



Specification

Chlorhexidine Diacetate 1-hydrate *BioChemica*

A3785

Physical Description:	Solid
Product Code:	A3785
Product Name:	Chlorhexidine Diacetate 1-hydrate <i>BioChemica</i>
Specifications:	Assay (titr., calc. on dried subst.): min. 98 % Loss on drying (105°C): max. 3.5 %
Hazard pictograms	 
UN:	3077
Class/PG:	9/III
ADR:	9/III
IMDG:	9/III
IATA:	9/III
WGK:	1
Storage:	RT protected from light
Signal Word:	Attention
GHS Symbols:	GHS07 GHS09
H Phrases:	H302 H410
P Phrases:	P273 P280

AppliChem GmbH

Ottoweg 4 • D-64291 Darmstadt • Phone +49 6151 9357 0 • Fax +49 6151 9357 11 • info.de@itwreagents.com • www.itwreagents.com
CEO Joan Roget • Commerzbank Darmstadt • Bank 508 800 50 • Account 0186989900 IBAN DE24 5088 0050 0186 9899 00 • Swiftcode DRESDEFF508 • Finanzamt Darmstadt 07 228 16476 • Register court Darmstadt HRB Nr. 7340

Specification

Chlorhexidine Diacetate 1-hydrate *BioChemica*

A3785

	P305+P351+P338 P308+P313
Molecular Formula:	$C_{26}H_{38}Cl_2N_{10}O_4 \cdot H_2O$
M:	643.56 g/mol
CAS:	56-95-1
EINECS:	200-302-4
CS:	29252900
Comment	<p>Chlorhexidine diacetate shows mycobactericidal, fungicidal and bactericidal activity. This antimicrobial activity is the result of the interaction of the compound with negatively-charged groups of cell wall components. It leads to a leakage of intracellular material due to disintegration of the cytoplasmic membrane. For killing yeasts, higher concentrations (100 - 1000 µg/ml) are required than that to inhibit growth of bacteria (10 - 100 µg/ml). At similar concentrations, rabbit erythrocytes are destroyed. The hemolytic activity of Chlorhexidine diacetate was reduced by the presence of polyethylene glycols of various molecular weights and by dimethylsulfoxide (5). Chlorhexidine diacetate is soluble in water (20°C) at 1.9 g/100 ml. In aqueous solutions it decomposes at temperatures above 70°C. It is soluble in alcohol, glycerol, polyethylene glycols and propylene glycol. The working concentration depends on the target organism.</p>
Bibliography	<p>(1)Walters, T.H. <i>et al.</i> (1983) <i>Microbios</i> 38, 195-204Antifungal action of chlorhexidine.(2)Hiom, S.J. <i>et al.</i> (1992) <i>J. Appl. Bacteriol.</i> 72, 335-340Effects of chlorhexidine diacetate on <i>Candida albicans</i>, <i>C. glabrata</i> and <i>Saccharomyces cerevisiae</i>.(3)Fraud, S. <i>et al.</i> (2003) <i>J. Antimicrob. Chemother.</i> 51, 575-584Effects of <i>ortho</i>-phthalaldehyde, glutaraldehyde and chlorhexidine diacetate on <i>Mycobacterium chelonae</i> and <i>Mycobacterium abscessus</i> strains with modified permeability.(4)Thomas, L. <i>et al.</i> (2005) <i>J. Appl. Microbiol.</i> 98, 533-543Antimicrobial activity of chlorhexidine diacetate and benzalkonium chloride against <i>Pseudomonas aeruginosa</i> and its response to biocide residues.(5)Ansel, H.C. (1967) <i>J. Pharm. Sci.</i> 56, 616-619Hemolysis of erythrocytes by antibacterial preservatives IV. Hemolytic activity of chlorhexidine diacetate.</p>

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