MICROCARE® DMP

preservative formulated for

personal care applications

General Description

Microcare® DMP is a synergistic liquid blend of actives formulated to provide a preservative system for the broad spectrum control of moulds, yeasts and bacteria in all types of personal care preparations.

Chemical Identification

Active ingredients:	1-[1,3-bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea Methyl 4-hydroxybenzoate Propyl 4-hydroxybenzoate
INCI name:	Propylene Glycol, Diazolidinyl Urea, Methylparaben, Propylparaben

Typical Chemical and Physical Characteristics

Appearance:	Liquid
Miscibility:	At 1,65% not miscible in water and ethanol but miscible in glycols and oils.
Stability:	Degradation of diazolidinyl urea can occur at elevated temperatures (70-80°C) over prolonged periods (4 hours). This is accelerated at pH above 9.

Note: *These figures do not constitute a specification*

Preservative Properties

Diazolidinyl urea is very active against Gram-negative and Gram-positive bacteria, particularly the pseudomonads, and also has improved efficacy towards some moulds and yeasts. In combination with methylparaben and propylparaben, **Microcare® DMP** provides a preservative system with enhanced broad spectrum activity which can be used to control particular pseudomonads in sensitive leave on applications.

Typical MICs for Diazolidinyl urea

TEST ORGANISM	MIC (PPM)
Escherichia coli	1200
Pseudomonas aeruginosa	1200
Staphylococcus aureus	1200
Candida albicans	8000
Aspergillus niger	3200

Typical MICs for methyl and propyl parabens

TEST ORGANISM	MIC (PPM)	
	MP	PP
Aspergillus niger	1000	200
Candida albicans	1000	125
Escherichia coli	1500	400
Pseudomonas aeruginosa	2000	600
Staphylococcus aureus	1000	400

At addition levels of between 0,2% and 0,6%, **Microcare® DMP** will give complete protection against those bacteria, yeasts and moulds which may affect the final product over the pH range 4 - 9.

Recommended Use Levels

Microcare® DMP is recommended for use up to 1,0%.

Microcare® DMP may be added at any stage in the manufacturing process including the cooling after complete formulation. The preservative should be incorporated slowly while stirring well and preferably before any fragrance addition.

Microcare® DMP is the ideal preservative system for aqueous based leave on applications, such as creams and lotions, but it is equally efficacious for shampoos, liquid soaps and hair conditioners where mildness is an important feature of the formulation. Since there is considerable variation in the composition of cosmetics and toiletries, manufacturers should confirm the level required to ensure protection and prevent any potential incompatibility.

Application Areas

Microcare® DMP is recommended as a preservative for applications such as:

- Shampoos
- Hair conditioners
- Creams
- Lotions
- Suntan lotions

Regulatory Status

Microcare® DMP is allowed in Europe up to 1,6% except for leave on products for the nappy area of children. It was found safe by CIR in USA up to 1,6% but is not allowed in Japan.

Toxicology

Microcare® DMP is considered to be non-toxic and safe for use in personal care applications in normal and reasonably foreseeable conditions of use at recommended levels.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Technical Support

Thor personal care laboratories are fully equipped to provide complete support in formulation, microbiology and analytical testing for all product applications.

Further Information

For further information please contact your local Thor personal care representative.

MICROCARE®

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