

The application to the cosmetics of

S-100

Display name title

It subscribes S-100 to Japan Cosmetic Industry Association and all the ingredients labels correspond by the following display name title.

The decision advising number : 117

The raw material name : Electrolytic-reduction ion water S-100

The displayname title : Water

**TRADE NAME : ELECTROLIZED DEOXIDIZED
AND IONIZED WATER S-100**

INCI NAME : WATER

Effect of preventing the rust

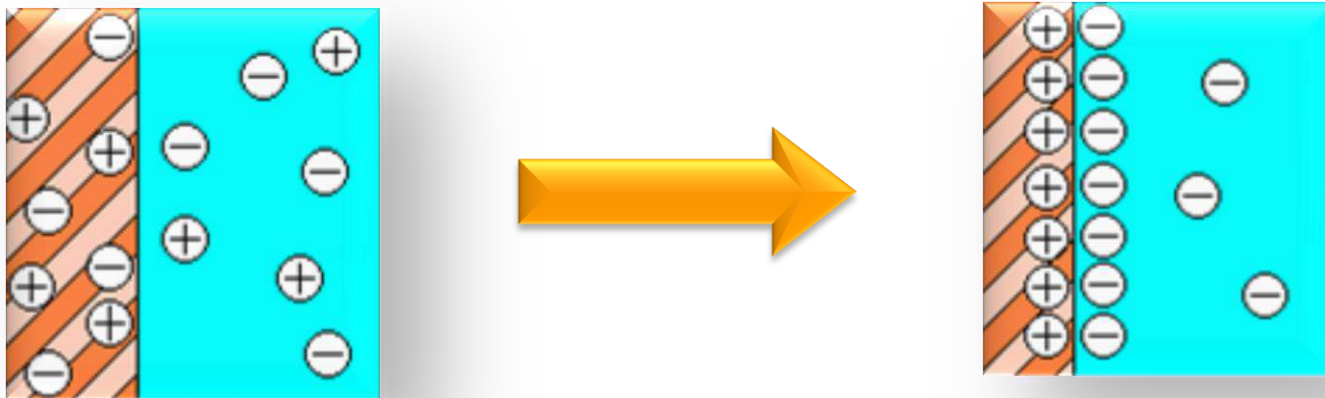
The comparison photograph which immersed the nail in S-100, tap water, and pure water for a long period of time



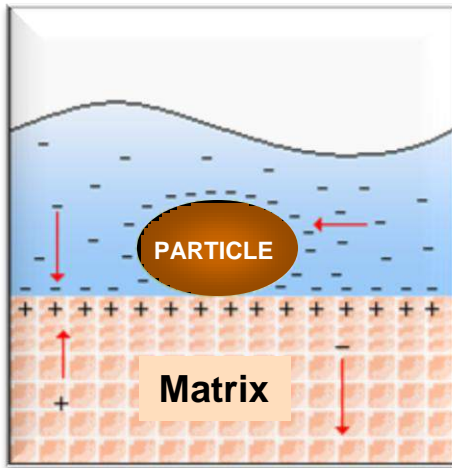
When washing by **S-100**, even if it contacts metal, since there is little metaled corrosiveness, it can use in comfort.

Strong electric-bilayer

S-100 which has a negative electric charge to the lacuna of water forms the electric-bilayer which is strong in the surface of the skin.

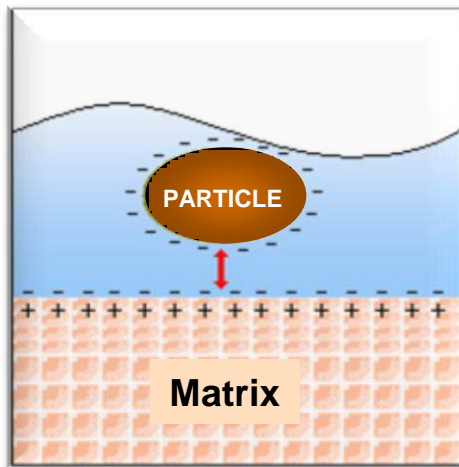


Principle of the delamination operation



1st Step

When special electrolytic-reduction water S-100 touches dirty particle and matrix, the Existing surface electric charge originally forms the electric-bilayer which is strong, being bigger and becoming.



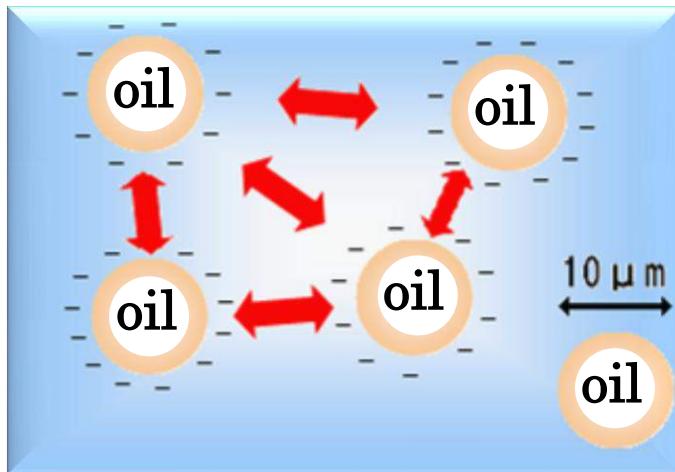
2nd Step

It separates each other by the repulsion by the dirt and the similar electric charge in the matrix surface and the delamination phenomenon which used electrostatic repulsion is invented.

Emulsification

Oil disperses by repelling each other by the fellow of the electric charge of the negative which covered a guttulate surface by being different from the emulsification by the surface-active agent and making an oil grain-diameter

small in equal to or less than $10\text{ }\mu\text{m}$ and restraining the function of the identical intermolecular force.

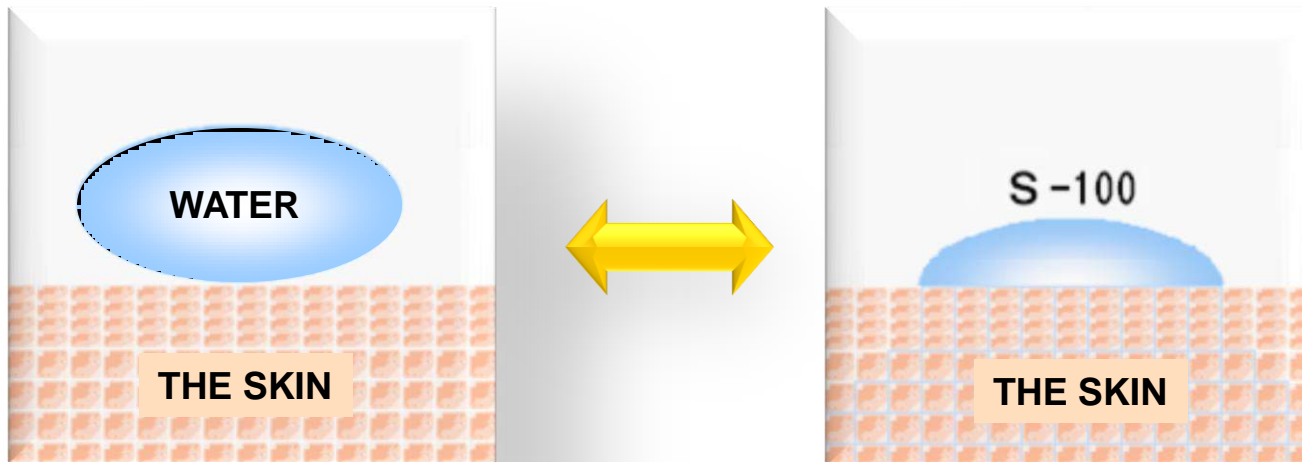


(It is possible to refine in the easiness of the OW emulsion.)

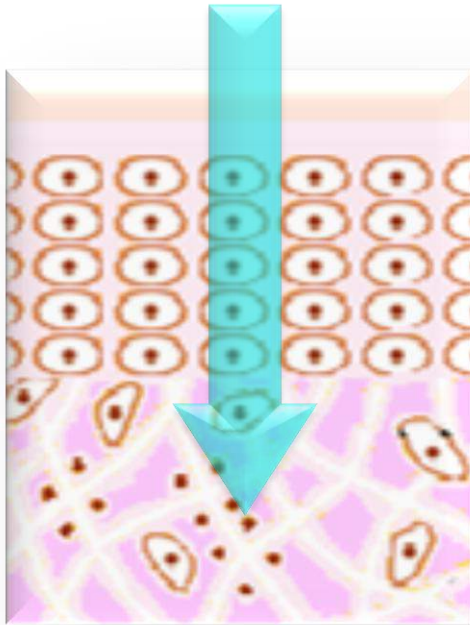
Therefore, the cosmetics not to make need of the surface-active agent can be made.

Moisture operation

The surface tension of water is 72mN/m (25°C).
Because there is only 56mN/m (25°C), the surface tension of S-100 gives the skin moisture.



Delivery operation



That electrolytic-reduction ion water S-100 penetrates inside the skin with the skin permeation testing is confirmed.
(Next page reference)

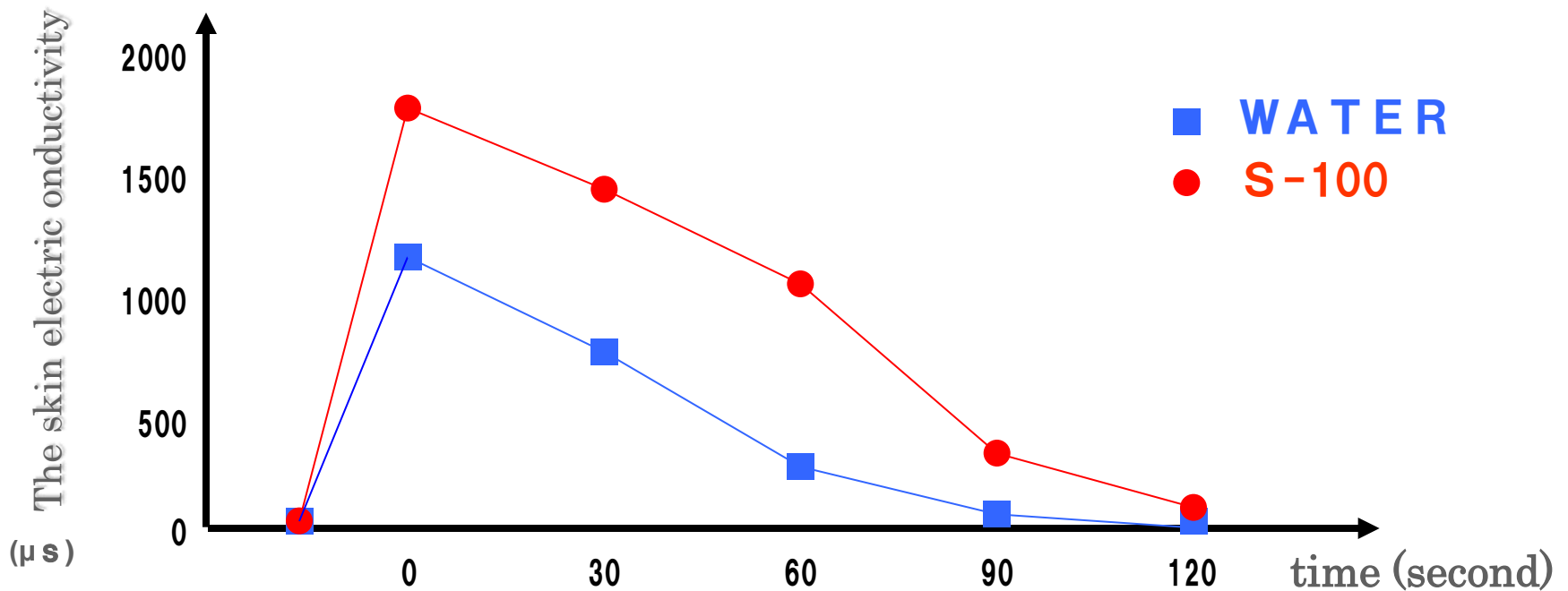
It is possible to use as the delivery system which transports the active ingredient to want to make penetrate inside the skin.

Skin moisture retention test

【Test methods】

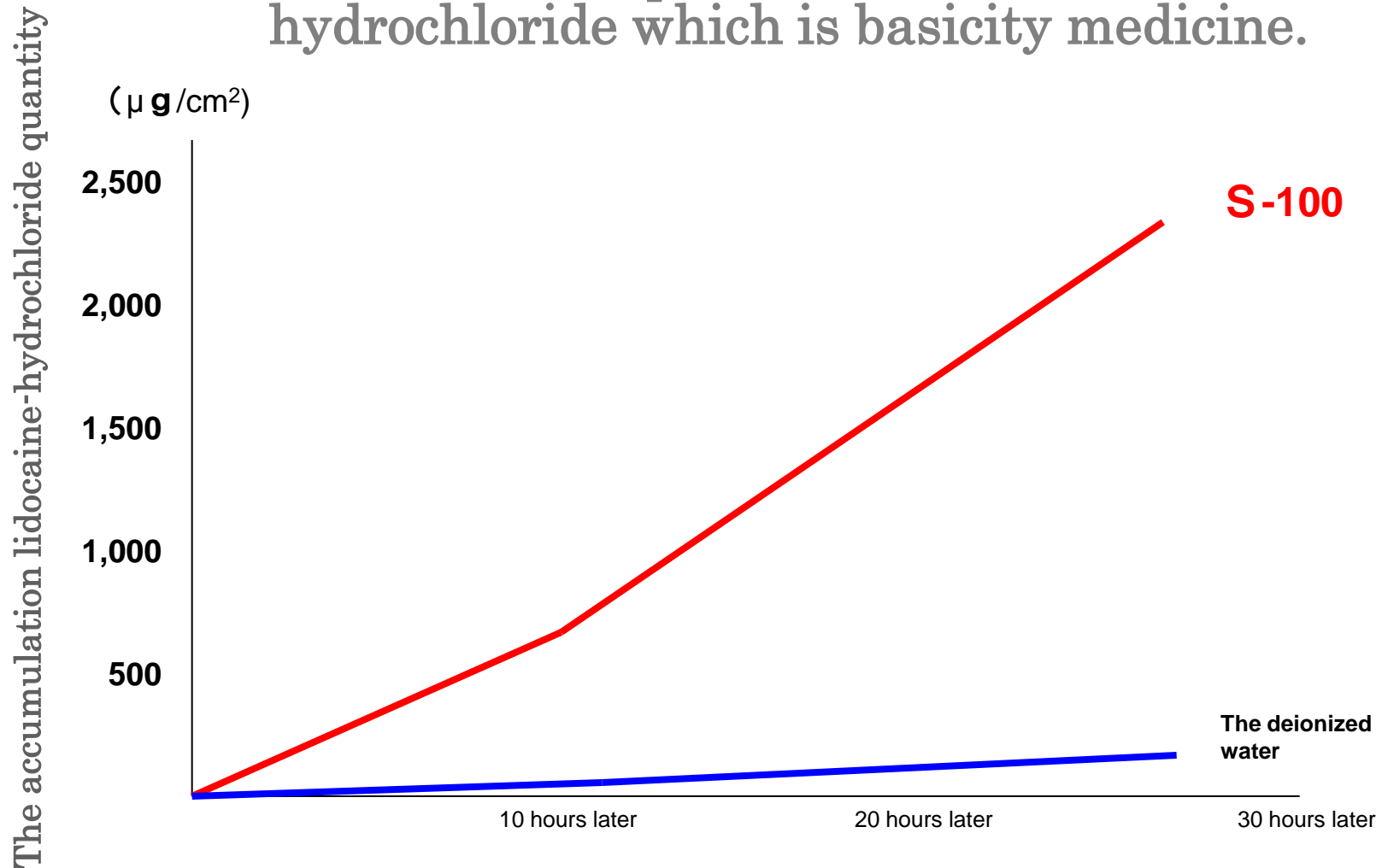
It did each test fluid for drop to the skin and it wiped up test fluid immediately after.

It makes the time 0 and it measures skin electric conductivity with the passage of time. It evaluated a skin water-absorption-power and skin keeping moisture ability.



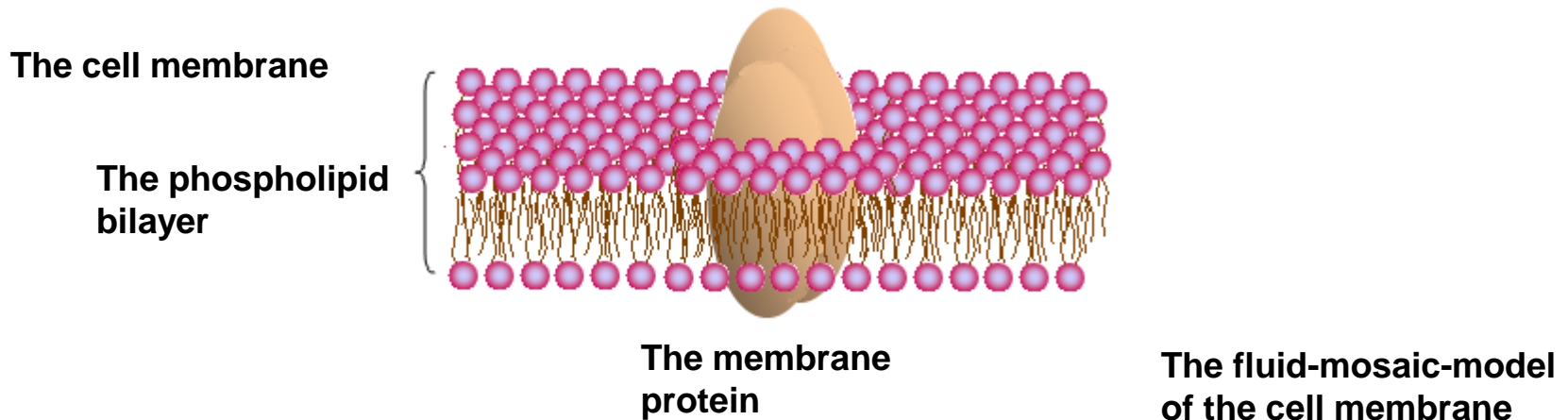
Skin permeation testing result

It measures skin penetration to the lidocaine-hydrochloride which is basicity medicine.



Safety of S-100

The surface-active agent, the endopeptidase and alcohol or the alkali ion water which was electrolyzed in NaCl ,KCl, *etc.* resolve the membrane protein which works as the ionic channel of the cell membrane and have destroyed a cell.



**S-100 is safe even if it penetrates skin
because it doesn't resolve a membrane protein.**

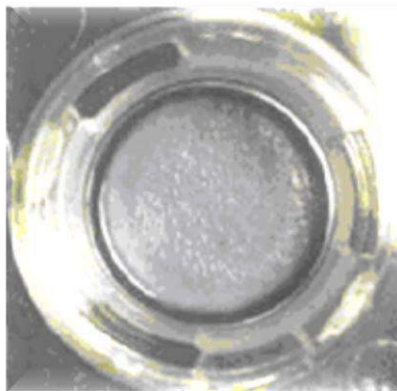
Skin hindrance nature examination

【Test Methods】

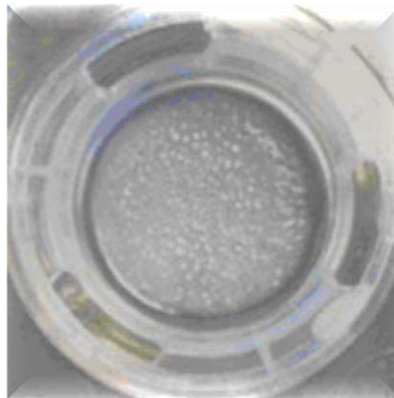
The surface structural change and MTT examination estimated using three-dimensional human cultured skin (LSE-high).

The rate of cell survival of the physiological salt solution which is control was made into 100%, and the rate of cell survival of other test solution was compared.

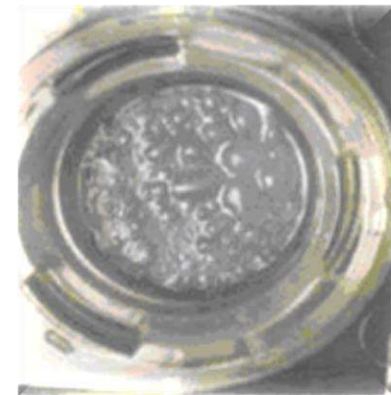
Control
100%



S-100
100%



0.1N NaOH
80%



Antiseptic's being unnecessary

S-100 is the Soft Bases alkalinity which shows
pH12.0±0.5

The alkalophilic bacteria which like alkalinity can live only in **pH10.5** and under the environment of this ion water, it is impossible for the germ to propagate.

✂ To become an acescence in the moment to have touched skin,
it doesn't stimulate skin.

**The cosmetics of antiseptic's being
unnecessary are realized.**

**The cosmetics by which the sensitive skin
can be surely used are feasibility.**

Antimicrobial-activity test of S-100

Test bacteria	The test fluid	beginning	1 minute later	2 hours later	3 hours later	4 hours later	6 hours later
E. coli	S-100	6.1×10^5	<10	*****	<10	*****	<10
	purified water	6.1×10^5	*****	*****	6.3×10^5	*****	4.4×10^5
E. coli (O157:H7)	S-100	4.3×10^5	<10	*****	<10	*****	<10
	purified water	4.3×10^5	*****	*****	4.4×10^5	*****	3.9×10^5
Salmonella	S-100	2.2×10^5	<10	*****	<10	*****	<10
	purified water	2.2×10^5	*****	*****	4.5×10^5	*****	3.7×10^5
Pseudomonas aeruginosa	S-100	3.7×10^5	<10	*****	<10	*****	<10
	purified water	3.7×10^5	*****	*****	6.2×10^5	*****	4.9×10^5
Vibrio parahemolyticus	S-100	2.8×10^5	<10	*****	<10	*****	<10
	purified water	2.8×10^5	*****	*****	1.7×10^5	*****	1.6×10^5
Legionella bacteria	S-100	7.5×10^5	<100	*****	<100	*****	<100
	purified water	7.5×10^5	*****	*****	1.2×10^5	*****	9.6×10^5
MRSA	S-100	2.1×10^5	4.1×10^5	*****	1.1×10^3	*****	20
	purified water	2.1×10^5	*****	*****	1.2×10^5	*****	1.7×10^5
Trichophyton	S-100	2.5×10^5	2.1×10^5	*****	2.7×10^4	*****	2.1×10^3
	purified water	2.5×10^5	*****	*****	1.8×10^5	*****	1.9×10^5
Herpes simplex virus 2 type	S-100	1.5×10^5	<100	<10	*****	<10	<10
	purified water	1.5×10^5	1.5×10^5	1.5×10^5	*****	1.6×10^5	1.4×10^5
Chlamydia trachomatis	S-100	1.5×10^5	<10	<10	*****	<10	<10
	purified water	7.7×10^5	7.5×10^5	7.5×10^5	*****	7.6×10^5	7.4×10^5
P.acnes	S-100	3.8×10^5	<10	<10	*****	<10	<10
	purified water	3.8×10^5	3.5×10^5	3.4×10^5	*****	3.6×10^5	2.8×10^5
<10, <100 : Undetected **** : Not measure							

Result list of S-100

(Adoption place)

(Use)

The E Inc.

The pores wash soap

The skin lotion for the pores

The essence

The V Inc.

The hair treatment

The S Inc.

The face washing soap

The K Inc.

The skin lotion

The J Inc.

The coming prevention sprayer

The I Inc.

The cleansing

The milky liquid etc.