



SHARON BIOMIX BLENDS



SHARON LABORATORIES

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With Over 30 years' experience, Sharon Laboratories specializes in designing and manufacturing effective preservative solutions for the global personal care market. Sharon Laboratories developed a range of broad spectrum products containing Biosecur® Lab unique organic citrus extracts, designated for the preservation of personal care products.

The well-established know-how in cosmetic preservation gained by Sharon Laboratories during 30 years of serving the personal care industry was combined with the Biosecur® technology. This cooperation yielded a new family of products that can meet the worldwide growing demands for milder and greener cosmetic formulations without compromising on the performance.

SHARON BIOMIX blends are characterized with broadspectrum efficacy, good solubility in water and commonly used solvents, good tolerance to elevated temperatures and performance in a wide pH range. The recommended use level of these products is less than 1%. These blends are ideal for Leave-on and Rinse-off products.



SHARON BIOMIX CLEAR

INCI : Phenoxyethanol, Glycerine, Citrus Reticulata Fruit Extract, Citrus Aurantium Amara Fruit Extract, Citrus Sinensis Peel Extract, Ascorbic acid, Citric acid, Lactic acid, Aqua

Phenoxyethanol is a popular preservative in leave-on and Rinse-off products, well known for its low sensitizing qualities. When combining Biosecur citrus extracts with Phenoxyethanol the blend yields broad spectrum protection to cosmetic formulations, with efficacy against bacteria, yeast and mold.

MINIMUM INHIBITION CONCENTRATION (MIC) FOR SHARON BIOMIX CLEAR

Microorganism + ATCC Number	SHARON BIOMIX CLEAR
Staphylococcus aureus 6538	156
Escherichia coli 8739	1000
Pseudomonas aeruginosa 9027	1500
Bacillus cereus 11778	156
Staphylococcus epidermidis 14990	62
Aspergillus niger 16404	1500
Candida albicans 10231	375

SHARON BIOMIX ECO

INCI : Benzyl Alcohol, Glycerine, Citrus Reticulata Fruit Extract, Citrus Aurantium Amara Fruit Extract, Citrus Sinensis Peel Extract, Tocopherol, Citric acid, Lactic acid, Ascorbic acid, Aqua

A combination of citrus extracts with Benzyl Alcohol can be a good solution for those formulators seeking for green broad spectrum preservative blends. For this special type of naturally oriented cosmetic products Sharon Biomix Eco was developed. The Citrus extracts included in this product have organic certification while Benzyl alcohol enjoys high acceptability in green cosmetic products.

MINIMUM INHIBITION CONCENTRATION (MIC) FOR SHARON BIOMIX ECO

Microorganism + ATCC Number	SHARON BIOMIX ECO
Staphylococcus aureus 6538	156
Escherichia coli 8739	312
Pseudomonas aeruginosa 9027	1250
Bacillus cereus 11778	156
Staphylococcus epidermidis 14990	78
Aspergillus niger 16404	800
Candida albicans 10231	187

SHARON BIOMIX FREE

INCI of Sharon Biomix Free I :

Phenethyl Alcohol, Glycerine, Citrus Reticulata Fruit Extract, Citrus Aurantium Amara Fruit Extract, Citrus Sinensis Peel Extract, Ascorbic acid, Citric acid, Lactic acid, Aqua

INCI of Sharon Biomix Free II :

Phenylpropanol, Glycerine, Citrus Reticulata Fruit Extract, Citrus Aurantium Amara Fruit Extract, Citrus Sinensis Peel Extract, Ascorbic acid, Citric acid, Lactic acid, Aqua

For those seeking antimicrobial protection to cosmetic products without using common preservatives, a combination of Biosecur citrus extracts with certain fragrance ingredients such as Phenethyl Alcohol or Phenylpropanol can be a good broad spectrum solution.

MINIMUM INHIBITION CONCENTRATION (MIC) FOR SHARON BIOMIX FREE

Microorganism + ATCC Number	SHARON BIOMIX FREE I (Phenethyl Alcohol)	SHARON BIOMIX FREE II (Phenylpropanol)
Staphylococcus aureus 6538	156	125
Escherichia coli 8739	1250	500
Pseudomonas aeruginosa 9027	2500	1250
Bacillus cereus 11778	312	250
Staphylococcus epidermidis 14990	156	62
Aspergillus niger 16404	2000	1000
Candida albicans 10231	625	500



SHARON BIOMIX PURE

INCI of Sharon Biomix Pure I :

Natural Benzyl Alcohol, Glycerine, Citrus Reticulata Fruit Extract, Citrus Aurantium Amara Fruit Extract, Citrus Sinensis Peel Extract, Tocopherol, Ascorbic acid, Citric acid, Lactic acid, Aqua

INCI of Sharon Biomix Pure II :

Natural Phenethyl Alcohol, Glycerine, Citrus Reticulata Fruit Extract, Citrus Aurantium Amara Fruit Extract, Citrus Sinensis Peel Extract, Ascorbic acid, Citric acid, Lactic acid, Aqua

Sharon Biomix Pure is a blend of citrus extracts in natural Benzyl Alcohol or natural Phenethyl Alcohol. These preservatives blends are designated to protect natural personal care products. The natural Benzyl Alcohol is protected from oxidation by Vitamin E of natural source.

Biosecur C160S

Biosecur C160S contains potent citrus extracts with Glycerin of natural source that provides excellent antimicrobial preservative efficacy against Gram negative and Gram positive Bacteria. This certified Organic preservative is active at low concentrations, effective over a wide range of pH and can withstand high temperatures. All this makes C160S suitable for both rinse-off and leave-on products.

Challenge tests performed by Sharon Labs with these products

Method applied

The method applied is based on the USP 30 guidelines for antimicrobial effectiveness testing. The microorganisms used for the test are listed in the table below. Five samples of the product are inoculated with 1 microorganism each. A four week follow up is performed.

Criteria used for results interpretation

The criteria applied are USP 30 criteria for Category 1 Products :

At least 1 log reduction in the bacterial counts by the 7th day.

At least 3 logs reduction in the bacterial counts by the 14th day.

No increase in bacterial counts during the 14 – 28 days period.

No increase in the yeast and mold counts at 7, 14, and 28 days (compared to the initial count)

Sample tested :
Face cream. pH 6.7

Preservation :
0.8% SHARON BIOMIX CLEAR

	E. coli ATCC 8739	S. aureus ATCC 6538	P. aeruginosa ATCC 9027	C. albicans ATCC 10231	A. niger ATCC 16404
Inoculum	5.9*10 ⁵	5.1*10 ⁵	6.6*10 ⁵	2.8*10 ⁵	1.9*10 ⁵
7 days	20	<10	<10	<10	1.7* 10 ³
14 days	<10	<10	<10	<10	1* 10 ³
21 days	<10	<10	<10	<10	<10
28 days	<10	<10	<10	<10	<10

Sample tested :
Face cream. pH 6.7

Preservation :
0.8% SHARON BIOMIX ECO

	E. coli ATCC 8739	S. aureus ATCC 6538	P. aeruginosa ATCC 9027	C. albicans ATCC 10231	A. niger ATCC 16404
Inoculum	9.5*10 ⁵	4.9*10 ⁵	5.6*10 ⁵	1.6*10 ⁵	2*10 ⁵
7 days	2.1*10 ³	<10	<10	1.9*10 ³	2* 10 ²
14 days	<10	<10	<10	<10	<10
21 days	<10	<10	<10	<10	<10
28 days	<10	<10	<10	<10	<10



Sample tested :
Face cream. pH 6.7

Preservation :
0.8% SHARON BIOMIX FREE I

	E. coli ATCC 8739	S. aureus ATCC 6538	P. aeruginosa ATCC 9027	C. albicans ATCC 10231	A. niger ATCC 16404
Inoculum	8.0*10 ⁵	1.0*10 ⁶	5.5*10 ⁵	2.5*10 ⁵	2.9*10 ⁵
7 days	1.5* 10 ³	<10	<10	2.0*10 ²	1.5* 10 ⁴
14 days	<10	<10	<10	<10	<10
21 days	<10	<10	<10	<10	<10
28 days	<10	<10	<10	<10	<10

Sample tested :
Face cream. pH 6.9

Preservation :
0.8% SHARON BIOMIX FREE II

	E. coli ATCC 8739	S. aureus ATCC 6538	P. aeruginosa ATCC 9027	C. albicans ATCC 10231	A. niger ATCC 16404
Inoculum	2.7*10 ⁵	7.8*10 ⁵	7.6*10 ⁵	1.6*10 ⁵	2.0*10 ⁵
7 days	<10	<10	<10	<10	<10
14 days	<10	<10	<10	<10	<10
21 days	<10	<10	<10	<10	<10
28 days	<10	<10	<10	<10	<10

Furocoumarins analysis

The natural extract blend was analyzed and no presence of Furocoumarins was detected by HPLC analysis. Based on the detection limit we can safely conclude that all SHARON BIOMIX products have a Furocoumarins level of under 1 ppm.

Phototoxicity

The phototoxicity potential of Biosecur C 160S was tested in Vitro according to OECD guidelines 432. The test results indicate that the product is **not phototoxic**.

Primary skin irritation tests

The primary skin irritation potential of the natural extract blend was evaluated using human volunteers.

Solutions, containing 2000 ppm, 5000 ppm, and 10000 ppm extract in saline were applied under occlusive conditions for 48 hours on the back skin of the volunteers.

An examination of the skin was performed by a dermatologist 15 minutes and 24 hours after product removal.

The average irritation scores are given hereafter :

Extract concentration	Irritation score 15 minutes after removal	Irritation score 24 hours after removal
2 000 ppm	0.05	0.05
5 000 ppm	0.2	0.15
10 000 ppm	0.3	0.2

As all irritation scores were lower than 0.5, the three solutions can be considered when applying the Draize criteria as **non irritant**.

Further information regarding the test procedure is available upon request.

DETERMINATION OF SENSITIZING PROPERTIES

The sensitizing properties were evaluated using Draize repeated insult patch test in 50 human volunteers.

The tested solution did not induce in the 10th application (challenge phase) a contact dermal irritation and/or sensitization in any of the tested subjects.