



Glydant® 2000

Advanced Bactericidal Product Protection



INCI Name: DMDM Hydantoin

Key Product Attributes:

- Low Free Formaldehyde (0.09% max.)
- Excellent bactericide, mild fungicide
- Water-White Clarity
- Maximum Cost-Effective Preservation
- No Crystallization Problems
- Color Stability in Formulations
- Comprehensive Toxicology Package
- Has a wide range of global regulatory approval

Recommended Use Level

0.1 – 0.6%

Description

Glydant® 2000 is a cosmetic and personal care preservative based on Lonza technology. This advanced technology provides the lowest free formaldehyde available to the industry and results in greater safety and reduced regulatory issues. In comparison to other conventional DMDMH products, Glydant® 2000 releases less formaldehyde at equal use concentrations.

Compositional Breakdown

Chemical Compound Breakdown	%
DMDM Hydantoin (equilibrium mixture)	~70%
Water	~30%

This composition is standardised to 55% active 1,3-Bis(hydroxymethyl)-5,5-dimethyl-imidazolidine-2,4-dione [DMDMH]

Applications

- Baby care
- Baby wipes
- Body wash
- Conditioner
- Cream
- Deo/ Anti-Perspirant
- Eye creams/gels
- Eye shadow
- Face Lotion
- Face wipes
- Facial Cream
- Foundation
- Hair gel
- Hand soap
- Lotion
- Make up remover
- Mascara
- Oil in Water
- Powder
- Shampoo
- Suncare
- Toner
- Water in Oil

Efficacy

Microbiological Challenge Studies

Studies were run using various concentrations of Glydant® 2000 in various formulations to see efficacy on a mixed inoculum of bacteria and mixed fungi. All samples were inoculated at the beginning of the study, sampled at 24 hours, 3, 7, 14, 21 and 28 days.

Challenge Test Data in a Protein Shampoo

Ingredient	% wt/wt
Sodium-Lauryl ethersulfate	35.0
Triethanol-Laurylsulfate	25.0
Cocodiethanolamide	3.0
Water, DI	36.0
Anhydrous protein	1.0
Preservative	q.s.
Total	100

Efficacy in the cream formulation			Organism count (cfu/ml) / Contact time (days)				
Test Organisms			0	7	14	21	28
Mix Bacteria	Glydant® 2000	0.05%	1.5 x 10 ⁶	< 10	< 10	< 10	< 10
	Glydant® 2000	0.1%	1.5 x 10 ⁶	< 10	< 10	< 10	< 10
	Glydant® 2000	0.2%	1.5 x 10 ⁶	< 10	< 10	< 10	< 10
Mix Fungi	Glydant® 2000	0.1%	6.6 x 10 ⁵	1.6 x 10 ³	1.6 x 10 ³	1.0 x 10 ³	3.6 x 10 ²
	Glydant® 2000	0.2%	6.6 x 10 ⁵	< 10	< 10	< 10	< 10
	Glydant® 2000	0.4%	6.6 x 10 ⁵	< 10	< 10	< 10	< 10

Formulation Recommendations

- Wide pH range: 3–10
- Compatible with anionic, cationic and nonionic systems
- Add during cool down phase of process, where possible
- Short bursts of temperature are also acceptable, up to 80°C, in closed system

Global Regulatory

Europe

- Listed in Annex V to Regulation EC/1223/2009
- Finished products containing DMDMH must be labeled with the warning “contains formaldehyde” if the (free) formaldehyde concentration exceeds 0.05%
- Maximum concentration 0.6% DMDMH

Japan

- Listed in the positive list
- The following warning must be labeled: “should not be used by infants or by people who are hypersensitive to formaldehyde.”
- Can be used at a level up to 0.3% DMDMH for rinse-off only

United States

- Approved by CTFA for both rinse-off and leave-on applications; can be used at a level up to 0.6% DMDMH

General

- Not allowed for oral hygiene and lip products or in preparations for children under the age of 3 except in rinse-off applications

Typical Properties	
Appearance	Low viscosity, clear liquid
Color (APHA)	10 Max
Odor	Low, Characteristic

USA

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