

Test Report on Laundry Mag-Chan

Miyamoto S-S Co., Ltd.

Theme of the test	Test for verifying the inhibitory effect on Staphylococcus aureus growth		Date created	2014/2/11	
Test period	January 25, 2014	Implementation bodies	Japan Food Analysis Center		Report No. 13126908

(1) Test objective

Determine whether an aqueous solution of magnesium hydroxide (weak alkaline) containing hydrogen generated with the aid of the Laundry Mag-Chan shows an inhibitory effect on Staphylococcus aureus growth.

(2) Outline of the test

2-1. Test bacterial solution preparation method

After 18 to 24 hours of incubation in a standard agar medium at 35°C ± 1°C, allow the test bacteria to float freely in 1:500 nutrient broth. Then, adjust the nutrient broth to obtain a test bacterial solution with a bacterial count of 10⁷ to 10⁸/mL.

2-2. Testing method

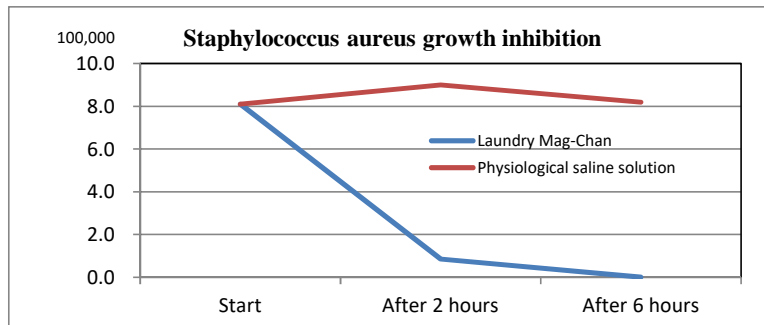
Inoculate a sample solution*1 with the test bacterial solution to obtain a test solution [with a bacterial count of 10⁵ to 10⁶/mL]. Shake the test solution horizontally during storage at 25°C (approx. 110 rpm/min). (1) After 2 and 6 hours and (2) every 10 minutes up to 30 minutes, add an aliquot of the test solution to an SCDLP agar medium to determine the viable cell count in the test solution using a medium for bacterial enumeration. Note that a physiological saline solution needs to be tested similarly as a control to determine the initial viable cell count.

*1: Add 50 g of sample to 500 mL of physiological saline solution.

(3) Measurement results

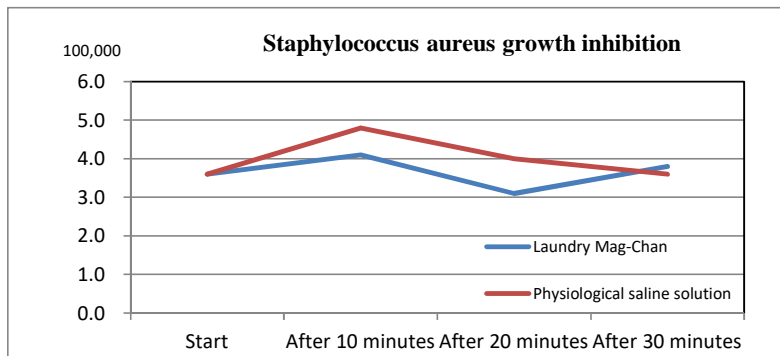
1. Changes in bacterial count after 2 and 6 hours

Test bacterium	Items to be tested	Added amount	Viable cell count (per mL)		
			Start	After 2 hours	After 6 hours
Staphylococcus aureus	Laundry Mag-Chan	10 g/100 mL	8.1X10 ⁵	8.5X10 ⁴	5.2X10 ²
	Physiological saline solution	-	8.1X10 ⁵	9.0X10 ⁵	8.2X10 ⁵



2. Changes in bacterial count after 10, 20, and 30 minutes

Test bacterium	Items to be tested	Added amount	Viable cell count (per mL)			
			Start	After 10 minutes	After 20 minutes	After 30 minutes
Staphylococcus aureus	Laundry Mag-Chan	10 g/100 mL	3.6X10 ⁵	4.1X10 ⁵	3.1X10 ⁵	3.8X10 ⁵
	Physiological saline solution	-	3.6X10 ⁵	4.8X10 ⁵	4.0X10 ⁵	3.6X10 ⁵



Comments on the test results

It was determined that the magnesium water produced with the aid of the Laundry Mag-Chan reduced approximately 90% of Staphylococcus aureus within 2 hours and achieved a near-zero detection within 6 hours. The magnesium water, however, failed to show a rapid onset of effect within 30 minutes.

Implementation supervisor



Testing body

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