



SALIBACT[®]



SALICYLATES AND CHEMICALS

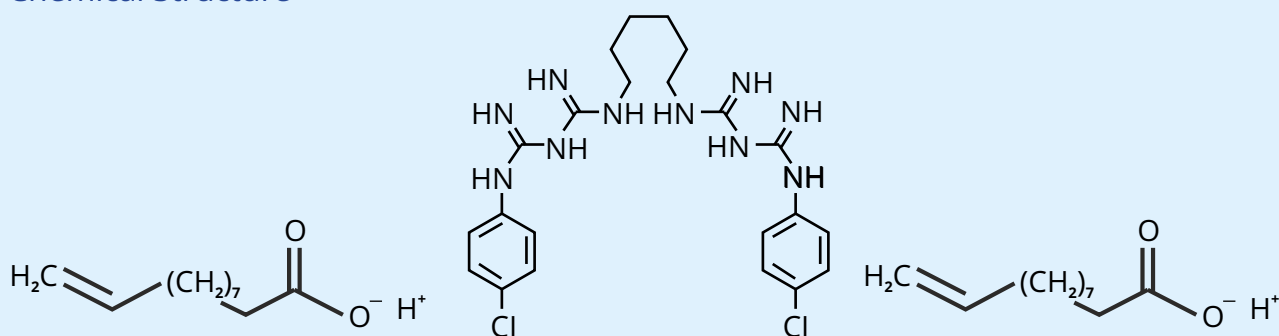
PRIVATE LIMITED

SALIBACT®

Established in 1978, Salicylates and Chemicals is one of the largest manufacturers of preservatives and UV filters for personal care and pharmaceutical applications. The company has been constantly adding newer products to their portfolio keeping in line with market trends and formulations. In recent times there has been a lot of concern regarding the safety and environmental implications of certain antimicrobials. Many antimicrobials have issues with regards to skin irritation, allergy susceptibility, dioxin contamination and destruction of fragile aquatic ecosystems.

Keeping this in mind, Salicylates has launched its latest ingredient – SALIBACT®, a broad spectrum biodegradable antimicrobial active.

Chemical Structure



Characteristics

Product Name	SALIBACT®
INCI Name	Chlorhexidine Di-Undecylenate
CAS Number	1884575-91-0®
Molecular Formula	C ₄₄ H ₇₀ Cl ₂ N ₁₀ O ₄
Molecular Weight	873 g/mol
Physical Appearance	White powder
Solubility	Freely soluble in alcohols and solvents

Product description

- Salibact® is an oil soluble antibacterial and antifungal active ingredient
- Effective against gram positive and gram negative bacteria, fungi, yeast and molds
- Biodegradable
- Compatible with most of the other personal care ingredients
- Effective on pH range 3.5 to 10
- Salibact® can be applied around 0.05% to 0.15% in the finished formulation

Applications

- Soaps and Detergents
- Household Disinfectants
- Oral Care: Toothpastes and Mouth Rinse
- Hair Care: Shampoos and Conditioners
- Skin Care: Creams, Lotions, Hand Washes, Deodorants and Sanitizers
- Pharmaceutical Disinfectant for Instruments
- Industrial: Paint and Coating Industry as an antifungal and antifouling agent; plastics and fibers in Textile Industry

Time Kill Test vs. Triclosan

Test Product	Test Organism	Exposure Time	Anti-Microbial Activity % Reduction
0.3% Triclosan	Escherichia Coli	30 secs	99.97
		60 secs	>99.99
		2 mins	>99.99
	Staph. Aureus	30 secs	>99.99
		60 secs	>99.99
		2 mins	>99.99
0.1% Salibact®	Escherichia Coli	30 secs	>99.99
		60 secs	>99.99
		2 mins	>99.99
	Staph. Aureus	30 secs	>99.99
		60 secs	>99.99
		2 mins	>99.99

Conclusion

By above test result shows 0.1% SALIBACT® is more effectively working against microorganisms

Minimum Inhibitory Concentration (MIC Test)

Test Organism	Concentration of Powder*/MIC in percentage					MIC Summary
	0.005	0.01	0.05	0.1	0.2	
Staph. Aureus	NG	NG	NG	NG	NG	<0.0001
Escherichia Coli	NG	NG	NG	NG	NG	0.001
Ps. Aeruginosa	NG	NG	NG	NG	NG	0.001
Salmonella Typhi	NG	NG	NG	NG	NG	0.0005
Aspergillus Niger	G	G	G	NG	NG	0.1
Candida Albicans	G	G	NG	NG	NG	0.05

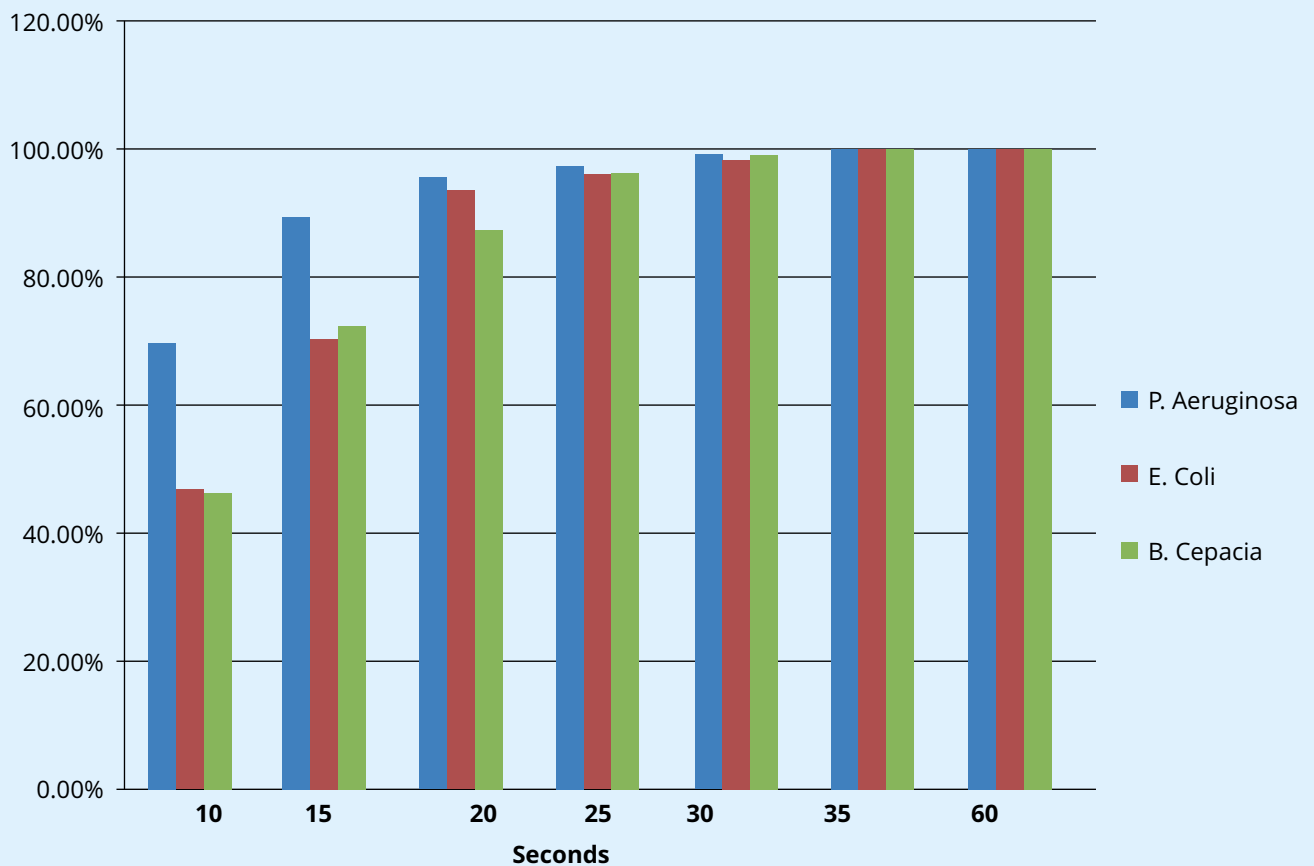
Acute and Genetic Toxicology Studies

- Acute Dermal Toxicology Studies – LD 50 greater than 2000mg/kg body weight
- Acute Oral Toxicity – LD50 greater than 2000 mg/kg body weight
- Salibact did not induce Gene Mutation
- Eye Irritation studies – Salibact was found to be a mild irritant.
- Acute Dermal Irritation studies – Salibact is a non-irritant

Comparison with Other Anti-Microbials

Test Organism	SALIBACT®	Nanosilver	Triclosan	Triclocarban
Effective against gram (+) bacteria	✓	✓	✓	✓
Effective against gram (-) bacteria	✓	✓	✓	—
Antifungal Properties	✓	✓	✓	—
Fast acting (Time to complete kill)	✓	—	✓	✓
Biocompatibility (inert towards mammalian cells)	✓	—	—	—
Multi-faceted mode of kill	✓	—	—	—
Very low probability of bacterial resistance	✓	—	—	—
Minimal environmental concerns	✓	—	—	—
Controllable release (tunable solubility)	✓	—	—	—
Cost Effective	✓	—	✓	✓

Challenge Test Result on Soap Bar using Salibact @ 0.1%



Product Specifications

Test	Specifications
Appearance	White to off-white powder
Solubility	Very slightly soluble in water (0.001%), Freely soluble in alcoholic solvents and glycols.
Identification	A. By NMR: Should Conform B. By MASS: Should Conform C. BY IR: Should Conform D. BY UV: Should Conform
Loss on Drying @ 105°C	Not more than 1.0%
4-Chloroaniline	Not more than 150ppm
Organic Impurities	
1. Chlorhexidine oxazinone analog	0.2%
2. Specified unidentified impurity 1	0.2%
3. Chlorhexidine amine	0.3%
4. Chlorhexidine guanidine	1.0%
5. Chlorhexidine urea	0.2%

Compatibility List

- Coco betaine & Lauryl betaine
- Cocamidopropyl betaine
- Cetrimonium chloride
- Lauryl Glucoside / Decyl Glucoside / Coco Glucoside
- Caprylyl / Capryl Glucoside
- Alkyl Polyglucoside
- PEG – 32 / PEG 75 / PEG 90
- Poloxamer 407 and Poloxamer 184
- Isethionates
- Sarcosinates

Why use SALIBACT®

- Broad spectrum activity
- Near zero probability of bacterial resistance
- Biocompatibility
- Low environmental concern
- Biodegradable



 **SALICYLATES AND CHEMICALS**
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