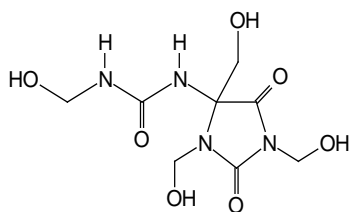


BULLETIN VC-846

Germall™ II*Preservative for the Cosmetics Industry***Product Description**

Germall II preservative is the most active member of the Imidazolidinyl Urea family of preservatives. It contains the active ingredient diazolidinyl urea. It has excellent activity against Gram-positive and Gram-negative bacteria, particularly *Pseudomonas* species, as well as being active against many yeast and molds. Germall II preservative is the preservative of choice against many troublesome “house” organisms.

Germall II preservative is effective over a wide pH range (3- 9), is compatible with most cosmetic ingredients, imparts no odor and it is synergistic with other preservatives. Germall II does not contain parabens or organic halogens.

Formula**Suggested Applications**

Care Products

Germall II preservative is well suited for care-cosmetics like creams, emulsions, sun-care products, mascara, rouge and powders (pressed or loose).

Rinse-off Cosmetics

Germall II preservative is applicable for use in a variety of rinse off personal care preparations such as shampoos, conditioners, etc.

Dosage and Processing

Germall II preservative is active at low concentrations, typically 0.1 – 0.3%. The maximum dosage allowed by the EC cosmetics-law is 0.5%.

For easier addition, Germall II can be pre-dissolved in water to form a 50% solution. When working with emulsions, add the Germall II to the batch during the cool down phase, at temperatures not higher than 60°C. This will avoid any potential degradation that may occur due to heat exposure. When working with cold mixed formulations, Germall II preservative can be added any time during manufacturing. When formulating powder products, it is recommended that Germall II be added by way of serial dilution in the extender of choice.

Product Properties**Microbiological Profile**

Dosed up to 0.3 % it provides microbiostatic activity against most bacteria, yeast and fungi. Usually it is used in combination with other actives to broaden and optimize the antimicrobial profile. Representative Minimum Inhibitory

Concentration (MIC) is shown in the table below. MIC values were determined by serial dilution in TSB as the lowest active ingredient concentration that inhibited visible growth after an overnight incubation.

Organism	ATCC	MIC (ppm)
<i>Pseudomonas aeruginosa</i>	9027	300
<i>Escherichia coli</i>	8739	300
<i>Burkholderia cepacia</i>	25416	150
<i>Staphylococcus aureus</i>	6538	300
<i>Enterobacter gergoviae</i>	33028	300
<i>Pseudomonas Fluorescens</i>	13525	300
<i>Aspergillus niger</i>	16404	2500
<i>Candida albicans</i>	10231	>10000

For the determination of the optimum dosage we recommend a preservation test, as the efficacy of this preservative is highly influenced by the product matrix. The staff of Ashland's microbiological laboratories will be pleased to give customers the appropriate support.

Technical Data

Appearance:	fine, free flowing white hygroscopic powder
Odour:	characteristic, mild
pH-Value (1% aqueous):	6.0 – 7.5
Solubility (g/100 g solvent):	water 230g;

Labelling

For information regarding labelling of products and the Risk and Safety phrases or Hazard and Precautionary Statements of Germall II preservative please seek specific advice from Ashland or refer to the separate Safety Data Sheet (SDS).

INCI-Nomenclature

78491-02-8

Diazolidinyl Urea

Regulatory requirements governing the use, registration, and approval of preservatives around the world are continually changing and evolving.

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Ashland Inc.
Ashland Specialty Ingredients
North America
Latin America
Europe
Asia Pacific

Middle East and Africa

50 East RiverCenter Blvd.
8145 Blazer Drive
Bridgewater, NJ USA
São Paulo, Brazil
Barcelona, Spain
Singapore
Shanghai, P.R. China
Turkey

Covington, KY 41012 USA
Wilmington, DE 19808 USA
Tel: +1 800 505 8984
Tel: +55 11 3649 0454
Tel: +34-93-298-0700
Tel: +65 6775 5366
Tel: +86 21 6090 6606
Tel: +90 216 538 08 00

Tel: +1 859 815 3333
Tel: +1 877 546 2782
Fax: +55 11 3649 0450
Fax: +34-93-298-0705
Fax: +65 6775 5433
Fax: +86 21 6090 6699
Fax: +90 216 538 08 80

personalcare@ashland.com
ashland.com

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