# Antibacterial test of the paint

(JIS Z 2801)

[Super Terra]

## Test Report: Antibacterial test of the Paint

### Antibacterial ability of Super Terra

Tested by : Environmental Research Center

Test date : Nov. 9 - 16,2004

Test sample : Blank (Sterilization test package)

: Paint (Super Terra)

Tested Microorganism strains : • Eschericia coli • Staphylococcus aureus

· Pseudomonas aeruginosa · Bacillus subtillus

· Salmonera typhimurium

#### [Test Method]

Purpose: Antibacterial test of "Super Terra"

Sample treatment: The test sample was cut to the square (50 x 50 cm). After sterilized by alcohol for 10 min., the test sample was air dried at 25 degree C for 18 hours.

Pre-Culture: Test strains were pre-cultured in a standard agar (Nissui) at 37 deg. C for 24 hours.

#### [Evaluation Method]

Antibacterial Test (Film adherence test): JIS Z2801 (2000) Antimicrobial product – Test for antimicrobial activity and efficacy. (Tested three times)

Test Result: Average of the outcomes are shown on Table 1.

Table 1 - Antibacterial test result of "Super Terra"

Strains	Sample	Bacteria	Bacteria count (Averaged)	
		count (Initially added)	First occurrence	After 24 hours
Eschericia coli	Blank	$5.1 imes10^5$	$1.5 \times 10^5 \ (5.2)$	$8.1 \times 10^6 \ (6.9)$
	Super Terra (surface)			$3.6 \times 10^3 \ (3.6)$
Staphylococcus aureus	Blank	$7.3 \times 10^{5}$	$2.8 \times 10^5 \ (5.5)$	$2.7 \times 10^5 \ (5.4)$
	Super Terra (surface)			$< \times 10^{1} (1.0)$
Pseudomonas aeruginosa	Blank	$4.9 \times 10^{5}$	$2.0 \times 10^5$ (5.3)	$5.2 \times 10^6 \ (6.7)$
	Super Terra (surface)			$2.0 \times 10^2$ (2.3)
Bacillus subtillus	Blank	$7.3 \times 10^{5}$	$2.3 \times 10^5 (5.4)$	$2.6 \times 10^5 \ (5.4)$
	Super Terra (surface)			$1.2 \times 10^3 \ (3.1)$
Salmonera typhimurium	Blank	$5.7 imes10^5$	$1.8 \times 10^5 \ (5.3)$	$3.3 \times 10^5 \ (5.5)$
	Super Terra(surface)			$1.9 \times 10^2$ (2.3)

Table 2 - Antibacterial active value of "Super Terra"

		Bacteria count(Ave.)	
Strains	Samples	First	After 24
		Occurrence	hours
	Blank Average log10	5.2	6.9
Eschericia coli	Super Terra (Surface) Average log10		3.6
	Super Terra(Surface)Antibacterial Active value		3.3
Staphylococcus aureus	Blank Average log10		5.4
	Super Terra (Surface) Average log10	5.5	1.0
	Super Terra(Surface)Antibacterial Active value		4.4
	Blank Average log10		6.7
Pseudomonas aeruginosa	Super Terra (Surface) Average log10	5.3	2.3
	Super Terra(Surface)Antibacterial Active value		4.4
Bacillus subtillus	Blank Average log10	5.4	5.4
	Super Terra (Surface) Average log10		3.1
	Super Terra(Surface)Antibacterial Active value		2.3
Salmonera typhimurium	Blank Average log10	5.3	5.5
	Super Terra (Surface) Average log10		2.3
	Super Terra(Surface)Antibacterial Active value		3.2

## [Evaluation]

The sample coated with the newly developed paint "Super Terra" was able to reduce the number of bacteria for every microorganism strains tested.

The "Super Terra" paint has a sterilizing effect.