



BACTERIOSTATIC

ODOUR NEUTRALISING

THERMAL REGULATION

UV PROTECTION

JAFCO

PROTECTING YOUR LIFE



www.cusack.co.uk



sales@cusack.co.uk



020 8344 4100



1 Dundee Way, Enfield,
London, EN3 7SX



BACTERIO- STATIC

Kyorene® fibre is **bacteriostatic and antibacterial**. It regulates bacteria and inhibits the reproduction and growth of new bacteria. Typical antibacterial 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® fibre regulates the “bad bacteria” whilst keeping the “good bacteria” that your body needs.

Firstly, Kyorene® graphene fibre’s makeup allows it to regulate existing bacteria. As bacteria adhere to the graphene composite fibre, graphene’s sharp boundary (a so called nano knife) simply breaks the bacterial membrane.

Secondly, 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 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® fibre significantly reduces these bacteria, preserving a good level of bacteria and regulating the quantities of the pathogen.

Our Kyorene® fibres have **inherent bacteriostatic properties**. Kyorene® graphene oxide is polymerised inside the fibre, 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, whilst they work effectively at the beginning, can be washed out and become ineffective. **After 50 wash cycles, Kyorene® keeps its bacteriostatic properties intact.**

KYORENE® ANTIBACTERIAL TEST RESULTS
ASTM TEST METHOD E2149-13A

TEST ORGANISMS	REDUCTION RATE	EVALUATION
Staphylococcus Aureus	97.5%	KYORENE has the antibacterial effect
Escherichia Coli (E-Coli)	98.8%	
Candida Albicans	98.1%	

AFTER 50 WASHES
KYORENE® ANTIBACTERIAL TEST RESULTS
ASTM TEST METHOD E2149-13A

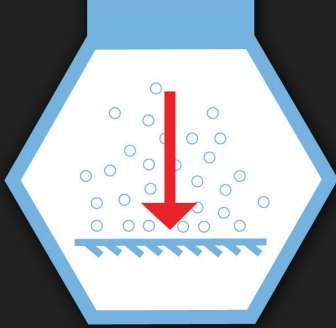
TEST ORGANISMS	REDUCTION RATE	EVALUATION
Staphylococcus Aureus	84.7%	KYORENE has the antibacterial effect after 50 washes
Escherichia Coli (E-Coli)	98.0%	
Candida Albicans	73.9%	



KYORENE
RESULT

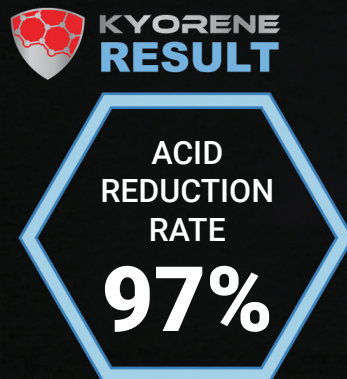
**EXCELLENT
 BACTERIO-
 STATIC
 EFFECT**





ODOUR NEUTRALISING

Body odour is the result of **bacterial** activity.



Bacteria living on our skin breaks down the secretion of sweat into odorous compounds.

Hand odour 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 neutralising odour associated with sweat.

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

TEST RESULT	REDUCTION RATE	EVALUATION
Acetic Acid	96%	KYORENE has the odour neutralising effect
Isovaleric Acid	97%	



THERMAL REGULATION

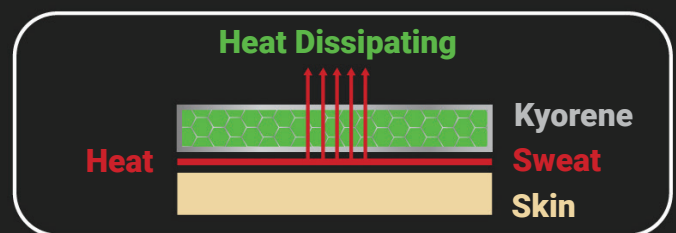
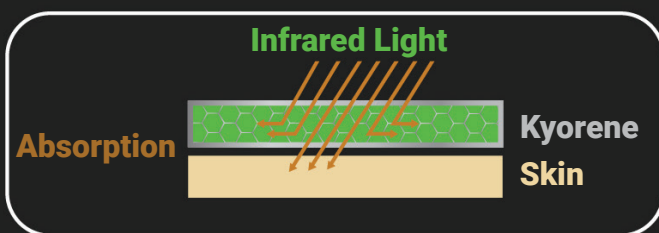
Most of our bodies' excess temperature is released by radiation, which occurs when the body produces sweat. Kyorene® graphene gloves absorb radiation, allowing heat to dissipate from the hands. In both warm and cool work environments, it leaves your hands more comfortable, drier and at a regulated temperature; 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 bodies' growth and development. Kyorene® gloves emit far-infrared, keeping your hands warmer in colder work environments and cooler in warm work environments.

HEAT DISSIPATION

Whilst Kyorene® gloves attract heat, they also use 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.



FAR-
INFRARED
+
HEAT
DISSIPATION





UV PROTECTION

Kyorene® graphene fibre maintains its full array of properties when subjected to UV light and has shown no negative effect from long term 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 allows 1/20th of the UV through, and 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 +	Excellent UV Protection
Blocking UV-A	99.77%	
Blocking UV-B	99.89%	