





**KYORENE<sup>®</sup>**  
**THE GRAPHENE FIBER**

BACTERIO STATIC  
ODOR NEUTRALIZING  
THERMAL REGULATION  
UV PROTECTION

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## BACTERIO STATIC

KYORENE® FIBER IS **BACTERIO-STATIC AND ANTI-BACTERIAL**, IT REGULATES BACTERIA AND INHIBITS THE REPRODUCTION AND GROWTH OF NEW BACTERIA. TYPICAL ANTI-BACTERIAL PRODUCTS WILL KILL ALL OF THE BACTERIA INSTANTLY BUT ONCE THE AGENT IS GONE THE BACTERIA WILL GROW BACK AND SOMETIMES AT AN ACCELERATED RATE.

THE HUMAN BODY IS FILLED WITH “BAD BACTERIA” AND “GOOD BACTERIA”, AND MAINTAINING A PROPER BALANCE IS AN ESSENTIAL PART OF OUR OVERALL HEALTH.

KYORENE® FIBER REGULATES THE “BAD BACTERIA” WHILE KEEPING THE “GOOD BACTERIA” THAT YOUR BODY NEEDS.

KYORENE® GRAPHENE FIBER’S MAKEUP ALLOWS IT TO REGULATE EXISTING BACTERIA. AS BACTERIA, ADHERE TO THE GRAPHENE COMPOSITE FIBER, GRAPHENE’S SHARP BOUNDARY (A SO CALLED NANO KNIFE) SIMPLY BREAKS THE BACTERIAL MEMBRANE, SECONDARILY, DUE TO GRAPHENE’S 2D STRUCTURE, ITS ELECTRON MAGNETIC MOVEMENT CAUSES STRESS TO THE BACTERIA CELL AND LEADS TO ITS DEATH. GRAPHENE KILLS BACTERIA THROUGH A MECHANICAL MOVEMENT, UNLIKE ANY CHEMICAL TREATMENT.

### THREE MAIN “BAD BACTERIA’S” THAT KYORENE REGULATES:

-  STAPHYLOCOCCUS
-  ESCHERICHIA COLI (E-COLI)
-  CANDIDA ALBICANS

THESE THREE BACTERIA STRAINS ARE THE MAIN CAUSES OF **SERIOUS INFECTION** IN OUR BODIES.

OVER TIME THE KYORENE® FIBER SIGNIFICANTLY REDUCES THESE BACTERIA’S. PRESERVING A GOOD LEVEL OF BACTERIA AND REGULATES THE QUANTITIES OF THE PATHOGEN.



# BACTERIO STATIC

OUR KYORENE® FIBERS HAVE **INHERENT BACTERIO-STATIC PROPERTIES**. KYORENE GRAPHENE OXIDE IS POLYMERIZED INSIDE THE FIBER. ACTING AS A PRIMARY INHIBITOR FOR THE GROWTH OF NEW BACTERIA.

OTHER TYPES OF ANTI-BACTERIAL PRODUCTS USE A CHEMICAL TREATMENT (LIKE SILVER). THESE TREATMENTS WHILE THEY WORK EFFECTIVELY AT THE BEGINNING, CAN BE WASHED OUT AND BECOME INEFFECTIVE. **AFTER 50 WASH CYCLES KYORENE® KEEPS ITS BACTERIO STATIC PROPERTIES INTACT.**

## KYORENE® ANTI BACTERIAL TEST RESULTS GB/T 20944.3-2008

TEST ORGANISMS	REDUCTION RATE	EVALUATION
STAPHYLOCOCCUS AUREUS	97.5%	<b>KYORENE</b> HAS THE ANTIBACTERIAL EFFECT
ESCHERICHIA COLI (E-COLI)	98.8%	
CANDIDA ALBICANS	98.1%	

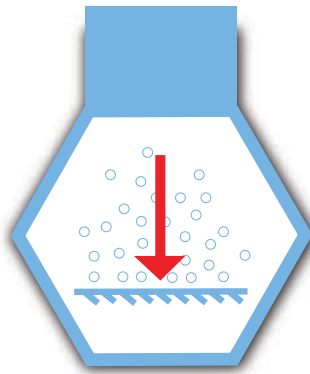
## AFTER 50 WASHES KYORENE® ANTI BACTERIAL TEST RESULTS GB/T 20944.3-2008

TEST ORGANISMS	REDUCTION RATE	EVALUATION
STAPHYLOCOCCUS AUREUS	84.7%	<b>KYORENE</b> HAS THE ANTIBACTERIAL EFFECT AFTER 50 WASHES
ESCHERICHIA COLI (E-COLI)	98.0%	
CANDIDA ALBICANS	73.9%	



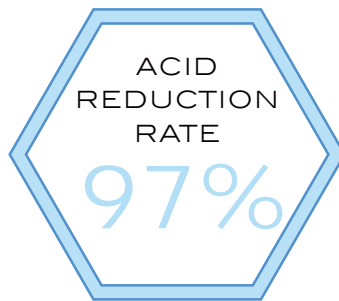
EXCELLENT  
BACTERIO  
STATIC  
EFFECT





# ODOR NEUTRALIZING

BODY ODOR IS THE RESULT OF BACTERIAL ACTIVITY.



BACTERIA LIVING ON OUR SKIN BREAKS DOWN THE SECRETION OF SWEAT INTO ODOROUS COMPOUNDS.

HAND ODOR IS THE RESULT OF THREE MAIN CHEMICAL COMPOUNDS FOUND IN SWEAT:

- METHANETHIOL
- PROPANOIC ACID
- ISOVALERIC ACID

KYORENE® MATERIAL **BALANCES THE ACIDITY** OF BODY SWEAT, THUS NEUTRALIZING ODOR ASSOCIATED WITH SWEAT.

DEODORANT TEST  
TEST METHOD: [ISO 17299 TEXTILES  
DETERMINATION OF DEODORANT PROPERTY

TEST RESULT	REDUCTION RATE	EVALUATION
ACETIC ACID	96%	<b>KYORENE</b> HAS THE ODOR NEUTRALIZING EFFECT
ISOVALERIC ACID	97%	





# THERMAL REGULATION

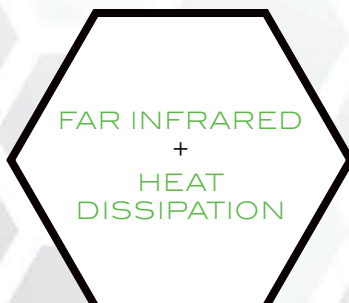
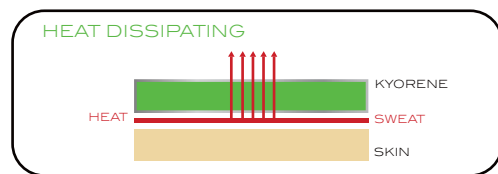
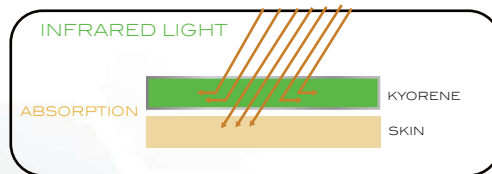
MOST OF OUR BODIES' EXCESS TEMPERATURE IS RELEASED BY RADIATION, WHICH OCCURS WHEN THE BODY PRODUCES SWEAT. KYORENE® GRAPHENE GLOVES ABSORB RADIATION, ALLOWING HEAT TO DISSIPATE FROM THE HANDS. IN BOTH WARM AND COOL WORK ENVIRONMENTS, IT LEAVES YOUR HANDS MORE COMFORTABLE, DRIER AND AT A REGULATED TEMPERATURE. IT DOES THIS BY HAVING BOTH FAR-INFRARED AND HEAT DISSIPATION PROPERTIES.

## FAR-INFRARED

KYORENE® GLOVES HAVE FAR-INFRARED PROPERTIES THAT ABSORB RADIATION FROM SOLAR RAYS CAUSING A HEATING EFFECT. ON THE SPECTRUM OF LIGHT, FAR-INFRARED IS THE ENERGY THAT IS HEALTHY FOR YOUR BODY. THIS LIGHT HELPS IN ALL ASPECTS OF OUR BODY'S GROWTH AND DEVELOPMENT. KYORENE® GLOVES EMIT FAR-INFRARED KEEPING YOUR HANDS WARMER IN COLDER WORK ENVIRONMENTS AND COOLER IN WARM WORK ENVIRONMENTS.

## HEAT DISSIPATION

WHILE KYORENE GLOVES ATTRACT HEAT, IT ALSO USES THERMAL TRANSMITTANCE TO ABSORB HEAT. IT THEN TRANSFERS IT ACROSS THE STRUCTURE AND AWAY FROM YOUR SKIN ALLOWING THE EXCESS HEAT FROM YOUR HAND TO DISSIPATE.





# UV PROTECTION

KYORENE® GRAPHENE FIBER MAINTAINS ITS FULL ARRAY OF PROPERTIES WHEN SUBJECTED TO UV LIGHT AND HAS SHOWN NO NEGATIVE EFFECT FROM LONG TERM SUN EXPOSURE.

GRAPHENE EFFECTIVELY PROTECTS YOUR ARMS AND HANDS AGAINST UV-A AND UV-B RAYS



**KYORENE  
RESULT**

UV-A / UV-B  
PROTECTION  
RATE

**UPF 50+**



ULTRAVIOLET PROTECTION FACTOR (UPF) IS A SPECTRAL TRANSMISSION ANALYSIS WHICH CAN QUANTIFY EXACTLY HOW MUCH UV RADIATION PERMEATES MATERIALS. THE UPF RATING SCALE IS BETWEEN 15 AND 50:

- 15-24 IS GOOD
- 25-39 IS VERY GOOD
- 40 OR HIGHER IS EXCELLENT

ONE WAY TO PERCEIVE THIS RATING IS A UPF OF 20 (ALLOWING 1/20TH OF UV THROUGH) IS EQUIVALENT TO BLOCKING 95%. A UPF OF 40 BLOCKS 97.5% AND A UPF OF 50 BLOCKS 98%.

**KYORENE® GLOVES AND SLEEVES REACH THE HIGHEST LEVEL OF UPF 50+.**

### AFTER 50 WASHES SOLAR SPECTRUM IRRADIANCE TEST

TEST	RESULT	EVALUATION
ULTRAVIOLET PROTECTION FACTOR (UPF)	UPF - 50+	<b>EXCELLENT UV PROTECTION</b>
BLOCKING UV - A	99.77%	
BLOCKING UV - B	99.89%	