



WORLD'S LEADING TECHNOLOGY COMPANY FOR PERSONAL COOLING APPAREL

# KEEP YOUR HEAD COOL

INUTEQ is world's leading company in developing & manufacturing innovative personal cooling technologies and products.

Whether it be at work, during sports or your daily routines, you can trust to have INUTEQ at your side to keep you comfortably cool!

Proud official supplier of several ProCycling Teams, Formula-1 Teams and many more high-profile & Olympic athletes.









### SCIENTIFIC ADVISORY BOARD

The Scientific Advisory Board consists of two independent, recognized medical scientists, which together shape a highly important advisory body for INUTEQ. The Scientific Advisory Board sees to it that the quality of research is maintained. Its primary tasks are:

## TO EVALUATE, GUIDE AND ADVISE ON NEW COOLING **TECHNOLOGIES, STRATEGIES & APPLICATIONS**

The Scientific Advisory Board is officially installed by INUTEQ and consists of members that come from diverse fields of research of various medical scientific institutions.

#### Prof. dr. Thijs Eijsvogels

Dr. Eijsvogels is appointed as Associate Professor in exercise physiology at the Department of Physiology of the Radboud University Medical Center (Nijmegen, The Netherlands). Thijs is interested in the physiological and cardiac responses of the human body to acute and chronic exercise.

#### Prof. dr. Julien Périard

Dr. Périard is an Associate Professor at the University of Canberra Research Institute for Sport and Exercise (UCRI-SE). His scientific interests lie in the area of environmental physiology where he examines the physiological mechanisms that mediate health and performance.





### **MAIN MARKETS**



#### On the job

Workers who are exposed to extreme heat or work in hot environments may be at risk of heat stress. Heat stress can result in stroke, exhaustion, cramps or rashes. This can lead to occupational illnesses and injuries. Avoid this by wearing the right personal cooling apparel for your job.



#### **Sports**

Sports activities in high temperatures for long periods of time can lead to dehydration and heatstroke. Heatstroke is a life-threatening condition. Be prepared and protect yourself from heat stroke and heat exhaustion by wearing the right cooling apparel!



#### **Animals**

It is normal for your dog to be panting on a hot summer day, but your dog can quickly go from being a bit warm to suffering from the initial stages of heat stroke. Heat stroke is incredibly dangerous and often fatal. It affects dogs of all shapes, sizes and ages. Keep your dog comfortably cool with a dog cooling vest or a cooling mattress!



#### Wellness

Cooling is proven to be a safe and effective way to burn extra calories and lose weight, we've made it easy by developing the right garment and making it accessible for everyone, this by using our lifelong experiences and innovative technology. On page 38 you can find the new Cool2Shape products



#### Healthcare

With multiple sclerosis (MS), you may experience heat intolerance, which is worsening your symptoms when exposed to heat. Wearing a cooling vest will make you feel more comfortable and may even relieve some of your symptoms. The INUTEQ products are also used to keep doctors and nurses cool in protective suits.



#### Motorcycling

Riding in extreme temperatures not only feels like having a giant hair dryer blowing at you, but it can also be very dangerous. The beginnings of heat stroke can affect your judgement and impair your ability to ride a motorcycle safely. By taking precautions and wearing the right cooling apparel, you can beat the heat and ride safely!



#### Military / Police

The very nature of the soldier's or agent's profession -- training outdoors, wearing uniforms and carrying equipment -- practically guarantees they will be exposed to heat stress. Combat the heat by wearing the right professional personal cooling apparel.



#### **Outdoor recreation**

Recreative activities in high temperatures for long periods of time can lead to dehydration and heatstroke. Heat stress may affect people aged 65 years and over even more than others. Wear a cooling vest or one of the cooling accessories to stay comfortably cool.

# HELP ME CHOOSE WHICH COOLING SOLUTION IS THE BEST FOR ME

Check here which technology and related product work best for your personal application and in which environmental condition.

		===			—— Does it p	erform well —					
		cooling time during average use	in warm conditions under 40°C / 104°F	in hot conditions above 40°C / 104°F	in low-mid humid conditions	in high humid conditions	underneath breathable garments	underneath hazmat / airtight suits	without airflow	Suitable for <b>high</b> <b>activity</b>	Requirements to activate
DRY	®	Up to 72 hours	<b>✓</b>	Low	<b>✓</b>	Low	<b>✓</b>	X	X	X	Tap Water
H20	®	Up to 8 hours	<b>✓</b>	Low	<b>✓</b>	Low	<b>✓</b>	X	X	<b>✓</b>	Tap Water
PVA	®	Up to 4 hours	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	X	Low	<b>✓</b>	Tap Water
QCK	®	Up to 1 hour	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	X	Low	<b>✓</b>	Tap Water
PAC	®   6,5°C / 44°F	Up to 2 hours	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	Freezer
PAC	®   15°C / 59°F	Up to 2,5 hours	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	Freezer/Fridge/Ice Water or in temp<10°C / 50°F
PAC	®   21°C / 70°F	Up to 3 hours	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	Freezer/Fridge/Ice Water or in temp<19°C / 66°F
PAC	®   24°C / 75°F	Up to 3,5 hours	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	Freezer/Fridge/Ice Water or in temp<21°C / 70°F
PAC	®   29°C / 84°F	Up to 4,5 hours	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	Freezer/Fridge/Ice Water or in temp<26°C / 79°F

# WHY IS **PERSONAL COOLING** ESSENTIAL?

Everybody owns a rain coat, and in every house you will find clothes for colder periods. But only few people use wearables to protect them from the heat.

Isn't that odd?

**HEAT STRESS**PREVENTION TIPS

Are you going to jump into the water when it's getting really warm? Take a cold shower? Or take off your clothes? In many cases that's not an option. When you are at the office for example, playing golf, playing golf, tennis, jogging, attending a festival or working in a factory.

Cooling is essential in these circumstances. To continue what you are doing, stay comfortable, and to keep your performance up. To stay safe, to not overheat, and to not lose control.











Drink water every hour Wear personal Take a 15 minute cooling apparel break every 2 hours



# COOLING PRODUCTS HELP TO AVOID HEAT STRESS

Heat is an occupational safety and health hazard. Excessive heat during work creates health risks; it restricts a worker's physical functions and capabilities, work capacity and productivity. Temperatures above 24 – 26°C are associated with reduced labour productivity. At 33 – 34°C, a worker operating at moderate work intensity loses 50% of his or her work capacity.

Exposure to excessive heat levels can lead to heatstroke, sometimes even with a fatal outcome. Workers in all sectors are affected, but certain occupations are especially at risk because they involve more physical effort and/or take place outdoors. Such jobs are typically found in agriculture, environmental goods and services (natural resource management), construction, refuse collection, emergency repair work, transport, tourism and sports. Industrial workers in indoor settings are also at risk if temperature levels inside factories and workshops are not regulated properly. At high heat levels, performing even basic office and desk tasks becomes difficult as mental fatigue sets in.

# THE ADVANTAGES OF WEARING PERSONAL COOLING APPAREL:

- Better thermal comfort
  - Reduces sweating & transpiration
    - Decreases core and skin temperature
      - Lowers the heart rate
        - Better concentration
          - Increases performance
            - Avoid heat stress symptoms
              - Quicker recovery

#### WHAT ARE THE EFFECTS WHEN YOUR BODY FIGHTS THE INCREASING TEMPERATURE?



Excessive sweating,



Your heart rate will increase



You start to feel uncomfortable



You will get tired



Dizziness and confusion, fast breathing or pulse



You will lose concentration (up to 40 %)



Productivity drops significantly



You will get a headache



Your ability to react slows down, which may imply unsafetyness

# INUTEQ DRY TECHNOLOGY

INUTEQ-DRY® is a revolutionary evaporative cooling technology. The INUTEQ-DRY® cooling solution only requires a limited quantity of water (a vest filled with 500 ml) to provide maximum cooling for 8 up to 72 hours. Our products can be easily activated by filling them with tap water, after which the cooling process will start instantly. The cooling effect is based on the principle of natural evaporation, and therefore the result is dependent on local humidity and airflow.

The INUTEQ-DRY® technology is a durable solution, all products are machine washable and have antibacterial treatment. INUTEQ-DRY® guarantees that you will stay 100% dry. Our products will cool you down from 5°C up to 15°C below ambient temperature. The INUTEQ-DRY® products perform best in environments with a low to average degree of humidity. The level of airflow determines the cooling effect.









# **ACTIVATION IS EASY**



#### FILL WITH WATER

Just fill the product with (tap) water.



## **DIVIDE & SQUEEZE**

Distribute the water evenly and squeeze out any excess water.



# ENJOY IMMEDIATE COOLING

Your product is now ready to use, instantly creating a cooling effect for up from 8 until 72 hours, depending on the ambient temperature, humidity and airflow.





# INUTEQ-DRY **PRODUCTS**

Easy to use and re-use •

Machine washable •

Antibacterial treatment •

Provides up to 15°C cooling • relief below ambient temperature

Offers 8 to 72 hours • of cooling comfort

Colors: Black

Fluor yellow

White

Size: S/M, L/XL,

2XL/3XL

Components

Exterior: INUTEQ-DRY®

Nylon Jersey 50%, PU 50%, Antibacterial

treatment

Core: INUTEQ-DRY® technology

wicking polyester fleece

Interior: INUTEQ-DRY® Nylon

**Black:** #11020101 **Yellow:** #11020107 **White:** #11020109 Colors: Black

Silver Grey Fluor yellow

Size: XS, S, M, L, XL, 2XL,

3XL, 4XL, 5XL

Components

Exterior: INUTEQ-DRY® Nylon Jersey

50%, PU 50%, MICROBAN®

Antibacterial treatment

Core: INUTEQ-DRY® technology

wicking polyester fleece

Interior: INUTEQ-DRY® Nylon

**Black:** #11130601 **Silver Grey:** #11130602 **Fluor Yellow:** #11130607



Colors: Silver Grey

Fluor Yellow

White

Size: One size

#### Components

Exterior: INUTEQ-DRY®

Nylon Jersey 50%, PU 50%, Ultra Fresh Antibacterial treatment

Core: INUTEQ-DRY®

technology wicking

polyester fleece

Interior: INUTEQ-DRY® Nylon

**Silver:** #1111020200 **Fluor Yellow:** #1111020700 **White:** #1111020900



# INUTEQ **H20 TECHNOLOGY**

INUTEQ-H2O® technology offers the highest standard in evaporation cooling at low cost. The INUTEQ-H2O® products are activated by soaking them in water for 2 minutes. After excess water is gently squeezed out they are ready to wear. Depending on the humidity and airflow, these products will cool you down from 5°C up to 15°C below the ambient temperature for 2 up to 8 hours.

All INUTEQ-H20® evaporative products are machine washable and have antibacterial properties. The INUTEQ-H20® cooling vests are finished with water-repellent lining to keep the inside dry. The INUTEQ-H20® products perform best in environments with a low to average degree of humidity. The level of airflow determines the cooling effect.









# **ACTIVATION IS EASY**



## **SOAK IN WATER**

Just soak in water for a maximum of two minutes.



## GENTLY PRESS OUT EXCESS WATER



# ENJOY IMMEDIATE COOLING

Your product is now ready to use, instantly creating evaporative cooling for two up to eight hours, depending on the ambient temperature, humidity and airflow.







Easy to use and re-use •

Machine washable •

Black, White, Bright Blue

Black/Grey

Colors:

Size:

Blue, Orange

Antibacterial properties •

XS, S, M, L, XL, 2XL, 3XL 2XS/XS, S/M, L/XL, 2XL/3XL 3XS, 2XS, XS, S, M, L, XL, 2XL

Lightweight •

Components **Exterior:** 

**Colors:** 

Size:

Core:

Black:

White:

**Bright Blue:** 

100%

**Exterior:** 100%

Components

**Colors:** 

Size:

Core:

**Exterior:** 100% Polyester Fabric

Components

Provides cooling relief • up to 15°C below ambient temperature

Polyester Fabric

Polyester Fabric INUTEQ-H2O®

INUTEQ-H2O® Core: superabsorbent

Offers 2 to 8 hours of • cooling comfort

superabsorbent cooling fabric with antibacterial

INUTEQ-H2O®

cooling fabric with antibacterial

superabsorbent

properties

Interior: 100% Polyester

> Fabric with PU coating

Interior:

Panels:

properties 100% Polyester

antibacterial

cooling fabric with

Fabric with PU coating

Polyester Mesh

#120202

Blue: #12180203 **Orange:** #12180205

properties Interior: 100% Polyester Fabric with PU

coating

#12000109

#12000103

#12000101

Black/Grey:



**Colors:** Black, Silver, Yellow

Size: XS, S, M, L, XL,

2XL, 3XL, 4XL



Yellow, Orange, **Colors:** 

Orange-RWS

Size: S, M, L, XL,

2XL, 3XL, 4XL

#### Components

**Exterior:** 100%

INUTEQ-H2O® Core:

> superabsorbent cooling fabric with

Polyester Fabric

antibacterial properties

100% Polyester Interior:

> Fabric with PU coating

Black: #12130201 Yellow: #12130207 Silver: #12130202

#### Components

**Exterior:** 100%

Polyester Fabric

INUTEQ-H20® Core:

> superabsorbent cooling fabric with antibacterial

properties

100% Polyester Interior:

> Fabric with PU coating

Yellow: #12040207 Orange: #12040205 **Orange-RWS:** #12050105

# PERSONAL COOLING APPAREL: Better thermal comfort

THE ADVANTAGES OF WEARING

- - Reduces sweating & transpiration
    - Decreases core and skin temperature
      - Lowers the heart rate
        - Better concentration
          - Increases performance
            - - Quicker recovery



# INUTEQ-H20 **PRODUCTS**

Easy to use and re-use •

Machine washable •

Antibacterial properties •

Lightweight •

Provides cooling relief • up to 15°C below ambient temperature

Offers 2 to 8 hours of • cooling comfort



Colors: Black, Grey, Blue, Khaki, Orange, Yellow

Size: S/M, L/XL

Components

Interior:

100% **Exterior:** 

Polyester Fabric Core: INUTEQ-H2O®

> superabsorbent cooling fabric with antibacterial properties

100% Polyester Fabric

with PU-coating

Black: #12110101 Grey / Black: #12110102 Blue / Black: #12110103 Khaki / Black: #12110104 Orange / Black: #12110105 Yellow / Black: #12110107 White / Black: #12110109



**Colors:** Black, Bright Blue,

Orange, Yellow

Size: One size

Components

**Exterior:** 100%

Polyester Fabric Core: INUTEQ-H2O®

superabsorbent

cooling fabric with

antibacterial properties

100% Interior:

Polyester Fabric

Black: #1216010100 **Bright Blue:** #1216010300 Orange: #1216010500 Yellow: #1216010700



Colors: Black, Grey

Size: One size

Components

Core:

**Grey:** 

100% **Exterior:** 

Polyester Fabric

INUTEQ-H2O®

superabsorbent

cooling fabric with

antibacterial properties

100% Interior:

Polyester Fabric

Black: #1223020100

#1223020200









Size: One size Colors: Yellow, Silver Colors: Yellow, Silver

Size: One size

#### Components

Interior:

#### 100% **Exterior:**

Polyester Fabric

INUTEQ-H2O® Core: superabsorbent

cooling fabric with

100%

antibacterial properties Interior:

Polyester Fabric

Black: #1227020100 **Grey:** #1227020200

### Components

Size:

100% **Exterior:** 

Polyester Fabric

One size

INUTEQ-H20® Core:

superabsorbent cooling fabric with antibacterial properties

100% Polyester Fabric with

PU coating

Yellow: #1222010700 Silver: #1222010200

### Components

100% **Exterior:** 

Polyester Fabric

INUTEQ-H2O® Core:

> superabsorbent cooling fabric with

antibacterial properties

Interior: 100% Polyester

> Fabric with PU coating

Yellow: #1218010700 **Grey:** #1218010200



# INUTEQ **PVA TECHNOLOGY**

The INUTEQ-PVA® evaporative cooling technology is a highly absorbent Polyvinyl Alcohol Fabric. INUTEQ-PVA® products are activated by soaking them in water for one minute. After squeezing out excess water they are ready for use.

The INUTEQ-PVA® products will cool you down for several hours. Products are machine washable. Using the INUTEQ-PVA® evaporative cooling products is a fast and easy way to beat the heat and stay fresh and cool.

The INUTEQ-PVA® products perform best in environments with a low to average degree of humidity. The level of airflow determines the cooling effect.









# **ACTIVATION IS EASY**



# SOAK IN WATER

Just soak the product in water for one minute.



## **SQUEEZE**

Gently squeeze out the excess water.



# ENJOY IMMEDIATE COOLING

Your product is now ready to use, instantly creating a cooling effect for up to several hours.

# INUTEQ-PVA **PRODUCTS**

Easy to use and re-use •

Machine washable •

Provides up to 15°C cooling • relief below ambient temperature



Colors: Black/Grey, Blue

**Size:** XS, S, M, L, XL, 2XL

Components

**Exterior:** 100% Polyvinyl

Alcohol Fabric with Polyester breathable knitted eyelet fabric.

**Blue:** #15130201 **Blue:** #15130103



Colors: Blue, Orange, Grey

Yellow, Green, Pink

**Size:** 78 cm x 33 cm

30,7 inch x 12,9 inch

Components

Grey:

**Exterior:** 100% Polyvinyl

Alcohol Fabric

#1530010200

 Blue:
 #1530010300

 Orange:
 #1530010500

 Yellow:
 #1530010700

 Green:
 #1530011000

 Pink:
 #1530011000



Colors: White/Grey

Size: XS, S, M,

L, XL, 2XL

Components

**Exterior:** 100% Polyvinyl

Alcohol Fabric with Polyester breathable knitted eyelet fabric.

White/Grey: #15080309



Colors: Yellow/Grey

Size: XS, S, M,

L, XL, 2XL

#### Components

**Exterior:** 100% Polyvinyl

Alcohol Fabric with Polyester breathable knitted

eyelet fabric.

**Yellow/Grey:** #15080107



# INUTEQ QCK TECHNOLOGY

The cooling effect generated by these products and technology is not chemically treated, but comes from the special technology within the INUTEQ-QCK $^{\odot}$  cooling fabric.

The INUTEQ-QCK®; fabric is extremely strong, soft and flexible as well as lightweight. INUTEQ-QCK® products are ideal for sports, camping, exercising, leisure or any outdoor activity where you need some comfortable cooling. Simply 'WET IT' – 'WRING IT' and 'SNAP IT' – ready to use!







Colors: Blue

Black

**Size:** 85 cm x 30 cm

33,4 inch x 11,8 inch

Including storage box

Components

Exterior: 100% Instant

Cooling Fabric

Blue: #1631019300

Midnight

**Black:** #1631020200





# **ACTIVATION IS EASY**



### WET IT - SOAK IN WATER

Just soak in water for a maximum of two minutes.



### WRING IT - SQUEEZE

Gently squeeze out the excess water.



### **SNAPIT**

Just wave the product 2 times and it's ready to use.



# ENJOY IMMEDIATE COOLING

Your product is now ready for use, an immediate cooling effect for up to a few hours.

# INUTEQ PAC TECHNOLOGY

The INUTEQ-PAC® is a revolutionary performance technology. This bio-based Phase Change Material (PCM) is available in 5 different temperatures:  $6.5^{\circ}$ C /  $44^{\circ}$ F,  $15^{\circ}$ C /  $59^{\circ}$ F,  $21^{\circ}$ C /  $70^{\circ}$ F,  $24^{\circ}$ C /  $75^{\circ}$ F and  $29^{\circ}$ C /  $84^{\circ}$ F.

This unique INUTEQ-PAC® phase change technology has a high latent heat, which makes it ideal for use in various thermal management applications.

The INUTEQ-PAC® products, powered by CrodaTherm bio-based PCM, offer higher flash fire points than their paraffin equivalents. As proven during fire safety tests, the INUTEQ-PAC® products out-perform their paraffin equivalents, providing a safer product for professionals dealing with strict fire safety regulations.

The only REACH and USDA certificated 100% bio-based PCM on the market!



















# **ACTIVATION IS EASY**



# COOL THE PACK

Simply put the product in ice water, refrigerator or freezer, or store it at a lower temperature until it becomes fully solid.



# INSERT IN YOUR GARMENT



# ENJOY CONSTANT COOLING

Your garment is now ready to wear creating cooling on a constant temperature level.





For when exact • temperatures are essential

Perform under any extreme • temperature and under every level of humidity

100% bio-based • phase change material

Biodegradable •

Non-toxic, non-hazardous, • noncorrosive

Long term stability •

High latent heat capacities •

USDA certified •

REACH compliant •

Colors: Black
Size: S, M, L, XL,

2XL, 3XL, 4XL

Components

**Exterior:** Robust canvas **Liner/pockets:** Polyester mesh

**Pockets for** 

inserts: Four

(2 front, 2 Back)

Adjustable: Waist line
Closure: Front opening

zipper

**Black:** #131301



Colors: Aqua
Size: 15 cm x 31,4 cm

5,9 inch x 12,3 inch

Components

Exterior: INUTEQ-SEAL®
Interior: 100% bio-based phase change

material

**Aqua:** #1364031508



Colors: Yellow

**Size:** 15 cm x 31,4 cm

5,9 inch x 12,3 inch

Components

**Exterior:** INUTEQ-SEAL® 100% bio-based

phase change

material

**Yellow:** #1364022108





Colors: Transparent Size: 15 cm x 31,4 cm

5,9 inch x 12,3 inch

#### Components

**Exterior:** INUTEQ-SEAL® Interior: 100% bio-based

phase change

material

**Transparent:** #1364022408

Colors: Red

**Size:** 15 cm x 31,4 cm

5,9 inch x 12,3 inch

#### Components

**Exterior:** INUTEQ-SEAL® Interior: 100% bio-based

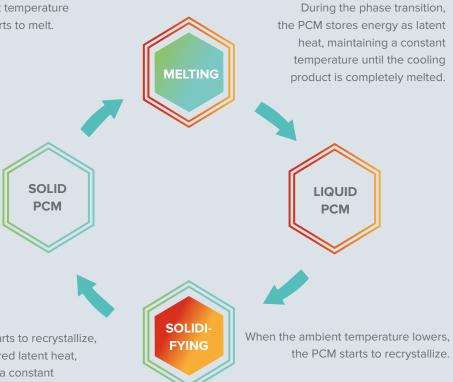
phase change

material

**Red:** #1364022908

## THE PROCESS





When the PCM starts to recrystallize, it releases the stored latent heat, while maintaining a constant temperature, until all latent heat has been released.

# THE PCM COOLOVER

This PCM CoolOver, manufactured in The Netherlands, offers constant cooling and heat stress protection for professionals who need expert cooling underneath protective clothing in (extreme) heat situations. This PCM CoolOver performs under extreme temperatures and under every level of humidity. Offering exact

Reactivation is fast and easy; simply put the PCM CoolOver in ice water, freezer or

Example: the 21°C / 70°F CoolOver can be activated in a room temperature of <18°C / 64°F.

Cleaning: simply clean with cleaning cloth with water or disinfectant.

















Aqua

One size

Maximum chest

circumference:

120 cm / 4,2 inch

Color: Orange Size: One size Maximum chest

Components

**Adjustment:** 

Closure:

Orange:

Material:

Foil:

circumference: 120 cm / 4,2 inch

**Biobased Phase** 

INUTEQ-SEAL®

Buckle system

Waist line

Components

Color:

Size:

**Biobased Phase** Material: Change Material Change Material

> Foil: INUTEQ-SEAL® **Adjustment:** Waist line

Closure: Buckle system

#1302036536 #1302041536 Aqua:







Color: Yellow Size: One size

Maximum chest circumference: 120 cm / 4,2 inch

Components

**Material:** Biobased Phase

Change Material

Foil: INUTEQ-SEAL®

Adjustment: Waist line

Closure: Buckle system

**Yellow:** #1302022136

Color: Transparant
Size: One size

Maximum chest circumference: 120 cm / 4,2 inch

Components

**Material:** Biobased Phase

Change Material

Foil: INUTEQ-SEAL®

Adjustment: Waist line

Closure: Buckle system

**Transparant:** #1302032436

Color: Red
Size: One size

Maximum chest circumference: 120 cm / 4,2 inch

Components

**Material:** Biobased Phase

Change Material

Foil: INUTEQ-SEAL®

Adjustment: Waist line
Closure: Buckle system

**Red:** #1302032936

# COOLING STRATEGIES TO ATTENUATE PPE-INDUCED HEAT STRAIN DURING THE COVID-19 PANDEMIC

#### Thermoregulatory challenges

Personal Protective Equipment (PPE) creates a microclimate around the skin that reduce the heat loss capacity

Healthcare personnel work longer shifts and care for more patients than usual, resulting in an elevated heat production

#### Cooling Strategies & Effects

Pre-cooling Before work

Lower core temperature + Prehydration



Attenuate increases in core temperature



rehydration

#### Consequences

Core temperature

Thermal discomfort

Sweat rate

Dehydration



#### Consequences

Thermal discomfort

Cardiovascular strain

Dehydration

#### Cooling strategies must be



Safe and hygienic



Rapidly scalable and accessible for every hospital



Easy to implement in clinical situations

#### Benificial effects of cooling



Extends work tolerance time



Improves physical and cognitive performance



Improves recovery and reduces fatigue



Twitter: @BongersCoen Email: Coen.Bongers@radboudumc.nl



# INUTEQ

# PAC & H20 TECHNOLOGY

'Athletes who precool can increase performance with 5,7% ( $\pm$ 1%) and with percooling (cooling during exercise) with 9,9% ( $\pm$ 1.9%). The combination of precooling and percooling technologies could be the most effective strategy to improve exercise performance in the heat', according to Dr. Thijs Eijsvogels, one of the top authorities on thermoregulation.

\*published 2015, British Journal of Sports Medicine \*\* Dr. Thijs M.H. Eijsvogels, Department of Physiology, Radboud University Medical center - The Netherlands.



PAC®

H20®







# **PAC ACTIVATION IS EASY**



### COOL THE PACK

Simply put the product in ice water, refrigerator or freezer, or store it at a lower temperature until it becomes fully solid.



# INSERT IN YOUR GARMENT



# ENJOY CONSTANT COOLING

Your garment is now ready to wear, creating cooling on a constant temperature level.

# **H20 ACTIVATION IS EASY**



### **SOAK IN WATER**

Just soak in water for a maximum of two minutes.



## GENTLY SQUEEZE OUT EXCESS WATER



# ENJOY IMMEDIATE COOLING

Your product is now ready to use, instantly creating evaporative cooling for two up to eight hours, depending on the ambient temperature, humidity and airflow.







PRODUCTS

The Bodycool Hybrid vest is created for multiple sports purposes and commonly used as pre-post cooling vest by athletes, in combination with the INUTEQ-PAC® 6.5°C / 44°F or 15°C / 59°Fbio-based PCM packs.

Hybrid cooling solution for ultimate relief: evaporative INUTEQ-H2O® Cooling Fabric for 2 - 8 hours of cooling relief per soaking and INUTEQ PAC® bio-based Phase Change Material inserts maintain a comfortable 6.5°C / 44°F or 15°C / 59°F for up to three hours.

Colors: Black/Grey

White/Black

Size: XS, S, M, L, XL, 2XL

Components

Colors:

Size:

Exterior: INUTEQ-SEAL® 100% bio-based

phase change material

materia

Orange

15 cm x 31,4 cm

5,9 inch x 12,3 inch

**Orange:** #1364022408

Colors: Aqua

**Size:** 15 cm x 31,4 cm

5,9 inch x 12,3 inch

Components

**Exterior:** INUTEQ-SEAL® Interior: 100% bio-based

phase change material

**Aqua:** #1364031508

#### Components

Exterior: 100%

Polyester Fabric Superabsorbent

Core: Superabsorbent

INUTEQ-H2O® cooling fabric

with antibacterial

properties

**Liner:** Polyester

with PU coating

Pockets: Polyester Mesh

Four (2 Front,

2 Back)

**Closure**: Front Opening

Zipper

**Black/Grey:** #14130102 **White/Black** #14130109



Some of our Elite
Sports references:















Cool2Shape is the new product line from INUTEQ® focusing on burning calories and increasing metabolism by cooling.

#### The science

Cooling Vests stimulate Brown Adipose Tissue (brown fat) causing the consumption of calories. The science is backed by numerous international studies, scientific research and tests. Several studies mention the importance of brown fat and the potential of cold exposure to prevent increase in body weight.

#### **Benefits:**

- Burn calories (potential to burn several hundred calories a day)
- Boost metabolism
- Activate brown fat (BAT) by blood supply and nerve impulses
- Induce cold thermogenesis
- · Easy to use in daily routine
- Comfortably cool
- Constant Cooling Temperature



















Color: Black
Size: One size

Color: Aqua

Size

Aqua:

Front & back 30 cm x 30 cm

11,8 inch x 11,8 inch

Color: Black
Size: One size

Color: Aqua

**Size:** 15 cm x 15 cm

5,9 inch x 5,9 inch

Components

Black:

**Exterior:** 50% nylon

5% spandex 45% neoprene

#1313010100

Components

**Exterior:** INUTEQ-SEAL® Interior: 100% bio-based

phase change material

#1313011516

Components

Black:

**Exterior:** 50% nylon

5% spandex 45% neoprene

1326010100

Components

Exterior: INUTEQ-SEAL®

**Interior:** 100% bio-based

phase change

material

**Aqua:** #1326011504





## COOL2SHAPE

Cool2Shape is the new product line from INUTEQ® focusing on burning calories and increasing metabolism by cooling.

#### The science

Cooling Vests stimulate Brown
Adipose Tissue (brown fat) causing
the consumption of calories.
The science is backed by
numerous international studies,
scientific research and tests.
Several studies mention the
importance of brown fat and the
potential of cold exposure to
prevent increase in body weight.

Color: Black
Size: One size

Components

**Exterior:** 

Black:

One size

50% nylon

5% spandex

45% neoprene

#1329010100

Components

Color:

Size:

Exterior: 50% nylon 5% spandex 45% neoprene

Black

One size

**Black:** #1325010100

Color: Aqua

**Size:** 15 cm x 31,4 cm

5,9 inch x 12,36 inch

#### Components

Interior: INUTEQ-SEAL®

100% bio-based phase change

material

**Aqua:** #1364031508

# INSULIN TRAVEL COOLER BAG

Insulin, a temperature-sensitive medication, is the only solution for many diabetics. When exposing your insulin to extremely high or low temperatures it can change its chemical composition. This can cause insulin to not behave as it should and not control your blood sugar.

Traveling is a part of life that can't be avoided, so there is only a single solution left. Carry your diabetic medication in an insulin travel cooler bag while traveling to keep your insulin safe and cool.

The INUTEQ insulin travel cooler bag keeps in-use insulin cool and safe at a constant cooling temperature of 15°C / 59°F for approximately one full day.



Powered by INUTEQ-PAC® 15°C / 59°F phase change material inserts; the only REACH compliant and USDA certificated 100% biobased PCM available on the market.



Color: Aqua

**Size:** 20 cm x 11 cm x 5 cm

7,8 inch x 4,3 inch x 1,9 inch

Components

Outer 100% 1680D material: waterproof

polyester

Middle layer: PE foam

**Inner material:** Aluminium foil

**Blue:** #1338010300



Color: Aqua

**Size:** 18,5 cm x 8,5cm

7,0 inch x 3, 3inch

Components

**Exterior:** INUTEQ-SEAL® Interior: 100% bio-based

100% bio-based phase change

materia

**Aqua:** #1362021501



# INUTEQ **BRANDING PRODUCTS**

For more info or any questions, please contact us at:

Tel. +31 (0) 85 065 3797 E-mail: support@inuteq.com



Color: Blue

**Sizes:** 32 x 18 x 38 cm

12,5 inch x 7,0 inch x

14,9 inch

Components

Outer 100% 1680D material: waterproof

polyester

Middle layer: PE foam

Inner material: Aluminium foil

**Blue:** #1038020307



Color: Black

Sizes: XS, S, M, L,

XL, 2XL, 3XL

Components

Material: 100% Polyester

**Black:** #10000201



This unique, lock-protected refrigerator is specially designed and furnished for the activation of the PCM CoolOvers.

#### **Specifications**

Model Small: LIEBHERR FKv

1800

**Sizes small:** 85 x 60 x 60 cm

33,4 inch x 23,6 inch x

23,6 inch

**Productcode:** #1039010307

Model Large: LIEBHERR MRFvc 4001-20 Sizes Large: 188,4 x 59,7 x 65,4 cm

74,0 inch x 23,2 inch

x 25,5 inch

**Productcode:** #1039010309





# YOUR LOCAL

# **DISTRIBUTOR**



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