

ACNIBIO[®] AC

PRODUCT DATA SHEET

ACNIBIO[®] AC is a powerful biodegradable preservative and fungicide. It has a wide range of activity and is active against all types of spoilage organisms responsible for the degradation of aqueous media and emulsions.

Its active ingredients are two high grade Isothiazolones, in synergistic proportions to exhibit optimum efficacy and stability. All the ingredients used are suitable for cosmetic applications.

TECHNICAL DATA

Appearance:	Colourless to pale yellow liquid
Specific weight:	1.10 g/ml – 1.15 g/ml
pH (When produced):	2.0 – 4.0
Solubility:	Soluble in water, alcohols, glycols and polar solvents
Toxicity:	LD ₅₀ : >4,500 mg/Kg (oral in rat)

CHEMICAL COMPOSITION

CHEMICAL NAME	EMPIRICAL FORMULA	M. W.	% WT.
5-Chloro-2-methyl-4-isothiazolin-3-one	C ₄ H ₄ ClNOS	149.62	≥ 1.15 %
2-Methyl-4-isothiazolin-3-one	C ₄ H ₅ NOS	115.15	≥ 0.35%
TOTAL ISOTHIAZOLONE CONTENTS			≥ 1.50 %
Magnesium salts			≥ 23 %

APPLICATION

ACNIBIO[®] AC is suitable for all cosmetics and toiletries (conditioners, gels, shampoos, surfactants, cleansers...). **ACNIBIO[®] AC** is supplied as an aqueous solution for ease of incorporation into cosmetic formulations. It has good compatibility with surfactants and emulsifiers, irrespective of their ionic nature.

In hot processes it is advisable to add the preservative during the cooling stage at a temperature no greater than 60°C, and preferably below 40°C.

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The maximum use level of **ACNIBIO[®] AC** is 0.1 % by weight of product as supplied (15 ppm of active ingredients) in rinse-off products and 0.05 % (7.5 ppm of active ingredients) in leave-on products.

In case of incorporating this preservative into a new formulation, we advise to make tests at different dosages inside this range, in order to find the most adequate concentration for each formulation.

Safe Handling

Appropriate personal protective equipment should be used when handling **ACNIBIO[®] AC** as it is corrosive and a potential sensitizer as supplied. Refer to the material safety data sheet for additional safety and handling information.

MICROBIOLOGICAL ACTIVITY OF **ACNIBIO[®] AC**

MICRO-ORGANISM	ATCC	MIC*
Gram Negative Bacteria:		
<i>Achromobacter parvulus</i>	4335	4.5
<i>Alcaligenes faecalis</i>	8750	2
<i>Enterobacter aerogenes</i>	3906	5
<i>Escherichia coli</i>	11229	4.5
<i>Klebsiella pneumoniae</i>	13883	5
<i>Proteus vulgaris</i>	8427	4.5
<i>Pseudomonas cepacia</i>	25416	4.5
<i>Pseudomonas fluorescens</i>	13525	3
<i>Pseudomonas oleoverans</i>	8062	4.5
<i>Salmonella typhimurium</i>	6539	5
Gram Positive Bacteria		
<i>Bacillus Cereus mycoides</i>	11778	2.5
<i>Bacillus subtilis</i>	6633	2.5
<i>Brevibacterium ammoniagenes</i>	6871	2.5
<i>Sarcina lutea</i>	9341	4.5
<i>Staphylococcus aureus</i>	6538	2
<i>Staphylococcus epidermidis</i>	155	4.5

MICRO-ORGANISM	ATCC	MIC*
FUNGI		
<i>Aspergillus niger</i>	9642	9
<i>Aspergillus oryzae</i>	10196	4.5
<i>Mucor rouxii</i>	24905	4.5
<i>Penicillium funciculosum</i>	9644	4.5
<i>Pullularia aureobasidium pull.</i>	9348	4.5
<i>Rhizopus stolonifer</i>	10404	4.5
YEASTS		
<i>Candida albicans</i>	11651	4.5
<i>Rhototorula rubra</i>	9449	2.5
<i>Saccharomyces cerevisiae</i>	2601	2.5

*MIC in ppm of active ingredient CIT/MIT

INCI Name: Methylchloroisothiazolinone (and) methylisothiazolinone