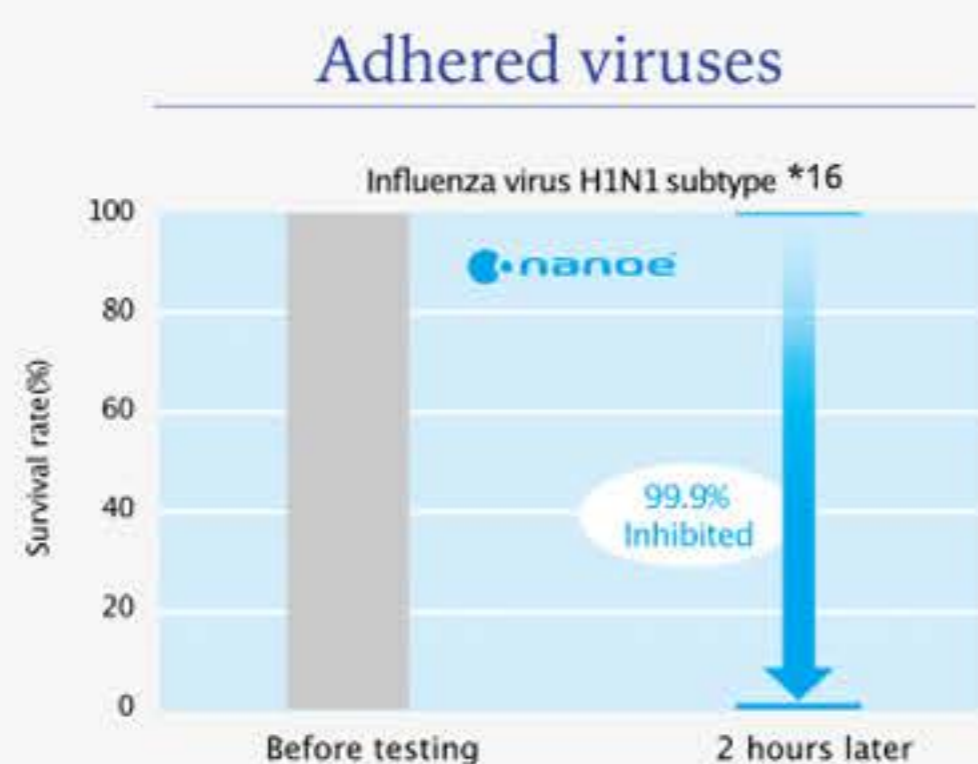
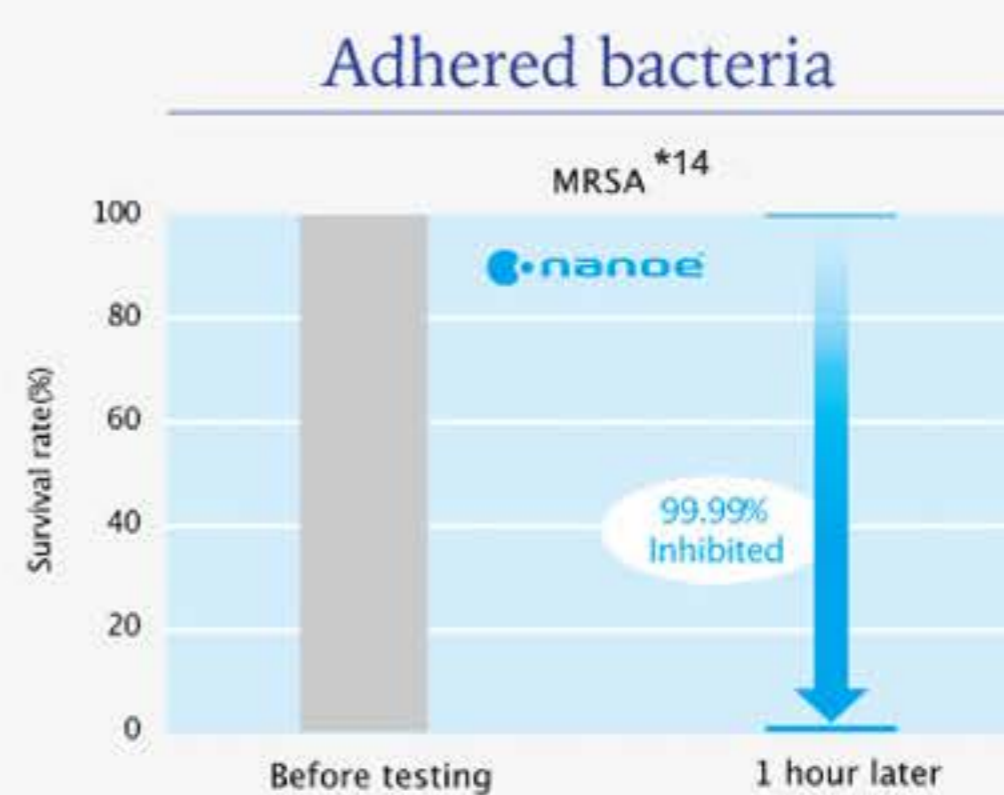
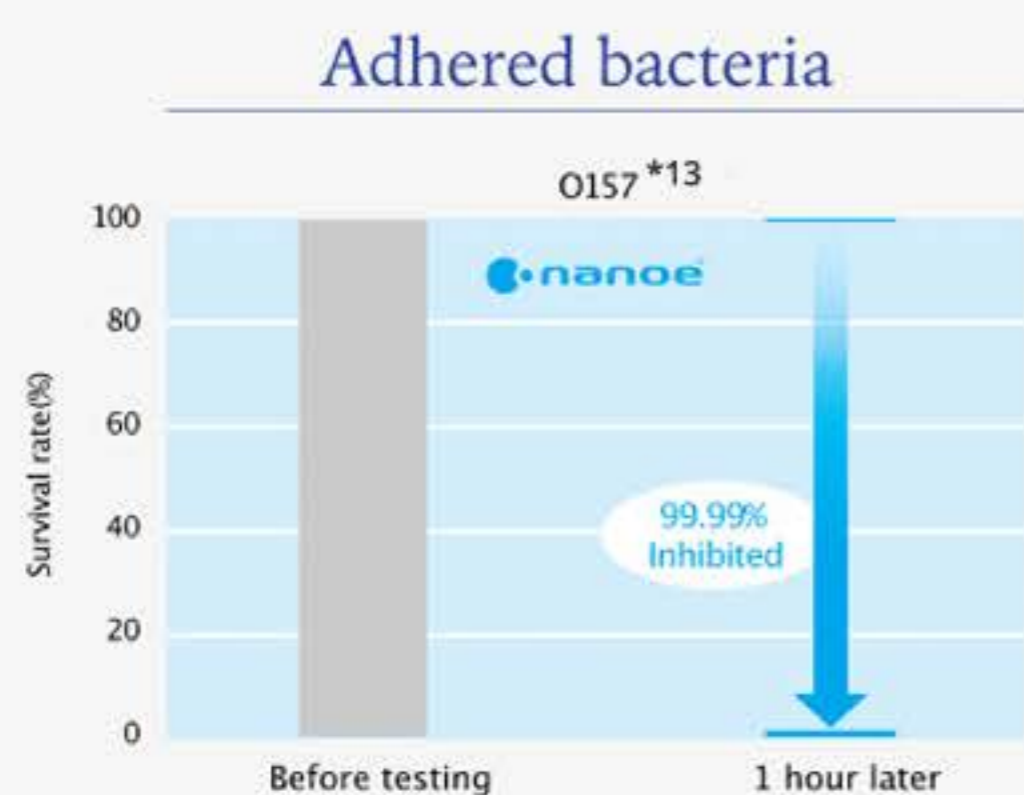
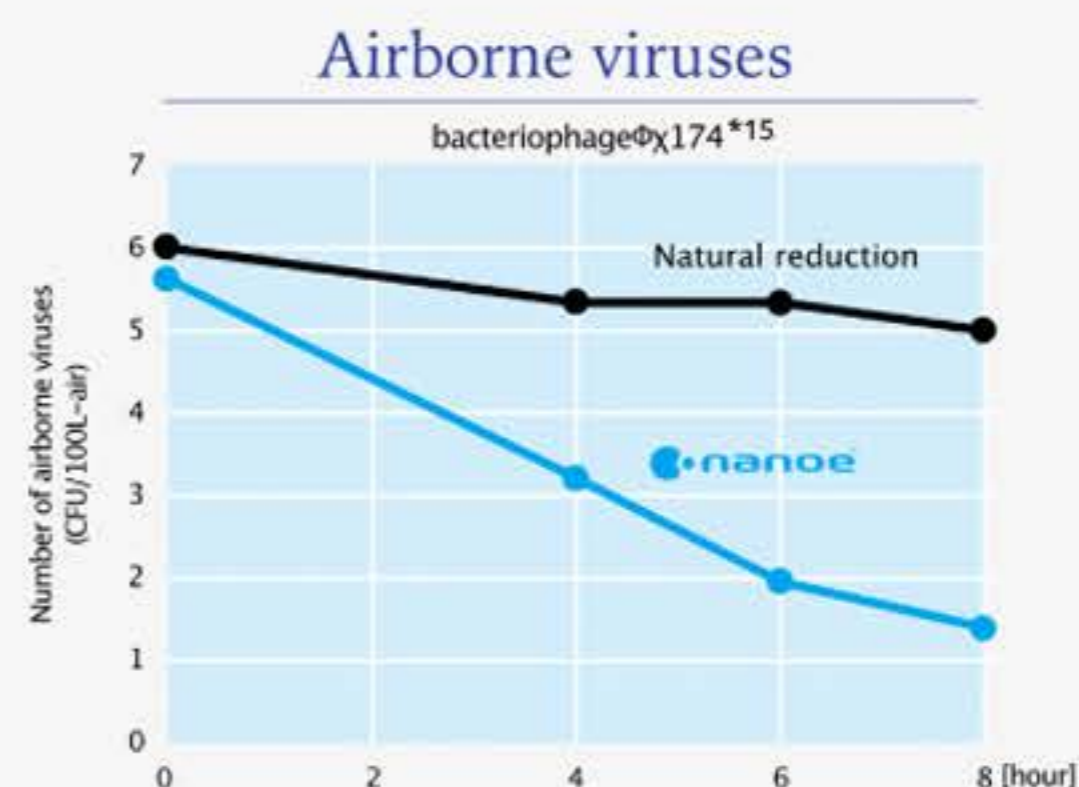
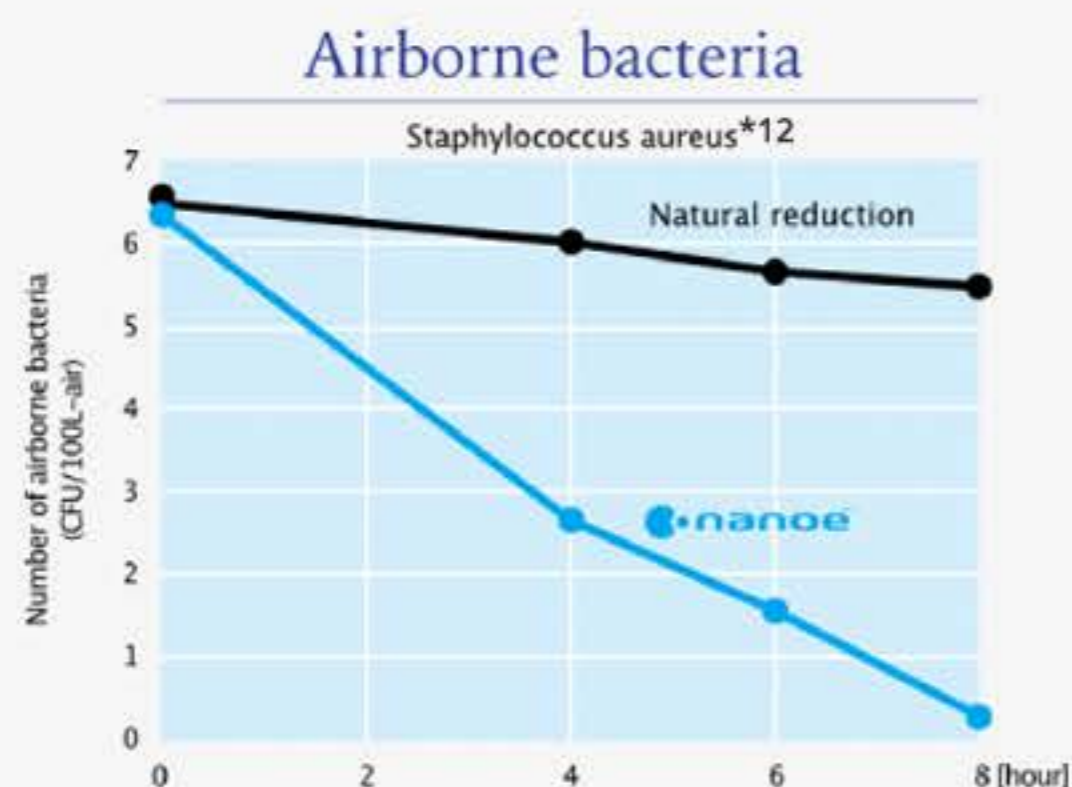
Garbage odour ^{*10}



Scalp odour ^{*11}

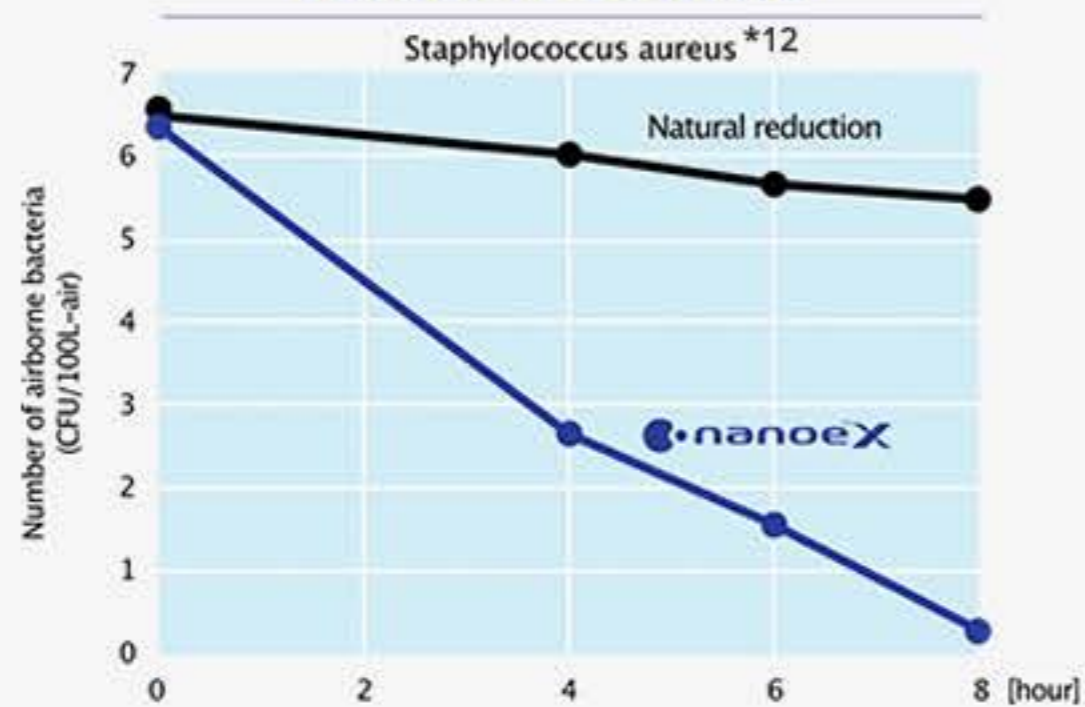


Inhibits Activity of Airborne, Adhered Bacteria & Viruses

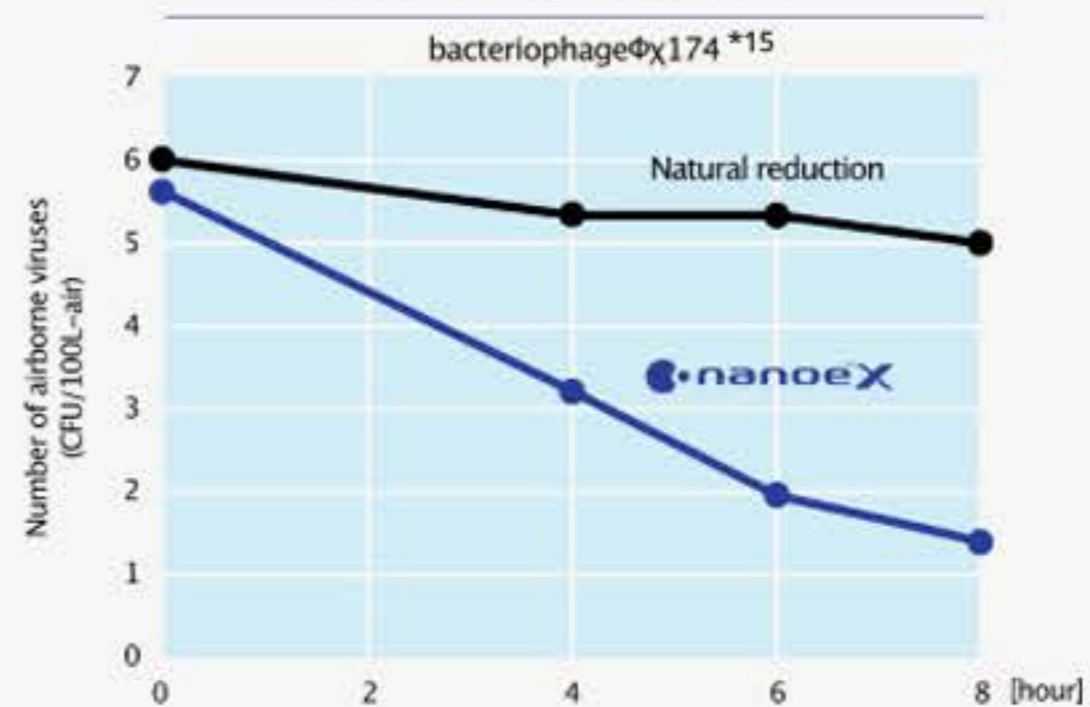




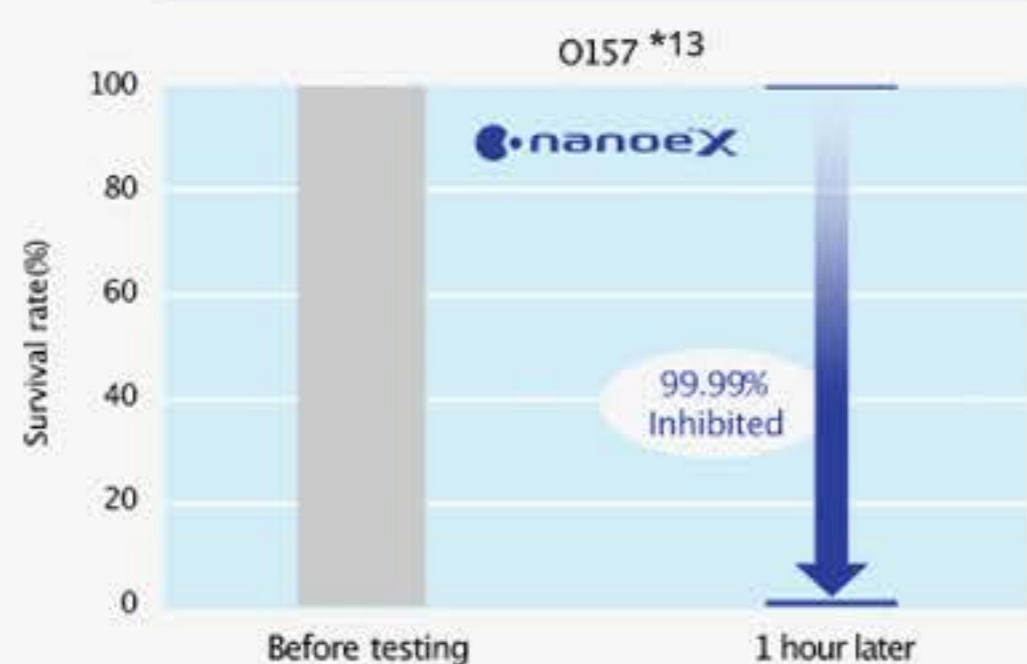
Airborne bacteria



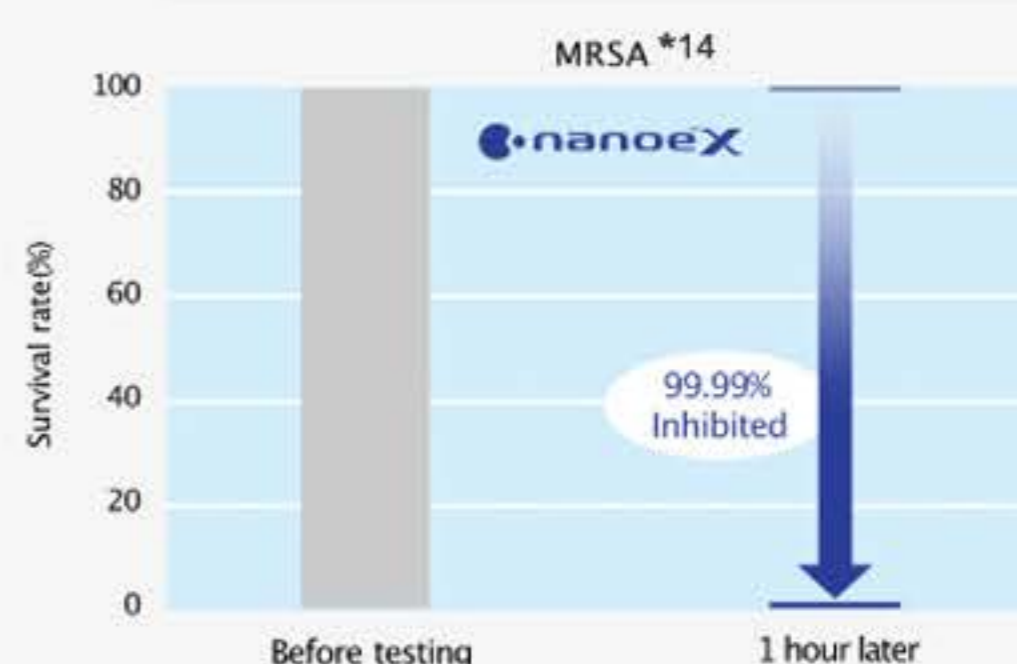
Airborne viruses



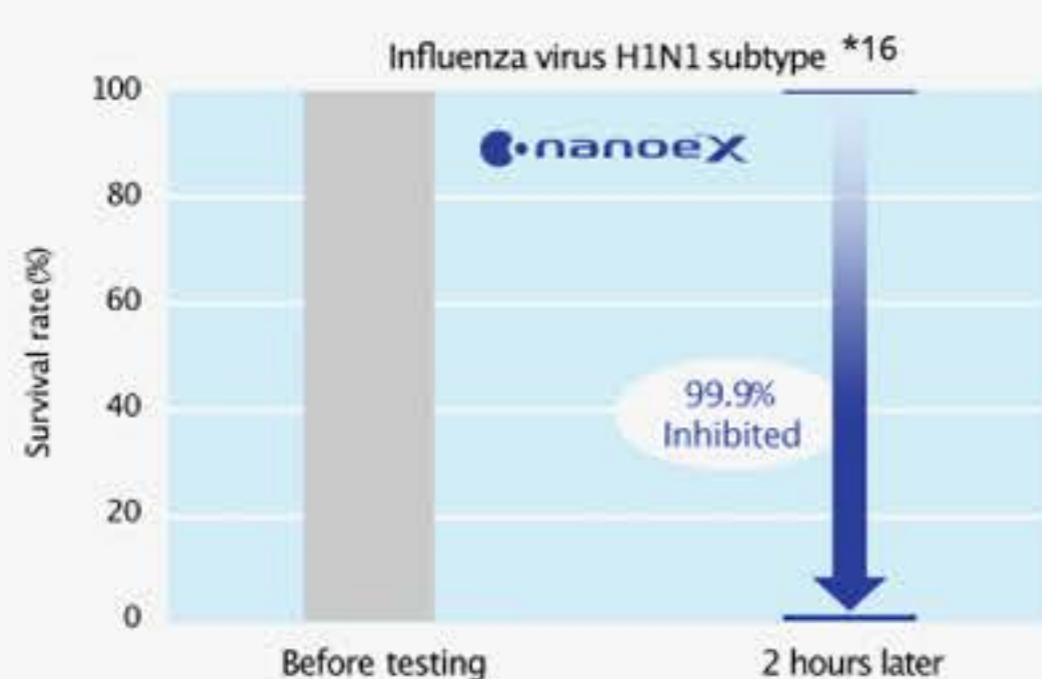
Adhered bacteria



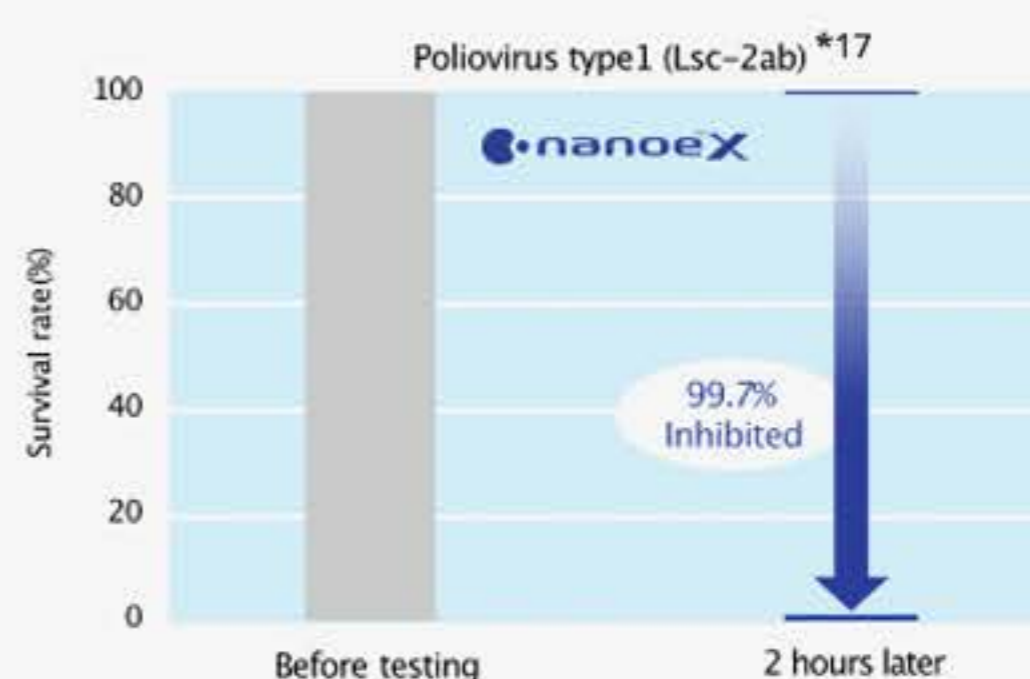
Adhered bacteria



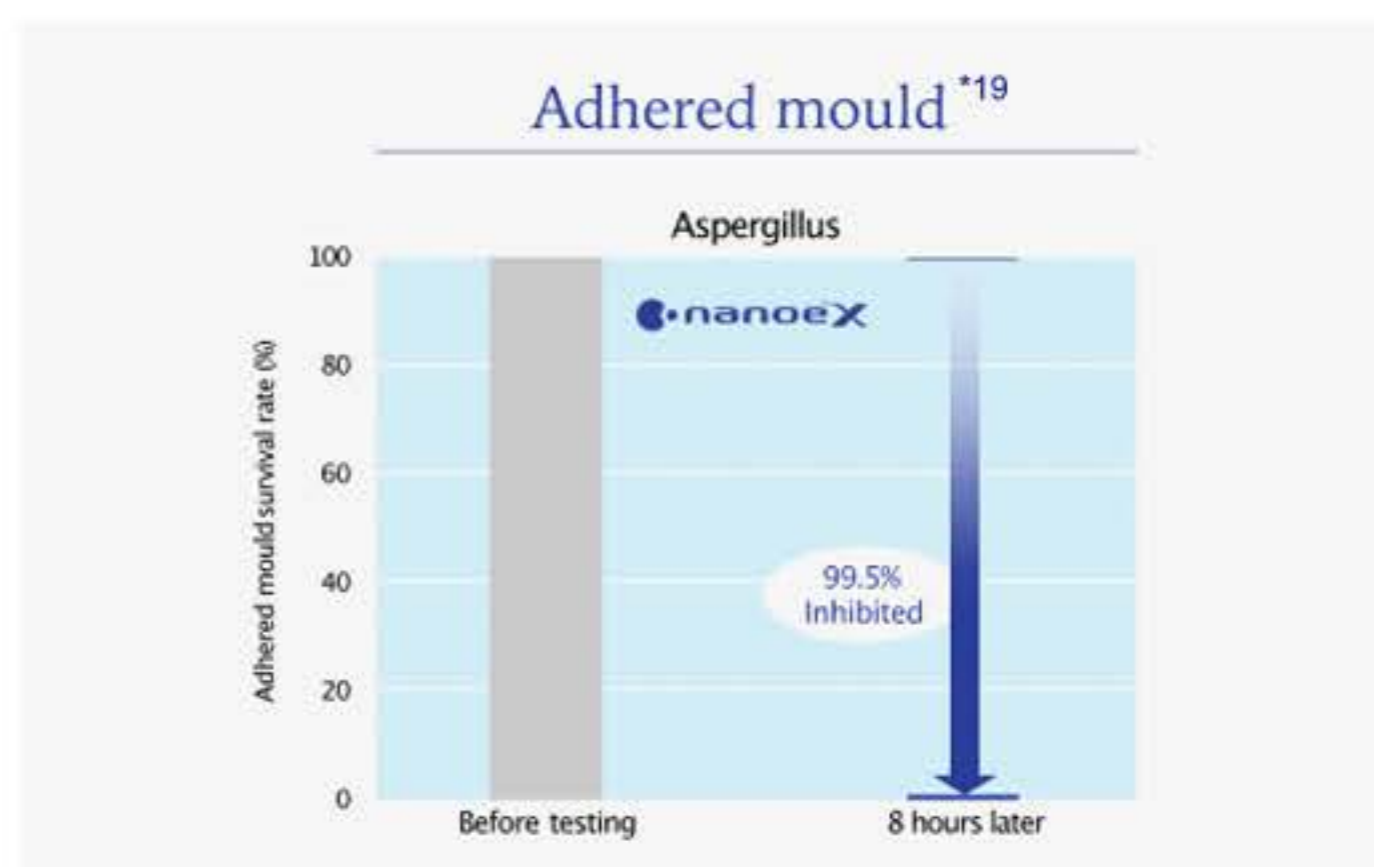
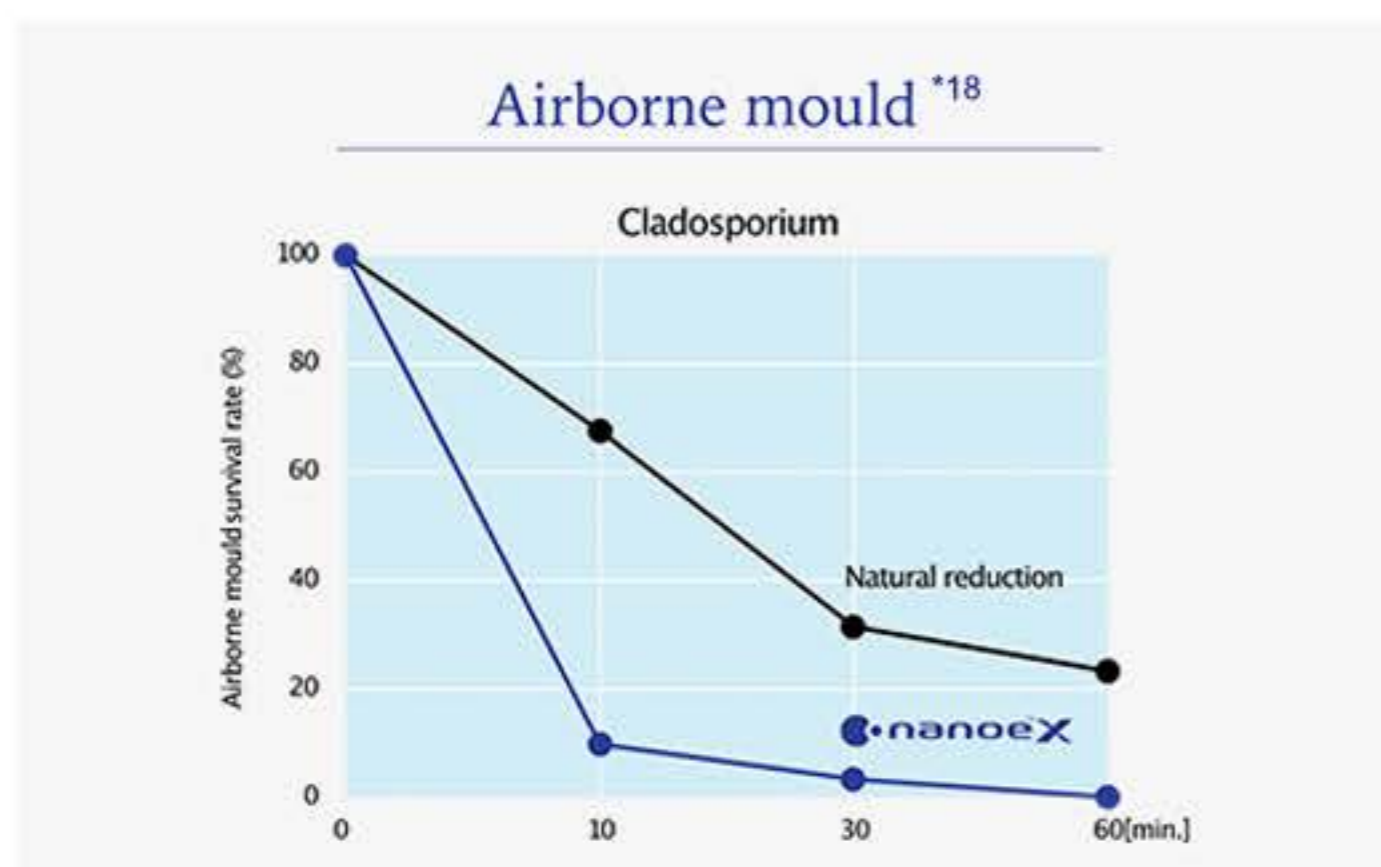
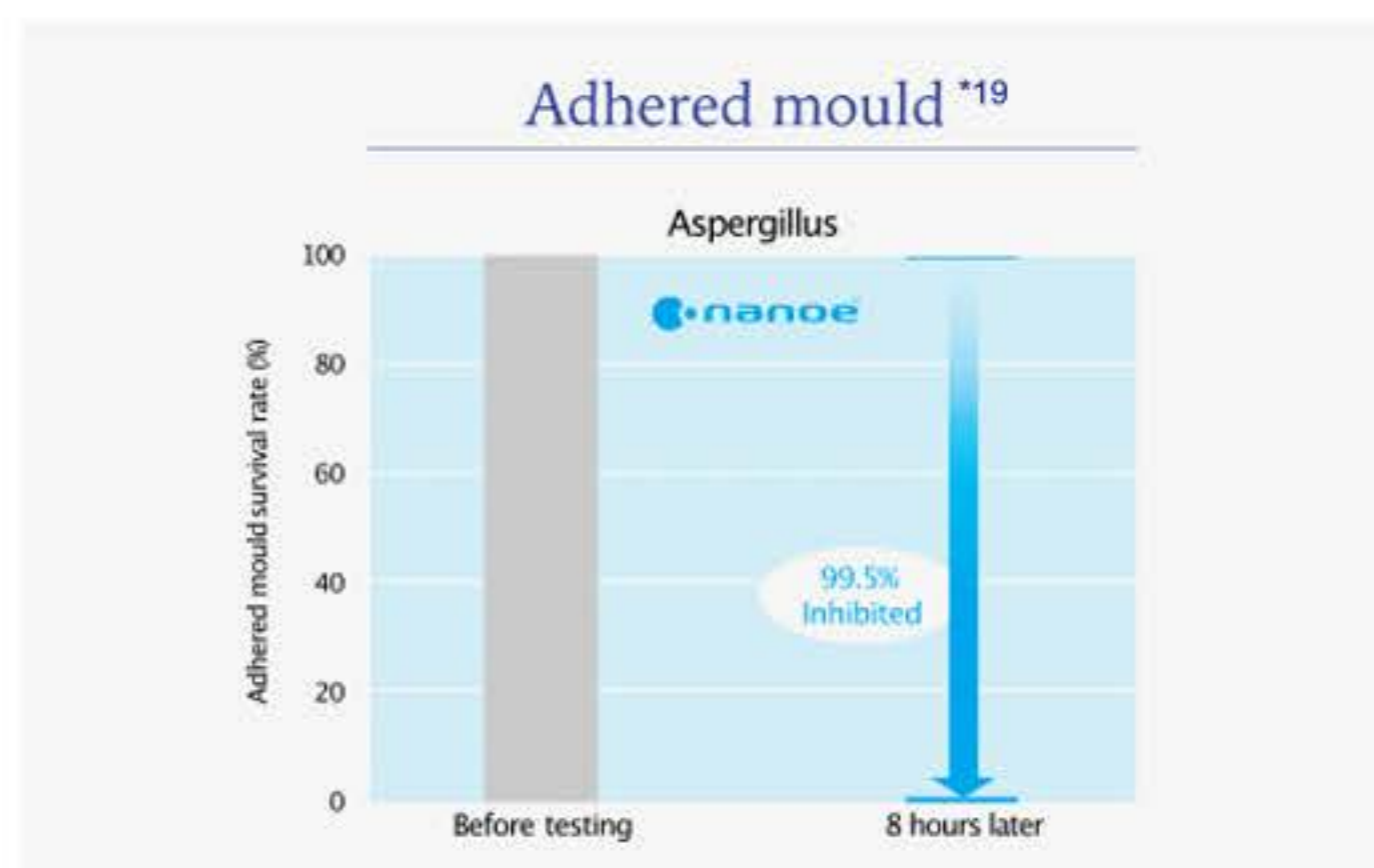
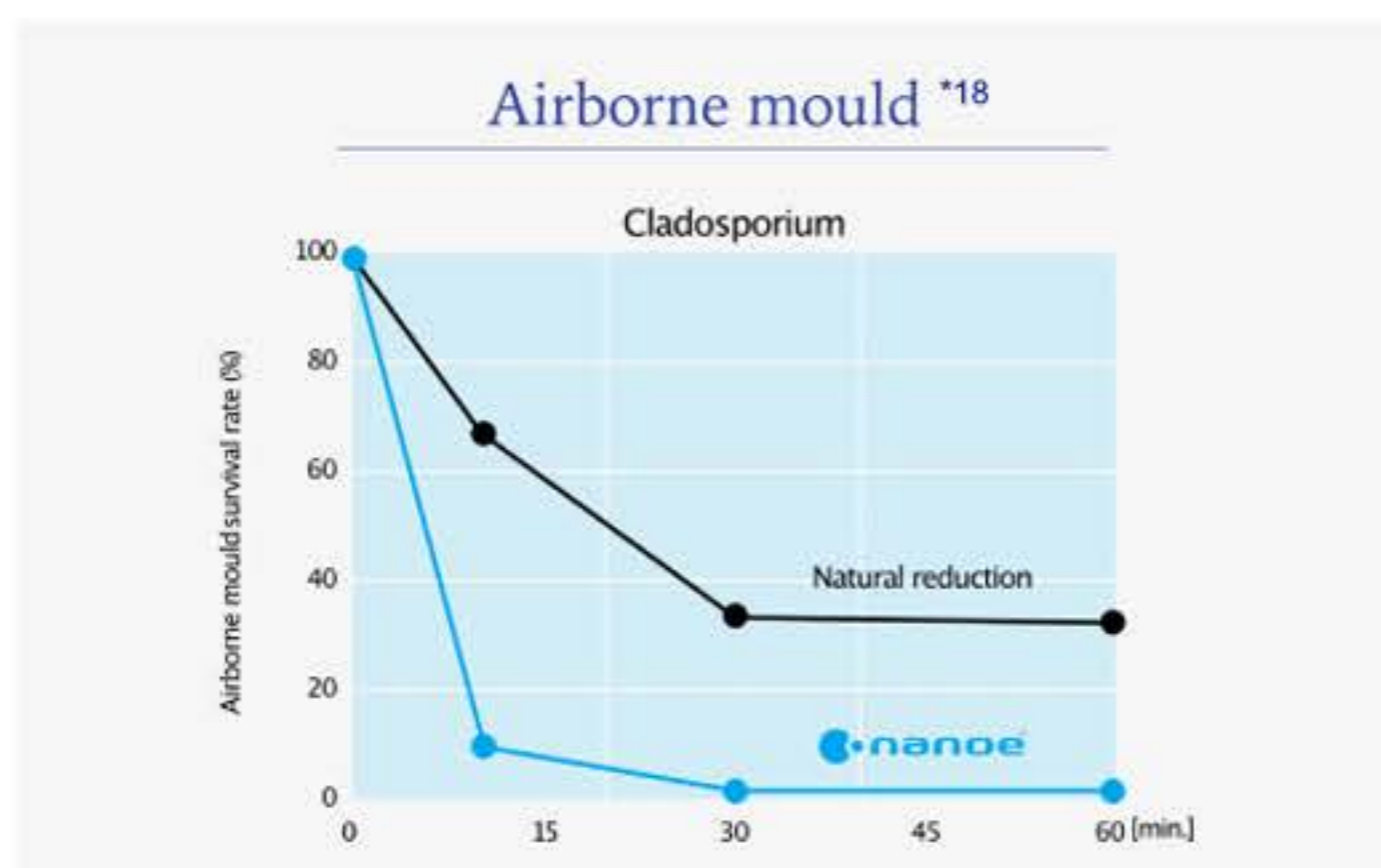
Adhered viruses



Adhered viruses



Inhibits Airborne Mould & Adhered Mould Activity

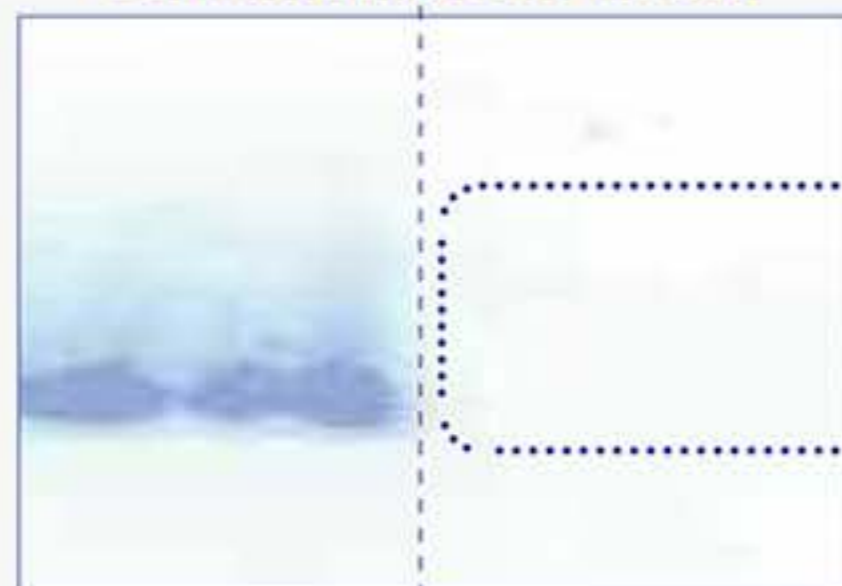


Inhibits Pet-derived Allergens and Major Allergens




Mites

Dermatophagoides farinae

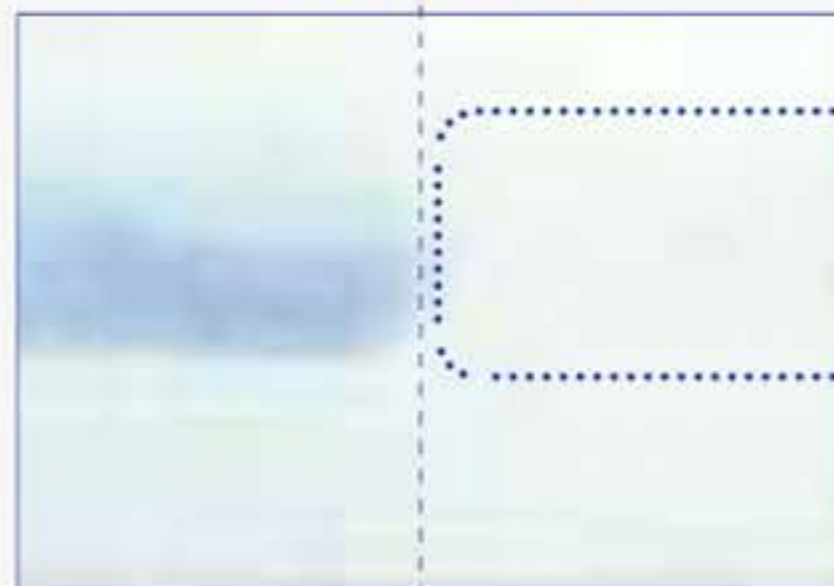


Inhibited


Natural Reduction 

Insects

Cockroaches

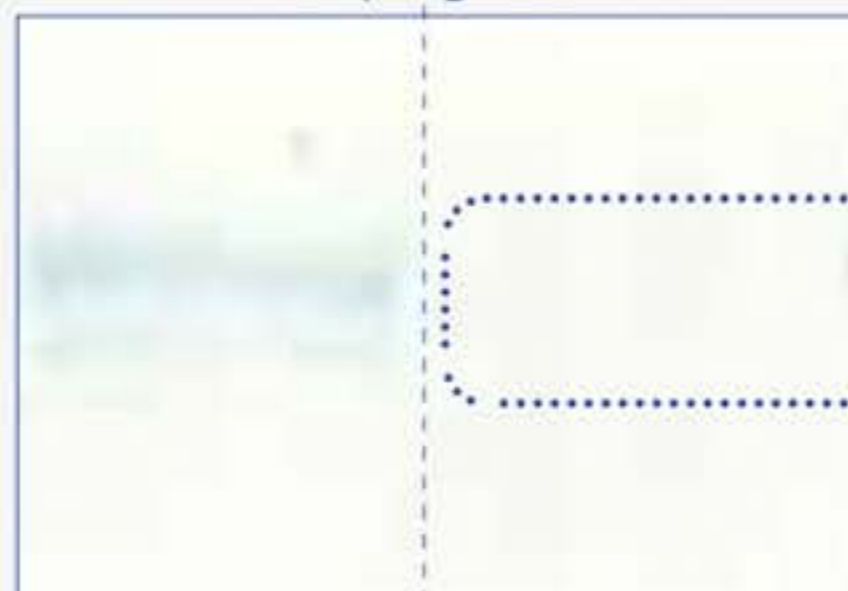


Inhibited


Natural Reduction 

Mould

Aspergillus

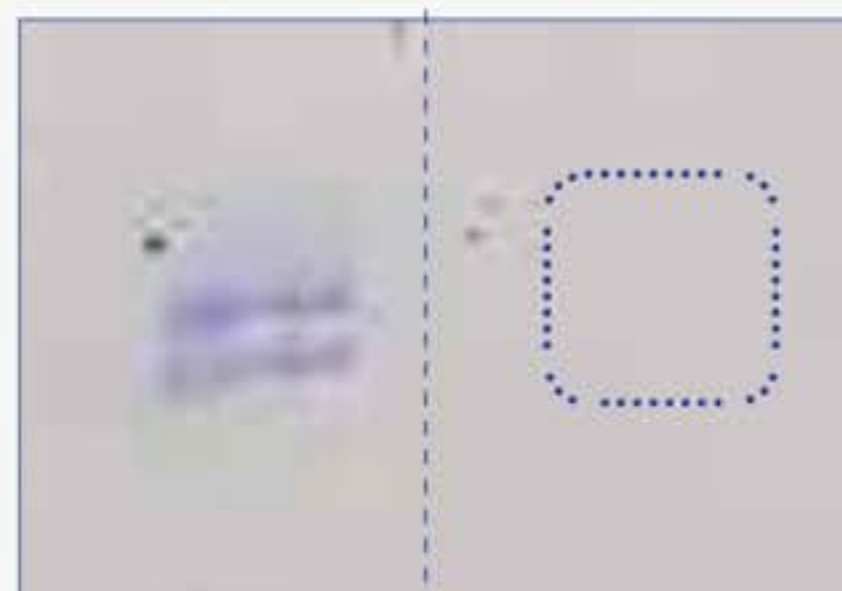


Inhibited


Natural Reduction 

Tree and shrub pollen

Cedar

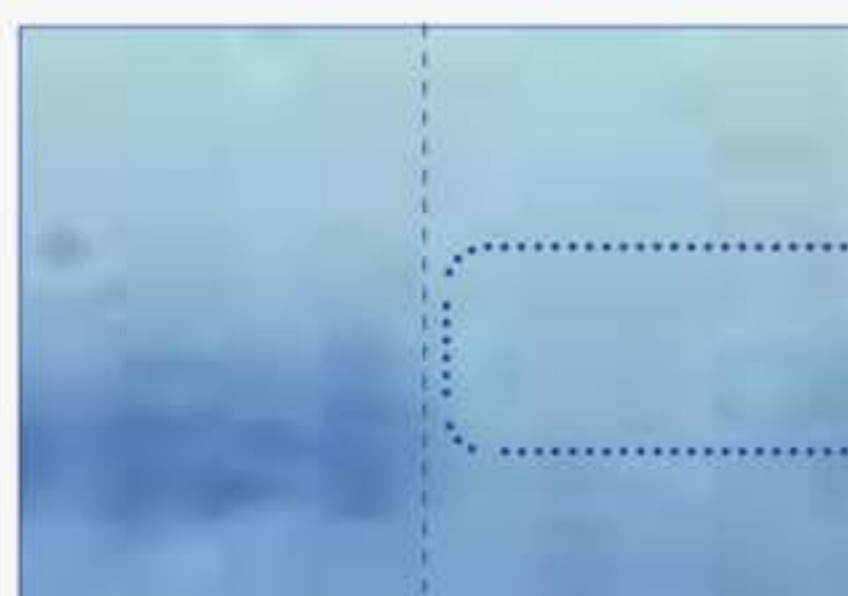


Inhibited


Natural Reduction 

Animals

Cats



Inhibited

Natural Reduction 

Grass pollen

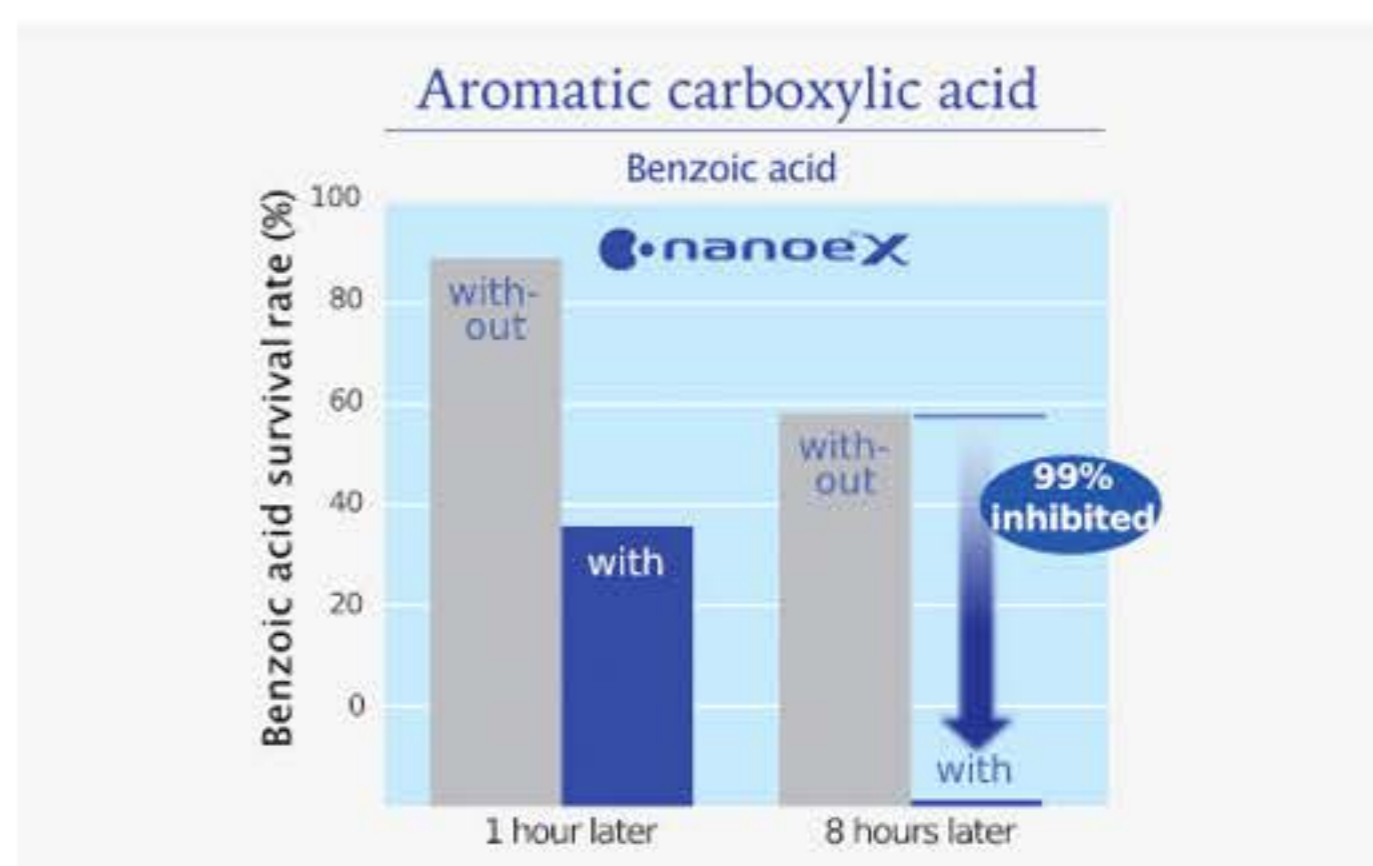
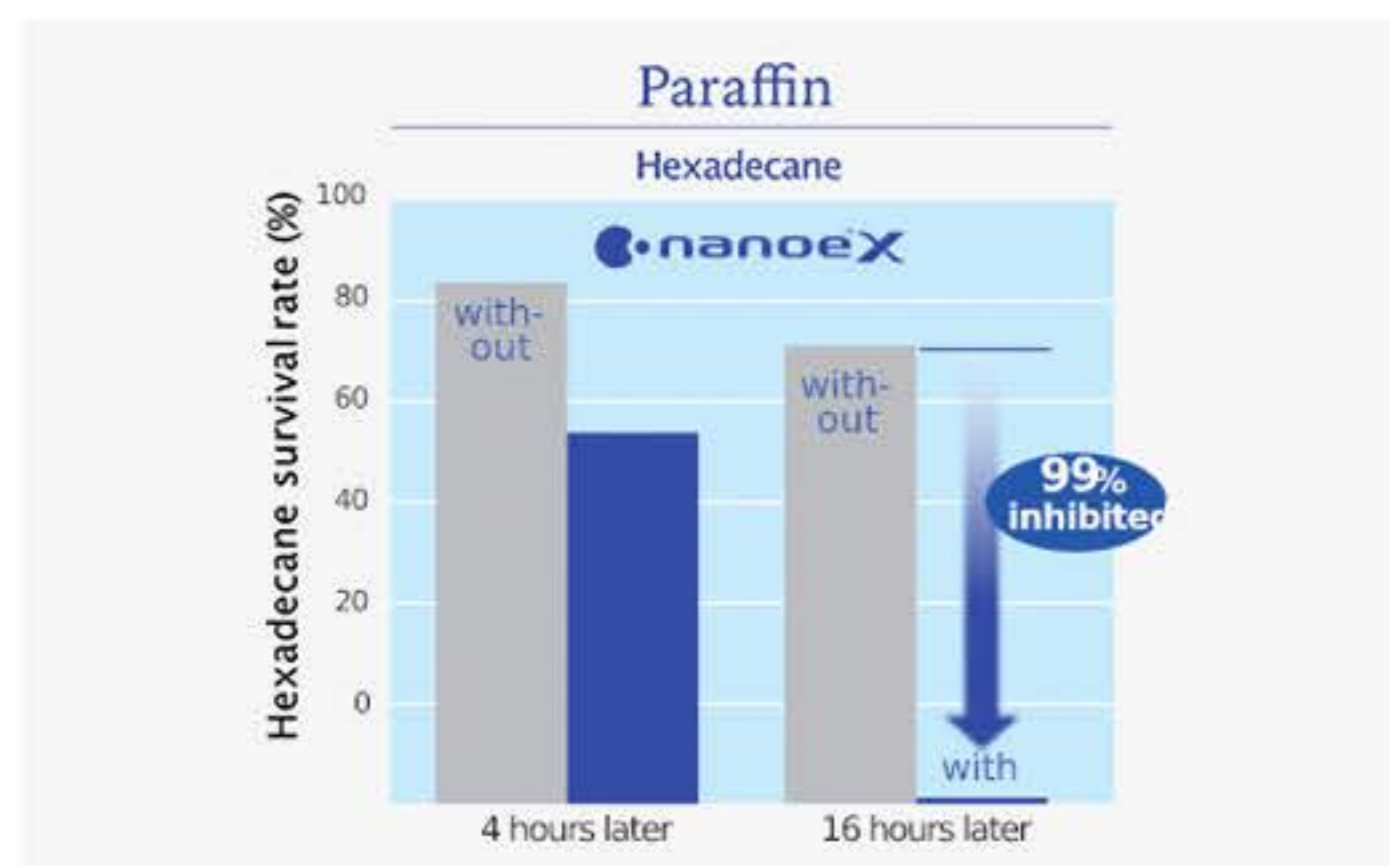
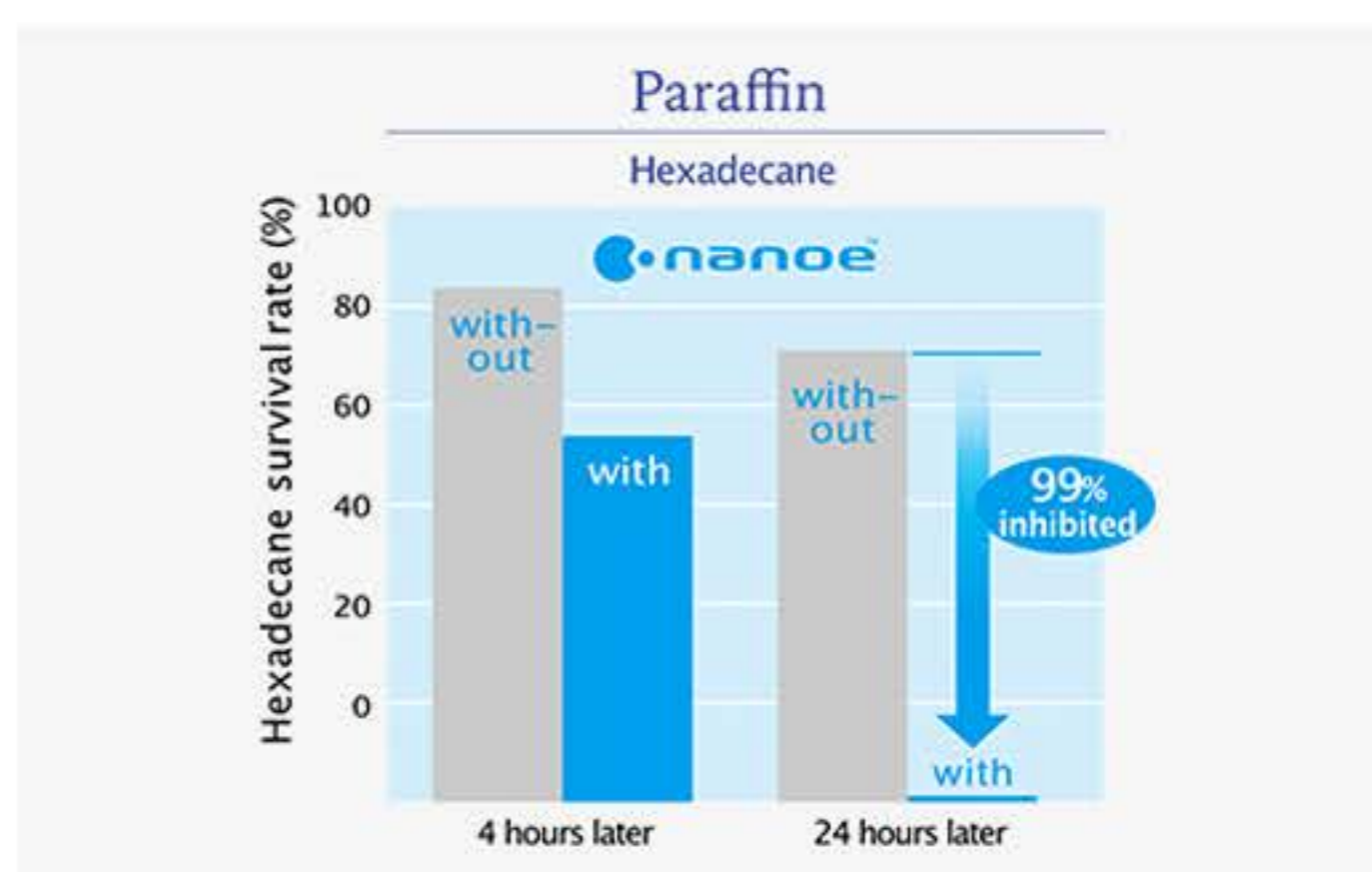
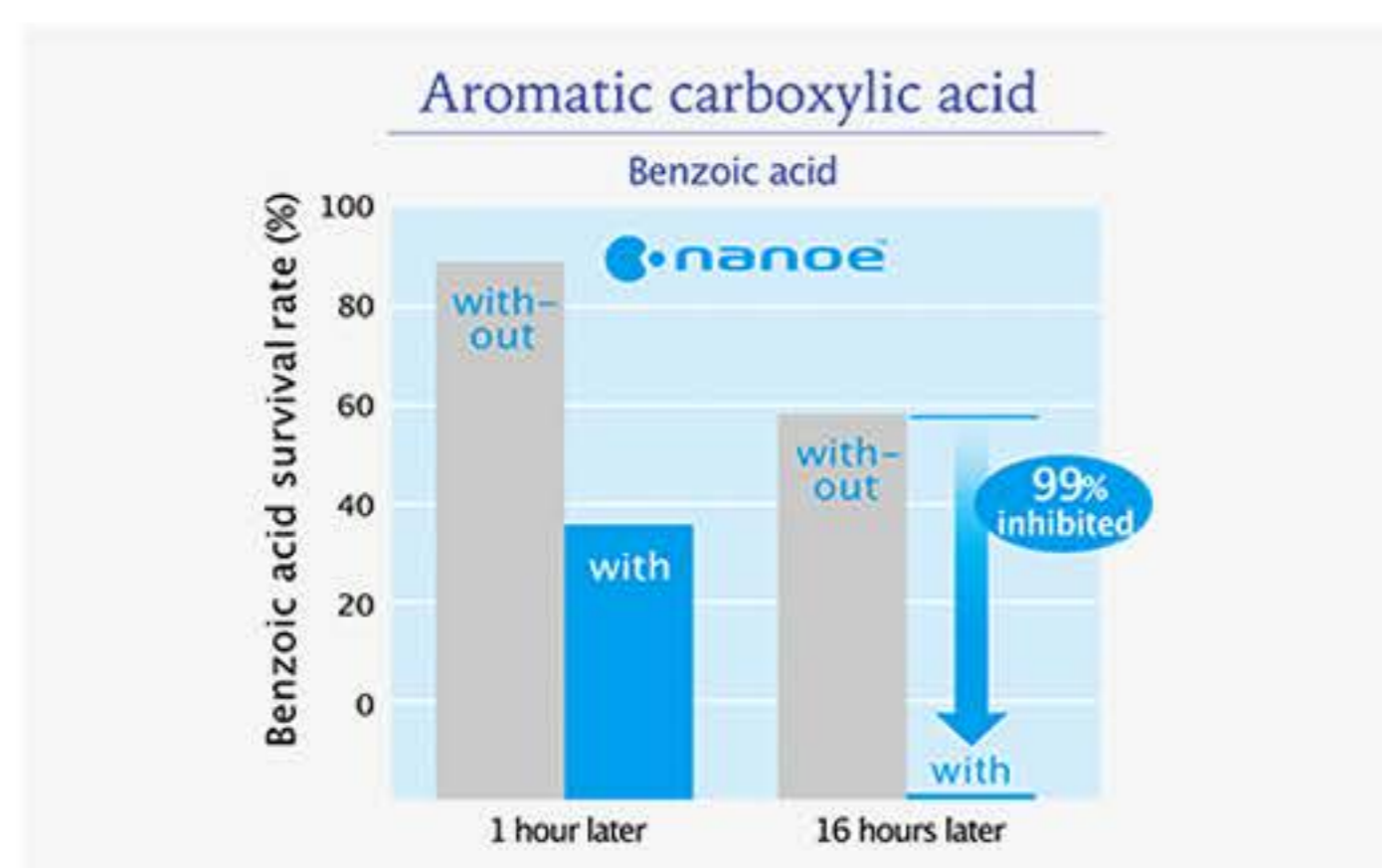
Ragweed



Inhibited

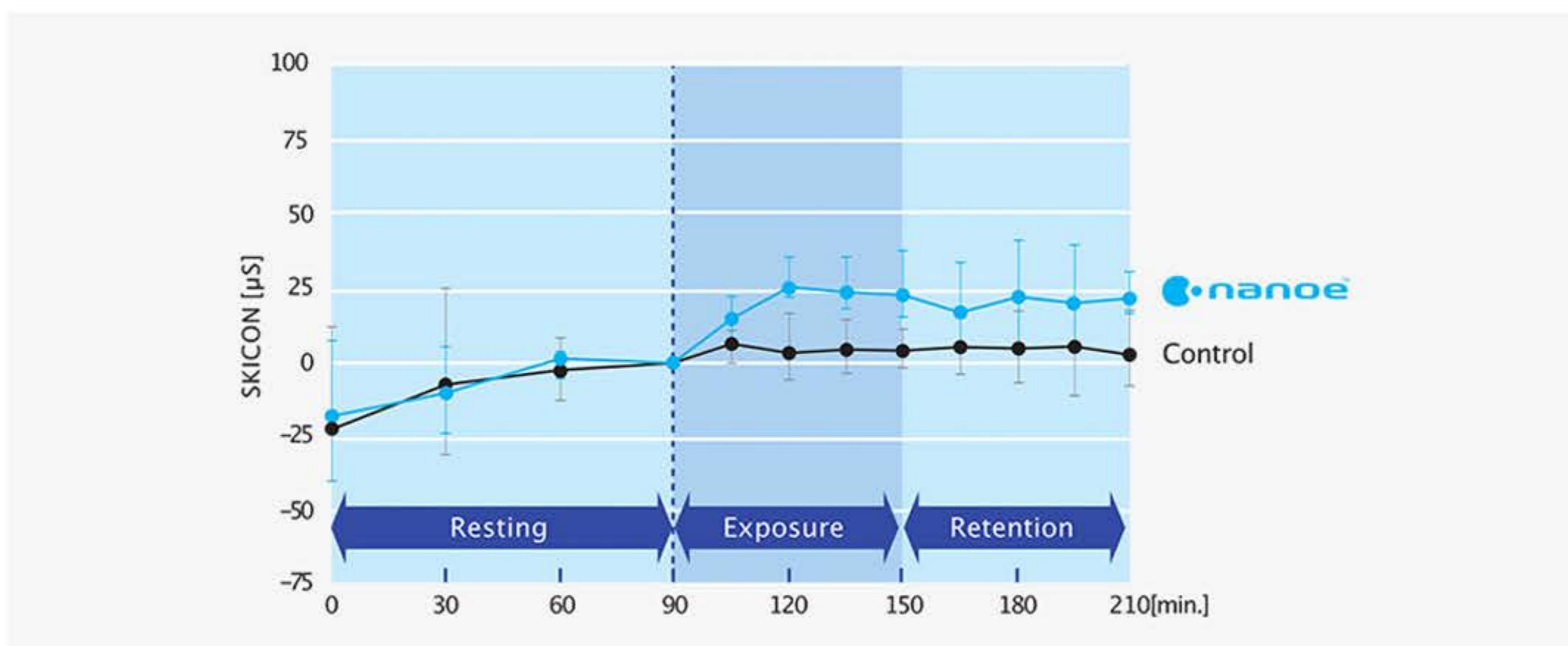
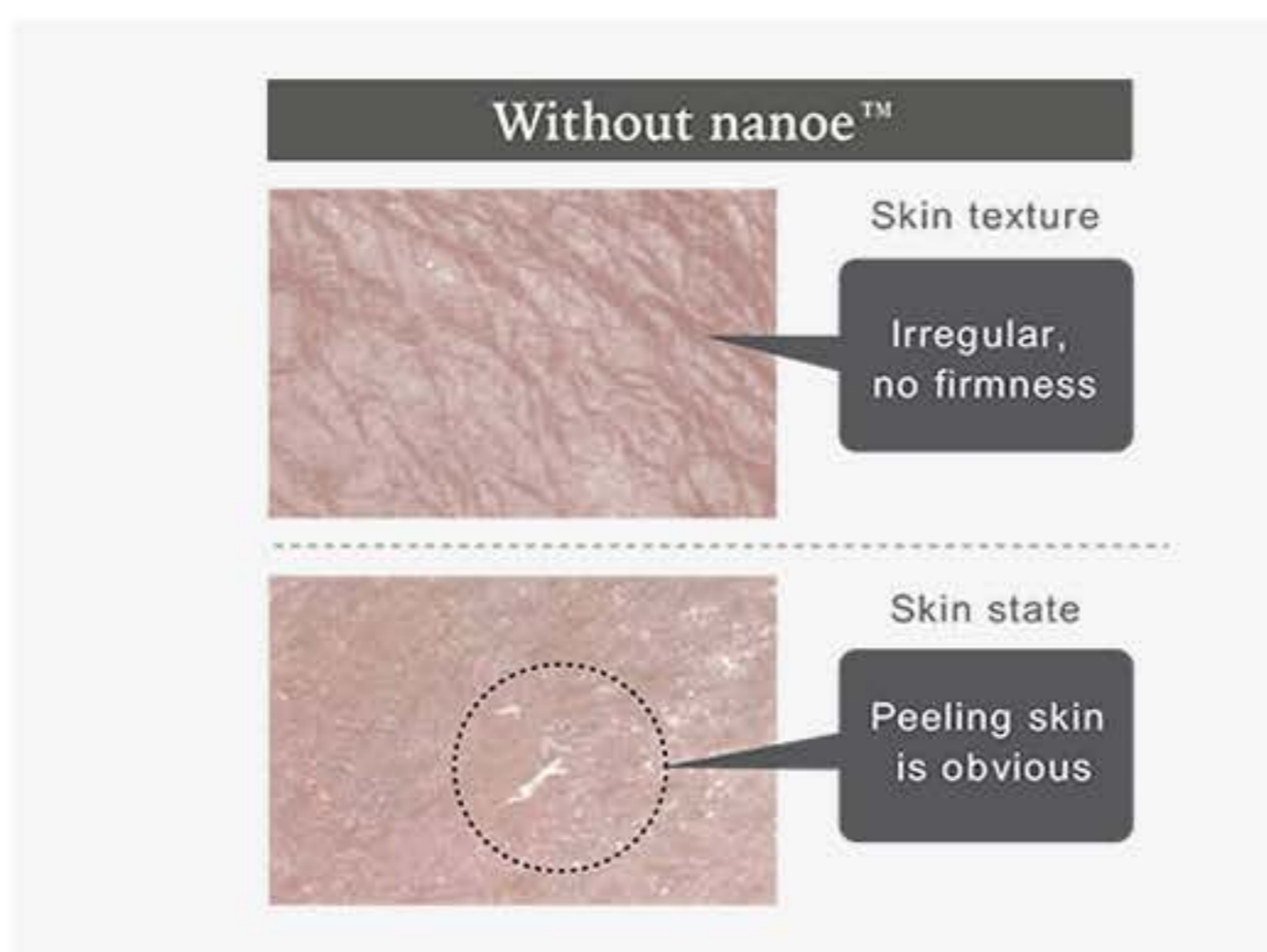
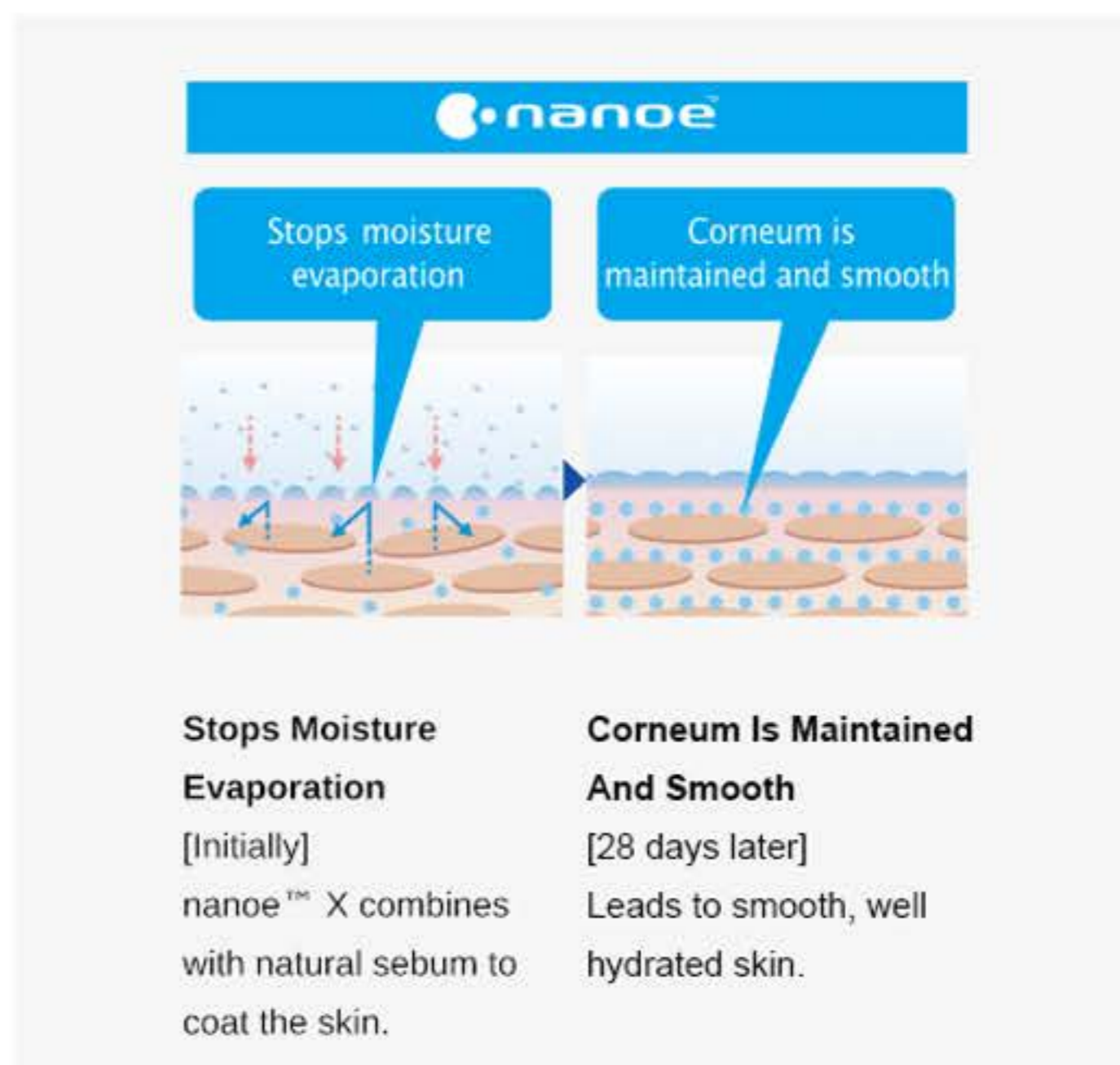
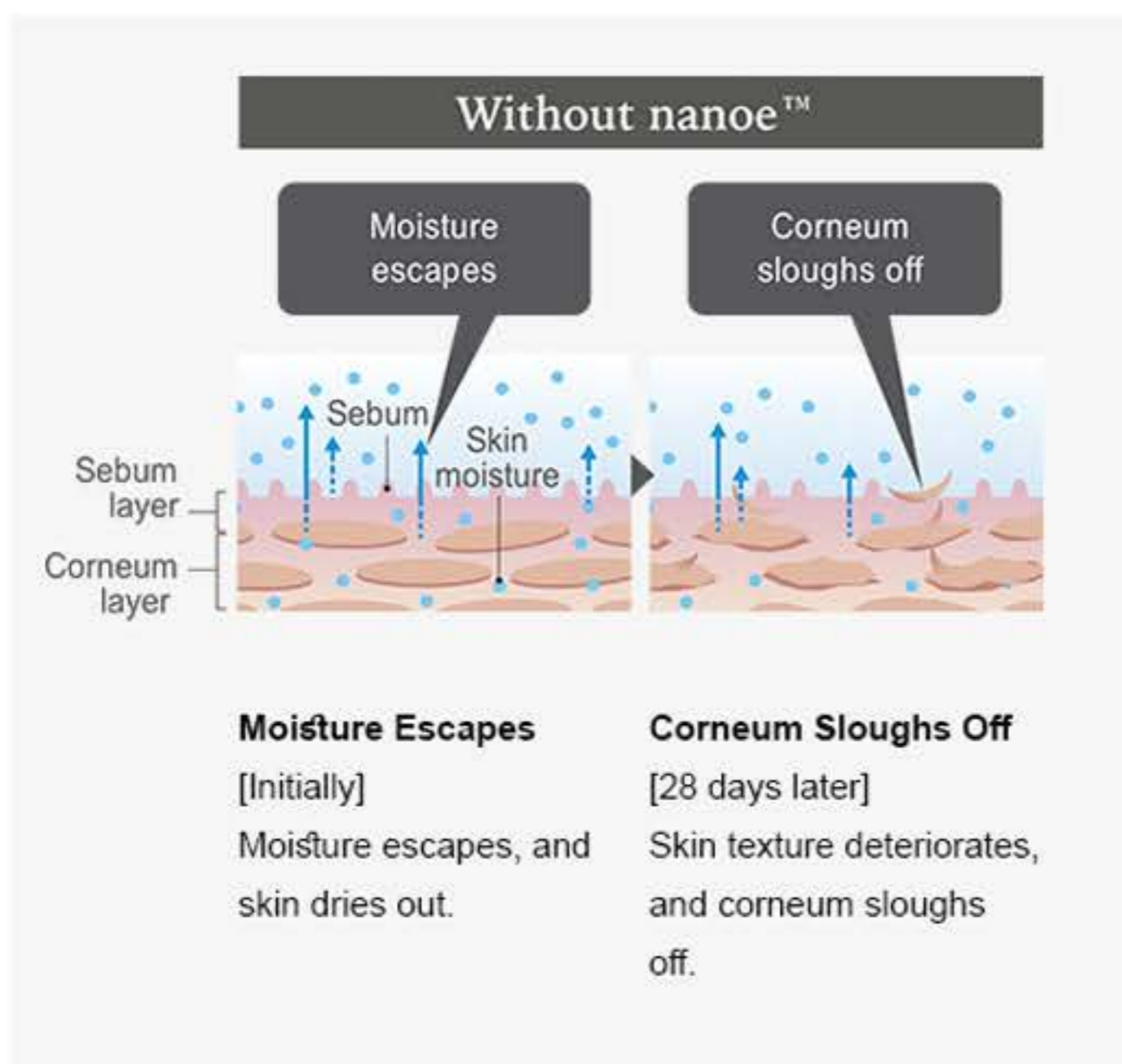
Natural Reduction 

Breakdown/inhibition of Hazardous Substances Known To Be Found In PM2.5




Moisturised Skin & Straighter, Sleeker Hair





Without nanoe™

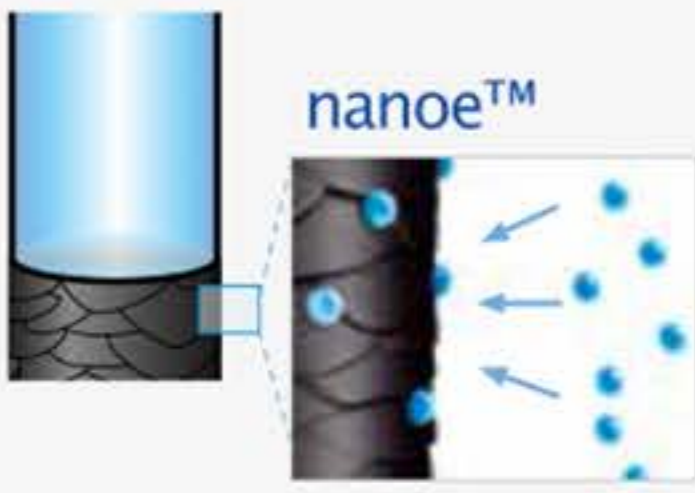
Frizzy
hair



The hair's moisture balance fails, leading to frizzy hair. With difficulty reflecting light, gloss is reduced and texture is grainy.

nanoe™

For
non-frizzy
hair

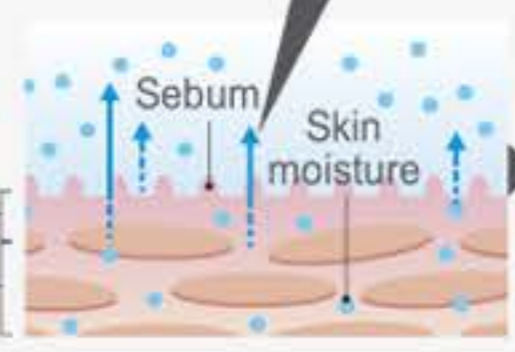


Helps the hair achieve a proper moisture balance, making for shiny hair that reflects light and allows fingers to be run through it smoothly.

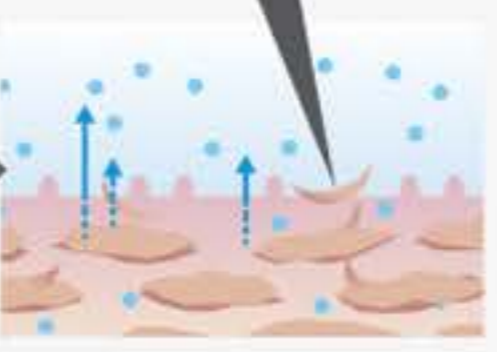
nanoe™ X

Without nanoe™ X

Moisture escapes



Corneum sloughs off



Moisture Escapes

[Initially]

Moisture escapes, and skin dries out.

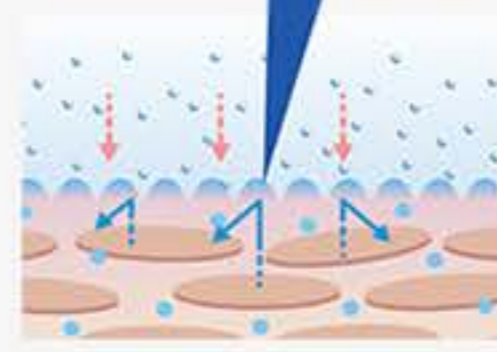
Corneum Sloughs Off

[28 days later]

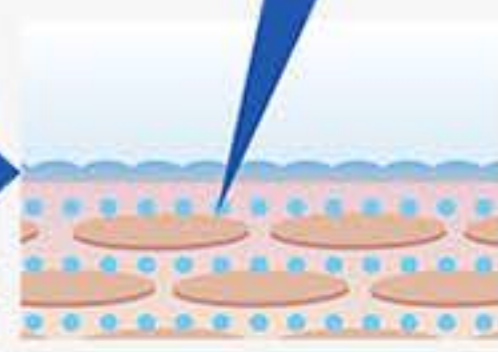
Skin texture deteriorates, and corneum sloughs off.

nanoe™ X

Stops moisture evaporation



Corneum is maintained and smooth



Stops Moisture Evaporation

[Initially]


nanoe™ X combines with natural sebum to coat the skin.

Corneum Is Maintained And Smooth

[28 days later]


Leads to smooth, well hydrated skin.

Without nanoe™ X



Skin texture

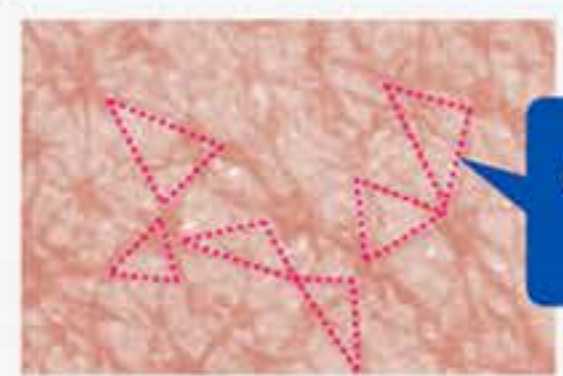
Irregular,
no firmness



Skin state

Peeling skin
is obvious

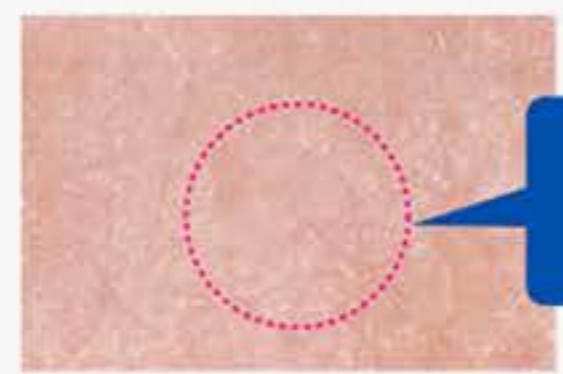
nanoe™ X



Skin texture

Clearly defined
triangular lines

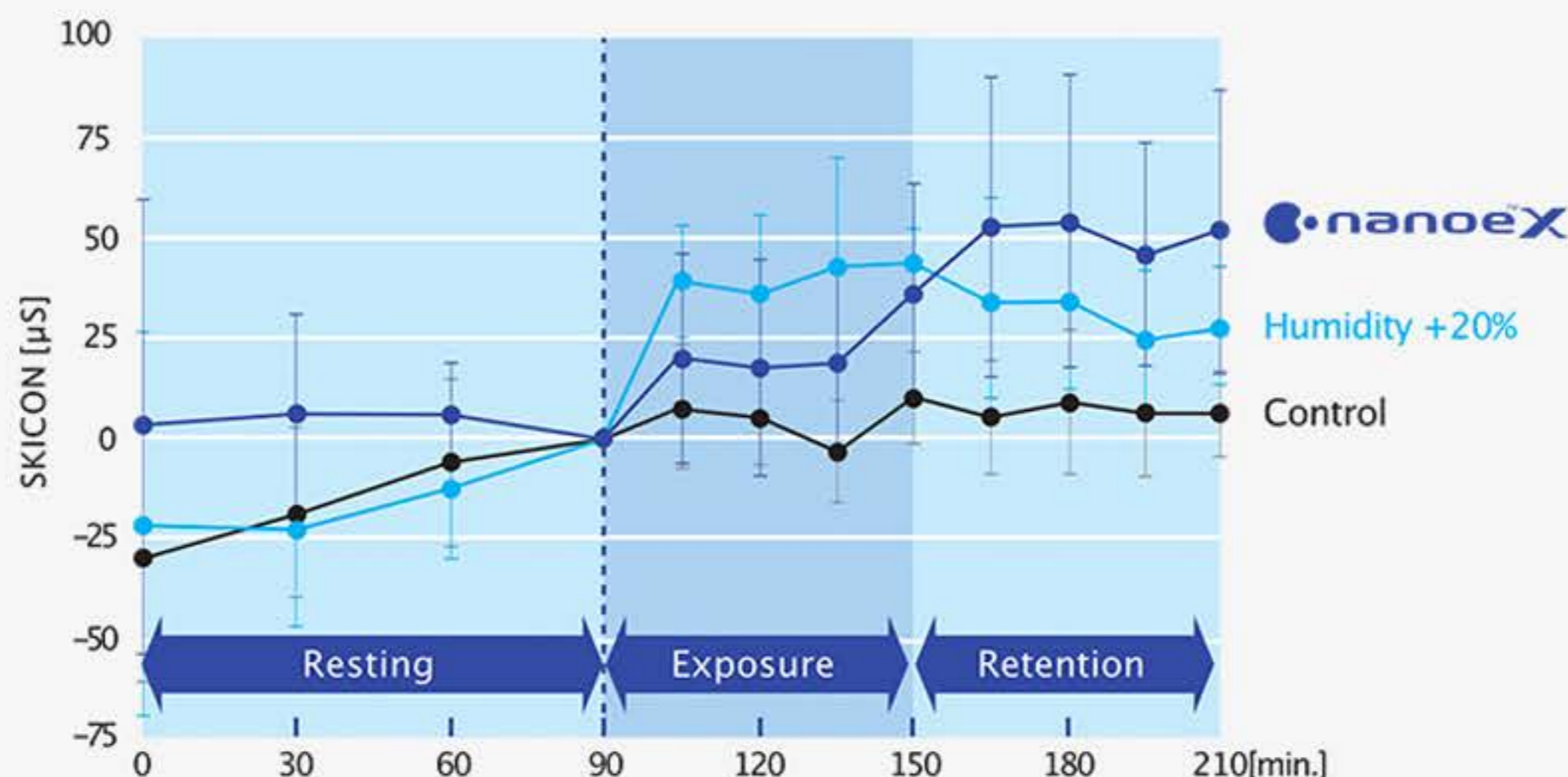
[14 days later]



Skin state

No peeling
skin visible

[28 days later]

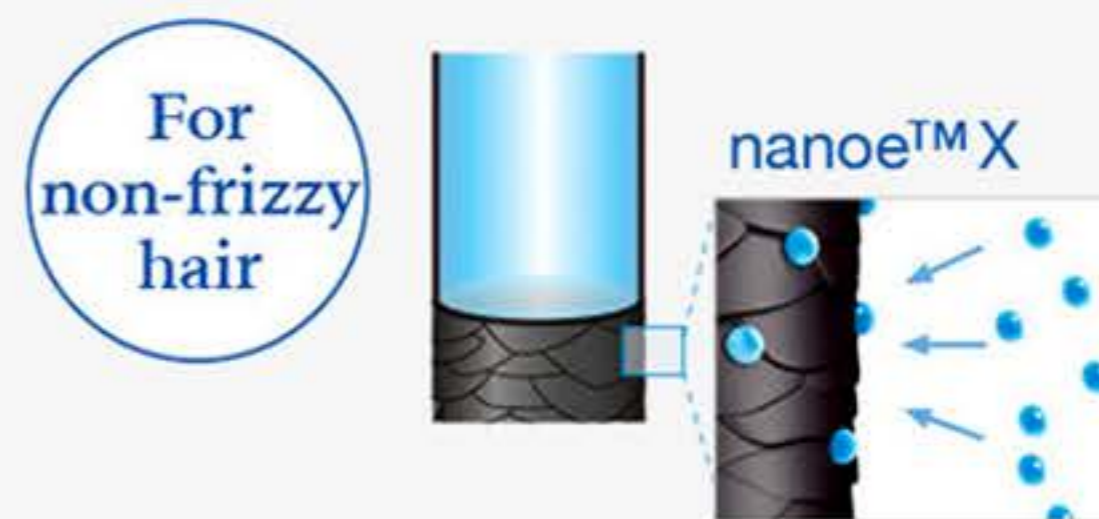


Without nanoex™ X



The hair's moisture balance fails, leading to frizzy hair. With difficulty reflecting light, gloss is reduced and texture is grainy.

• nanoex™ X



Helps the hair achieve a proper moisture balance, making for shiny hair that reflects light and allows fingers to be run through it smoothly.

nanoex™ Disclaimer

*1 [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the six-level odour intensity scale method in an approximately 23m³ sized test room [Deodorisation method] nanoex™ released [Test substance] Surface-attached cigarette smoke odour [Test result] Odour intensity reduced by 1.2 levels in 2 hours (BAA33-130125-D01)

*2 [Testing organisation] Odour and Aroma Design Course, Department of Integrated Informatics, Faculty of Informatics, Daido University [Testing method] Verified using the six-level odour intensity scale method in an approximately 23m³ sized test room [Deodorisation method] nanoex™ released [Test substance] Simulated body odour of middle-aged and older people attached to pillow cover [Test result] Odour intensity reduced by 0.65 levels in 6 hours

*3 [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the six-level odour intensity scale method in an approximately 23m³ sized test room [Deodorisation method] nanoex™ released [Test substance] Surface-attached garbage odour [Test result] <Methylmercaptan> Odour intensity reduced by 1.2 levels in 1 hour (1V332-180316-K21) <Trimethylamine> Odour intensity reduced by 0.9 levels in 1 hour (1V332-180316-K22) Deodorisation effect varies according to the environment (temperature and humidity), operation time, odour, and fabric types. It does not eliminate toxic substances in cigarettes (carbon monoxide, etc.). Odours that are continuously generated (e.g., building material odours and pet odours) are not completely eliminated.

*12 <Airborne bacteria (Staphylococcus aureus)> [Testing organisation] Kitasato Research Center for Environmental Science [Testing method] The number of bacteria is measured after direct exposure in an approximately 25m³ sized airtight test room [Inhibition method] nanoex™ released [Test substance] Airborne bacteria [Test result] Inhibited by at least 99.7% in 4 hours (24_0301_1)

*13 <Adhered bacteria (O157)> [Testing organisation] Japan Food Research Laboratories [Testing method] Measured the number of bacteria adhered to a cloth in an approximately 45L sized airtight test room [Inhibition method] nanoex™ released [Test substance] Adhered bacteria [Test result] Inhibited by at least 99.99% in 1 hour (208120880_001)

*14 <Adhered bacteria (MRSA)> [Testing organisation] Japan Food Research Laboratories [Testing method] Measured the number of bacteria adhered to a cloth in an approximately 45L sized airtight test room [Inhibition method] nanoex™ released [Test substance] Adhered bacteria [Test result] Inhibited by at least 99.99% in 1 hour (208120880_002)

*15 <Airborne virus (bacteriophageΦx174)> [Testing organisation] Kitasato Research Center for Environmental Science [Testing method] The number of virus is measured after direct exposure in an approximately 25m³ sized airtight test room [Inhibition method] nanoex™ released [Test substance] Airborne virus [Test result] Inhibited by at least 99.7% in 6 hours (24_0300_1)

*16 <Adhered virus (Influenza virus H1N1 subtype)> [Testing organisation] Kitasato Research Center for Environmental Science [Testing method] Measured the number of virus adhered to a cloth in an approximately 1m³ sized airtight test room [Inhibition method] nanoex™ released [Test substance] Adhered virus [Test result] Inhibited by at least 99.9% in 2 hours (21_0084_1)

*17 <Adhered virus (Poliovirus type1(Lsc-2ab))> [Testing organisation] Kitasato Research Center for Environmental Science [Testing method] Measured the number of virus adhered to a cloth in an approximately 45L sized airtight test room [Inhibition method] nanoex™ released [Test substance] Adhered virus [Test result] Inhibited by at least 99.7% in 2 hours (22_0096)

*18 [Testing organisation] Japan Food Research Laboratories [Testing method] Measured the number of mould altered in an approximately 23m³ sized test room [Inhibition method] nanoex™ released [Test substance] Airborne mould [Test result] Inhibited by at least 99% in 1 hour (205061541-001)

*19 [Testing organisation] Japan Food Research Laboratories [Testing method] Measured mould adhered to a cloth [Inhibition method] nanoex™ released [Test substance] Adhered mould [Test result] Inhibited by at least 99.5% in 8 hours (11038081001-02)

*20 Kosuke Takatori, 2002 (Mould Inspection Manual Colour Illustrated Catalogue) p. 382 TECHNO SYSTEMS, Inc.

*21 Kosuke Takatori, 2002 (Mould Inspection Manual Colour Illustrated Catalogue) p. 44-45 TECHNO SYSTEMS, Inc.

*22 <Dog-derived allergens and cat-derived allergens> [Testing organisation] Institute of Tokyo Environmental Allergens [Testing method] Direct exposure in a 45L airtight container and measured using the ELISA method [Inhibition method] nanoe™ released [Test substance] dog derived allergens, cat derived allergens [Test result] <Dog (dander)> Inhibited by at least 99% in 1 hour (11M-RPTAPRO47_1) <Cat (dander)> Inhibited by at least 98% in 2 hours (11M-RPTAPRO51_1) <Mite faeces/carcasses> [Testing organisation] Panasonic Product Analysis Center [Testing method] Measured allergen attached to a cloth, using the ELISA method, in an approximately 23m³ sized test room [Inhibition method] nanoe™ released [Test substance] Attached mite allergens [Test result] Inhibited by at least 60% in 24 hours (BAA33-130304-F04) <Mould-derived allergens> [Testing organisation] Institute of Tokyo Environmental Allergens [Testing method] Direct exposure in a 45L airtight container and measured using the ELISA method [Inhibition method] nanoe™ released [Test substance] Mould-derived allergens [Test result] Inhibited by at least 93% in 2 hours (11M-RPTMAR076_1) <Pollen> Cedar [Testing organisation] Panasonic Product Analysis Center [Testing method] Measured allergen attached to a cloth, using the ELISA method, in an approximately 23m³ sized test room [Inhibition method] nanoe™ released [Test substance] Cedar pollen [Test result] Inhibited by at least 88% in 8 hours (BAA33-130304-F01) Cypress, Orchard grass, Ragweed [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the electrophoresis method in an approximately 23m³ sized test room [Inhibition method] nanoe™ released [Test substance] Cypress pollen, Orchard grass pollen, Ragweed pollen [Test result] Inhibiting effect was confirmed in 24 hours (1V332-171010-F04, 1V332-171010-F02, 1V332-171010-F01)

*25 [Testing organisation] Panasonic Product Analysis Center [Testing method] Measured the amount of attached organic substances in an approximately 23m³ sized test room [Inhibition method] nanoe™ released [Test result] <Aromatic carboxylic acid (benzoic acid)> Broken down at least 99.9% in approximately 16 hours (Y13NF135) <Paraffin (hexadecane)> Broken down at least 99% in approximately 24 hours (Y13NF136)

*27 [Testing organisation] Panasonic Product Analysis Center [Testing method & test result] Approximately 34m³ sized test room, room temperature 23 degrees Celsius, humidity 30%, 8 women aged 30–49 with varying skin conditions ranging from being averagely moist to dry, the stratum corneum water content was measured before and after resting for 90 minutes being exposed to a nanoe™ generating device, to find the average value of the change. (D01-071219F-01)

*28 [Testing organisation] FCG Research Institute, Inc. [Testing method and test result] Of 20 women 40 ± 2 years old, 10 women used a nanoe™ generating device at home for 28 days, while the other 10 women used a device with no nanoe™ generating device for 28 days at home. (19104)

*31 [Testing organisation] Panasonic Product Analysis Center [Testing method and test result] Approximately 46m³ sized test room, room temperature 25 degrees Celsius, humidity 40%. Bundles (6 bundles) of hair were suspended 2m from a nanoe™ generating device, with repeated operation of the nanoe™ generating device: 8 hours on and 16 hours off. (D01-091005-01TM) [Method] nanoe™ released [Test substance] Hair Results may vary based on usage, and seasonal and environmental variables (temperature and humidity). nanoe™ X and nanoe™ inhibit activity or growth of viruses, but do not prevent infection.

nanoe™ X Disclaimer

*4 [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the six-level odour intensity scale method in an approximately 23m³ sized test room [Deodorisation method] nanoe™ released [Test substance] Surface-attached cigarette smoke odour [Test result] Odour intensity reduced by 2.4 levels in 12mins (4AA33-160615-N04)

*5 [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the six-level odour intensity scale method in an approximately 23m³ sized test room [Deodorisation method] nanoe™ released [Test substance] Surface-attached pet odour [Test result] Odour intensity reduced by 1.5 levels in 1 hour (4AA33-160315-A34)

*6 [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the six-level odour intensity scale method in an approximately 23m³ sized test room [Deodorisation method] nanoe™ released [Test substance] Surface-attached durian odour [Test result] Odour intensity reduced by 1 level in 0.5 hours (1V332-180402-K01)

*7 [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the six-level odour intensity scale method in an approximately 23m³ sized test room [Deodorisation method] nanoe™ released [Test substance] Surface-attached BBQ odour [Test result] Odour intensity reduced by 1.2 levels in 2 hours (4AA33-151221-N01)

*8 [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the six-level odour intensity scale method in an approximately 23m³ sized test room [Deodorisation method] nanoe™ released [Test substance] Surface-attached sweat odour [Test result] Odour intensity reduced by 1.1 levels in 1 hour (Y16HM016)

*9 [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the six-level odour intensity scale method in an approximately 23m³ sized test room [Deodorisation method] nanoe™ released [Test substance] Surface-attached damp odour [Test result] Odour intensity reduced by 1.7 levels in 0.5 hours (Y16RA002).

*10 [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the six-level odour intensity scale method in an approximately 23m³ sized test room [Deodorisation method] nanoe™ released [Test substance] Surface-attached garbage odour [Test result] <Methylmercaptan> Odour intensity reduced by 1.2 levels in 0.5 hours (1V332-18220-K11) <Trimethylamine> Odour intensity reduced by 1.4 levels in 0.5 hours (1V332-180220-K12)

*11 [Testing organisation] Odour and Aroma Design Course, Department of Integrated Informatics, Faculty of Informatics, Daido University [Testing method] Verified using the six-level odour intensity scale method in an approximately 23m³ sized test room [Deodorisation method] nanoe™ released [Test substance] Simulated body odour of middle-aged and older people attached to pillow cover [Test result] Odour intensity reduced by 0.65 levels in 6 hours

Deodorisation effect varies according to the environment (temperature and humidity), operation time, odour, and fabric types. It does not eliminate toxic substances in cigarettes (carbon monoxide, etc.). Odours that are continuously generated (e.g., building material odours and pet odours) are not completely eliminated.

*12 <Airborne bacteria (Staphylococcus aureus)> [Testing organisation] Kitasato Research Center for Environmental Science [Testing method] The number of bacteria is measured after direct exposure in an approximately 25m³ sized airtight test room [Inhibition method] nanoe™ released [Test substance] Airborne bacteria [Test result] Inhibited by at least 99.7% in 4 hours (24_0301_1)

*13 <Adhered bacteria (O157)> [Testing organisation] Japan Food Research Laboratories [Testing method] Measured the number of bacteria adhered to a cloth in an approximately 45L sized airtight test room [Inhibition method] nanoe™ released [Test substance] Adhered bacteria [Test result] Inhibited by at least 99.99% in 1 hour (208120880_001)

*14 <Adhered bacteria (MRSA)> [Testing organisation] Japan Food Research Laboratories [Testing method] Measured the number of bacteria adhered to a cloth in an approximately 45L sized airtight test room [Inhibition method] nanoe™ released [Test substance] Adhered bacteria [Test result] Inhibited by at least 99.99% in 1 hour (208120880_002)

*15 <Airborne virus (bacteriophageΦx174)> [Testing organisation] Kitasato Research Center for Environmental Science [Testing method] The number of virus is measured after direct exposure in an approximately 25m³ sized airtight test room [Inhibition method] nanoe™ released [Test substance] Airborne virus [Test result] Inhibited by at least 99.7% in 6 hours (24_0300_1)

*16 <Adhered virus (Influenza virus H1N1 subtype)> [Testing organisation] Kitasato Research Center for Environmental Science [Testing method] Measured the number of virus adhered to a cloth in an approximately 1m³ sized airtight test room [Inhibition method] nanoe™ released [Test substance] Adhered virus [Test result] Inhibited by at least 99.9% in 2 hours (21_0084_1)

*17 <Adhered virus (Poliovirus type1(Lsc-2ab))> [Testing organisation] Kitasato Research Center for Environmental Science [Testing method] Measured the number of virus adhered to a cloth in an approximately 45L sized airtight test room [Inhibition method] nanoe™ released [Test substance] Adhered virus [Test result] Inhibited by at least 99.7% in 2 hours (22_0096)

*18 [Testing organisation] Japan Food Research Laboratories [Testing method] Measured the number of mould altered in an approximately 23m³ sized test room [Inhibition method] nanoe™ released [Test substance] Airborne mould [Test result] Inhibited by at least 99% in 1 hour (205061541-001)

*19 [Testing organisation] Japan Food Research Laboratories [Testing method] Measured mould adhered to a cloth [Inhibition method] nanoe™ released [Test substance] Adhered mould [Test result] Inhibited by at least 99.5% in 8 hours (11038081001-02)

*20 Kosuke Takatori, 2002 (Mould Inspection Manual Colour Illustrated Catalogue) p. 382 TECHNO SYSTEMS, Inc.

*21 Kosuke Takatori, 2002 (Mould Inspection Manual Colour Illustrated Catalogue) p. 44-45 TECHNO SYSTEMS, Inc.

*23 [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the electrophoresis method in an approximately 23m³ sized test room [Inhibition method] nanoe™ released [Test substance] Allergens (Dermatophagoides pteronyssinus, Dermatophagoides farina, Cedar, Cypress, Orchard grass, Ragweed, Alnus japonica, Japanese white birch, Artemisia, Olive, Juniper, Casuarina, Miscanthus, Timothy grass, Humulus japonicus, Alternaria, Aspergillus, Candida, Malassezia, Cockroach, Moth, Dog (dander), Cat (dander)) [Test result] Inhibiting effect was confirmed in 24 hours (4AA33-160615-F01, 4AA33-170301-F15, 4AA33-151001-F01, 4AA33-151028-F01, 4AA33-160601-F01, 4AA33-160601-F02, 4AA33-160701-F01, 1V332-180301-F01, 4AA33-160615-F02, 4AA33-160615-F03, 4AA33-160620-F01)

*24 <Cedar, Cypress, Orchard grass, Ragweed, Alnus japonica, Japanese white birch, Artemisia, Olive, Juniper, Casuarina, Miscanthus, Timothy grass, Humulus japonicus pollen> [Testing organisation] Panasonic Product Analysis Center [Testing method] Verified using the electrophoresis method in an approximately 23m³ sized test room [Inhibition method] nanoe™ released [Test substance] Cedar, Cypress, Orchard grass, Ragweed, Alnus japonica, Japanese white birch, Artemisia, Olive, Juniper, Casuarina, Miscanthus, Timothy grass, Humulus japonicus pollen [Test result] Inhibiting effect was confirmed in 24 hours (4AA33-151015-F01, 4AA33-151028-F01, 4AA33-160601-F01, 4AA33-160601-F02, 4AA33-160701-F01, 1V332-180301-F01)

*26 [Testing organisation] Panasonic Product Analysis Center [Testing method] Measured the amount of attached organic substances in an approximately 23m³ sized test room [Inhibition method] nanoe™ released [Test result] <Aromatic carboxylic acid (benzoic acid)> Broken down at least 99% in approximately 8 hours (Y17NF096) <Paraffin (hexadecane)> Broken down at least 99% in approximately 16 hours (Y17NF089)

Results may vary based on usage, and seasonal and environmental variables (temperature and humidity). nanoe™ X and nanoe™ inhibit activity or growth of viruses, but do not prevent infection.

*29 [Testing organisation] Panasonic Product Analysis Center [Testing method] Rest period: 90 minutes, nanoe™ exposure time: 60 minutes, retention: 60 minutes. 8 women aged 30–49 with dry to normal skin. [Test result] Change in skin moisture content equivalent to a 20 percentage point increase from 30% → 50% in environmental humidity (USG-KT-14K-012-TM)

*30 [Testing organisation] FCG Research Institute, Inc. [Testing method and test result] Of 20 women 40 ± 2 years old, 10 women used a nanoe™ generating device at home for 28 days, while the other 10 women used a device with no nanoe™ generating device for 28 days at home. (19104)

*32 [Testing organisation] Panasonic Product Analysis Center [Testing method and test result] Approximately 46m³ sized test room, room temperature 25 degrees Celsius, humidity 40%. Bundles (6 bundles) of hair were suspended 2m from a nanoe™ generating device, with repeated operation of the nanoe™ generating device: 8 hours on and 16 hours off. (USD-KS-155-009-TM) [Method] nanoe™ released [Test substance] Hair Individual results may vary based on usage, and seasonal and environmental variables (temperature and humidity).