


**UNIQLO**  
**2012—New Proposal for**  
**Functional Innerwear - Sarafine**

Masaaki Nishikawa  
Director, Production Department  
UNIQLO Co., Ltd

## Situation this Summer in Japan

---

Situation surrounding  
electricity supply continues to  
be challenging



Strong heat and high humidity are  
expected again this summer

# Conventional Wisdom in Summer

---

“Remove“  
clothes when it's  
hot

# A New “Conventional Wisdom” for Summer

---

3

## “Put on” clothes when it's hot



# Greater Comfort with Functional Innerwear

---

4

Wearing functional innerwear  
enhances comfort

UNIQLO offers functional innerwear  
Functionality that meets the differing  
needs of men and women

# Sarafine: the “Air Conditioning Innerwear” for Women

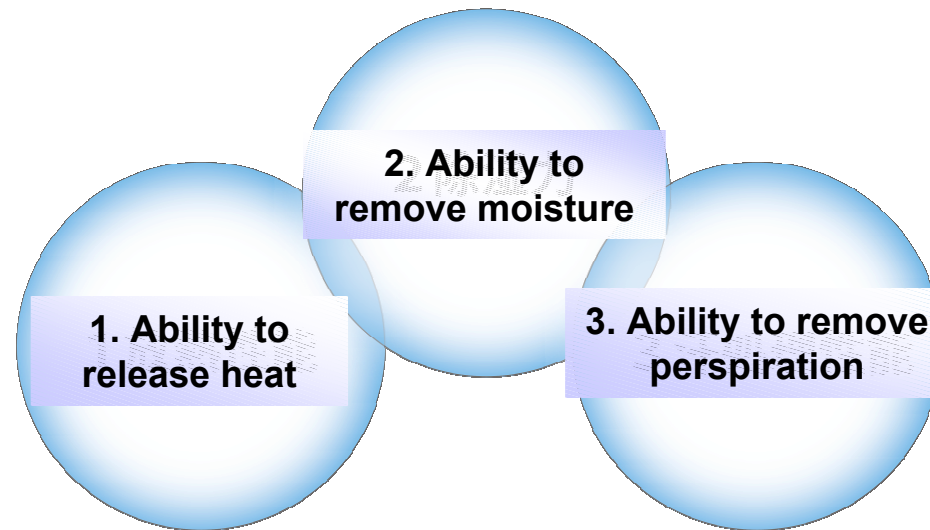
---

- Sarafine line offers highly functional innerwear designed to help women experience the perspiration-inducing summer season in comfort. **It meets the needs of women who want to be freed from the discomfort of perspiration and the chill factor of air conditioning.**
- Sarafine's high-tech textile combines Asahi Kasei's breathable “cupro” fibers and Toray's micro nylon. **The material uses cupro's ability to control perspiration and body heat to constantly maintain comfort under clothing.**
- The incorporation of micro nylon fibers creates a soft texture and a silky feel. **Many women value the feel of innerwear as highly as its functionality. UNIQLO has addressed this by delivering a gentler feel.**

# Sarafine

---

## Sarafine functionality

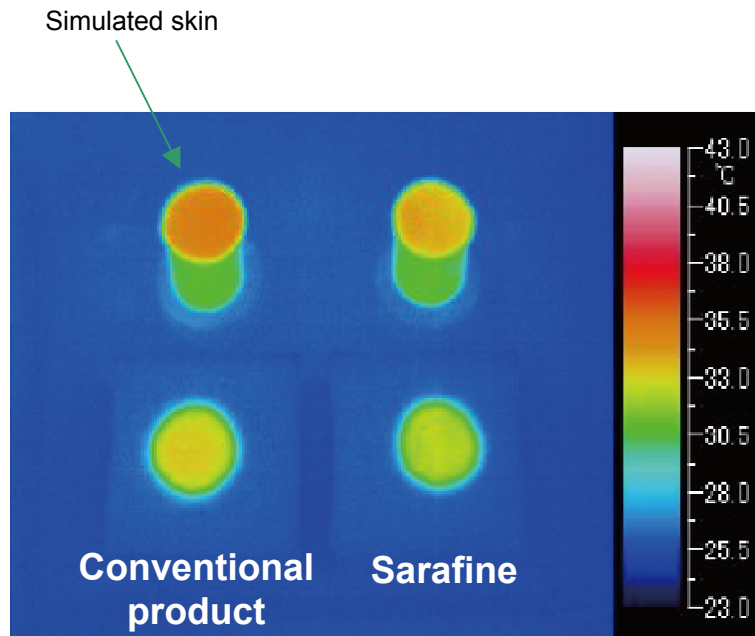


Three functions work together  
to deliver comfort all day long

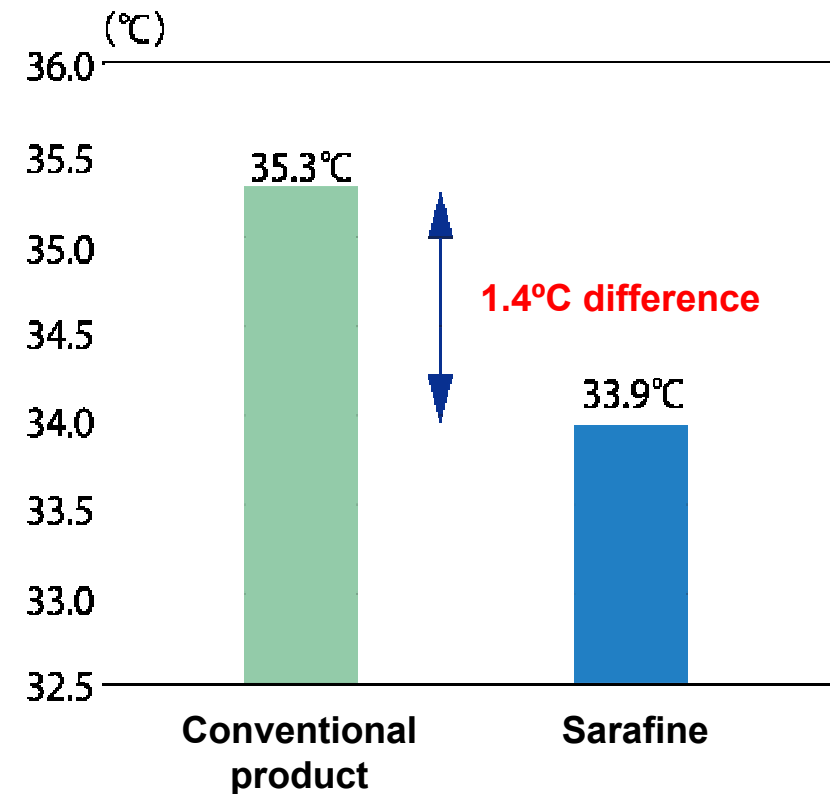
# Sarafine Ensures Comfort Even with Air Conditioning at 28°C

Even when air conditioning settings are raised to 28°C, Sarafine wearers will still feel cool because it takes heat away from the body surface and dissipates it!

The surface temperature of simulated skin is relatively low immediately after contact with Sarafine



Sarafine feels 1.4°C cooler





# The Serch for a Softer Feel

---

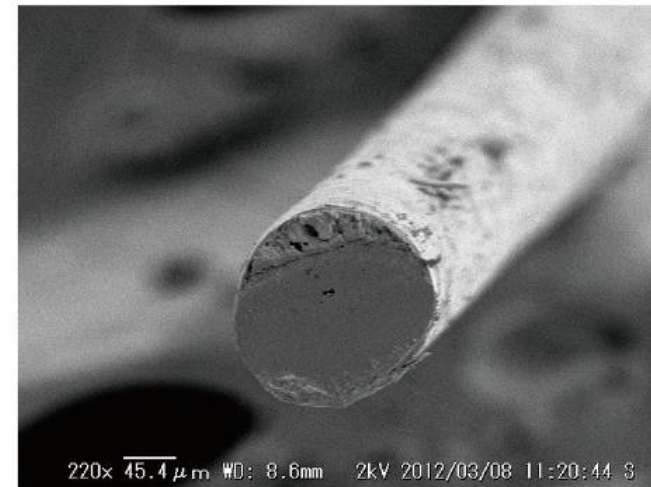
Softer feel! Offering customers a soft, soothing feel

The micro fibers were made 30% finer for a softer feel

Sarafine in 2012



Cross section of a human hair



**Outdoor Temperature at  
30°C with 60% Humidity**

**Great Discomfort from  
Perspiration and Humidity**

Sarafine quickly absorbs large amounts of moisture (humidity) and perspiration

## Sarafine removes moisture to give a refreshing feel!

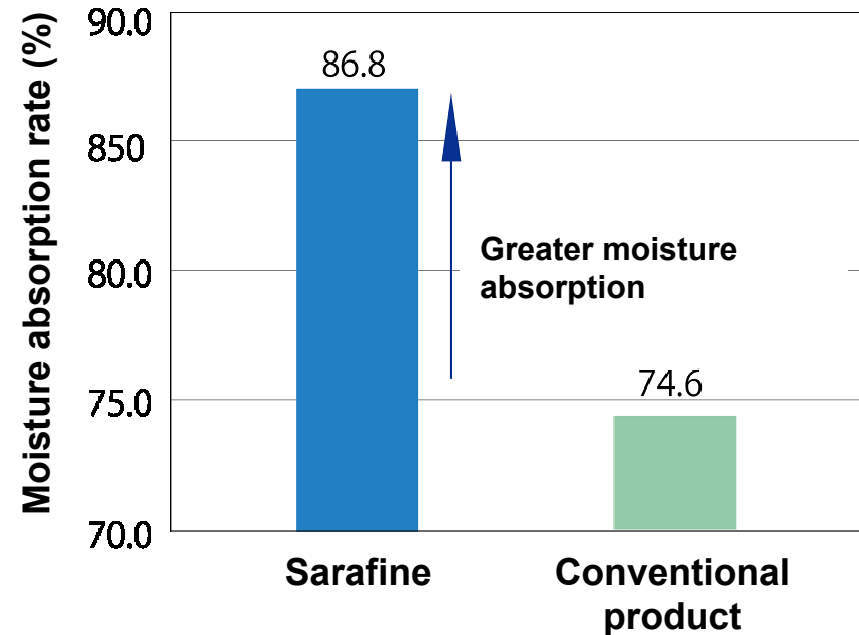
### Moisture is cleared

- Humidity is about 30% lower with Sarafine
- Lowering the humidity by 10% lowers the perceived temperature by 1°C



## Superior perspiration removal

Comparison of moisture absorption



Outdoor Temperature at 34°C with 40% Humidity – Indoor Temperature at 25°C

## Wet with Perspiration

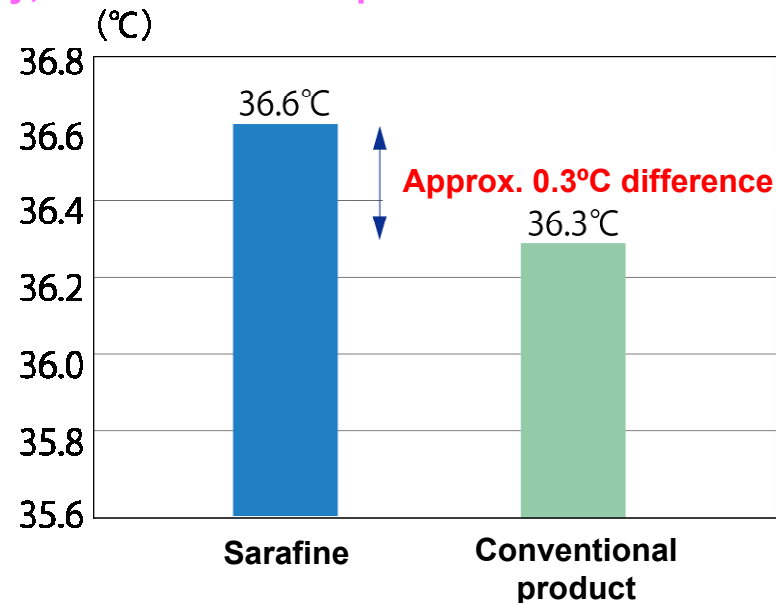
Sarafine combats the discomfort from perspiration when you cool down!

Air conditioning cools down clothing that has absorbed perspiration, chilling the body

### Sarafine reduces body chill

*Sarafine removes perspiration for silky comfort*

Body temperature is about 0.3°C lower at lowest point with a conventional product versus Sarafine. Consequently, the conventional product feels uncomfortably cold and clammy.



A comparison of core body temperature after walking around outdoors in 34°C heat with 40% relative humidity for 15 minutes then stepping into a room at 25°C.