

DEHYDROACETIC ACID & BENZYL ALCOHOL

nt naturallythinking
PURE SPA AROMATHERAPY



DEHYDROACETIC ACID & BENZYL ALCOHOL

BROAD SPECTRUM PRESERVATION SYSTEM FOR PERSONAL CARE. THE PRESERVATION SYSTEM IS PRIMARILY BASED UPON DEHYDROACETIC ACID (DHA) AND BENZYL ALCHOL.

**Broad Spectrum Preservation
Use between pH 2 - 7
Easy Formulation**

Extraction

Benzyl alcohol and Dehydroacetic are naturally occurring chemicals that meets the standards defined by ECOCERT and COSMOS.

Components

Dehydroacetic acid (7.7 - 8.3%)
Benzyl alcohol (85 - 89%)
Water (Aqua) (4%)

Skincare Use

An internationally recognised Broad Spectrum preservation system that is accepted by regulatory authorities and cosmetic formulation companies worldwide. Relatively colourless and with low odour, Benzyl alcohol and Dehydroacetic acid offers an easy way to formulate.

Applications

Dehydroacetic acid and Benzyl alcohol is suitable for the following skincare applications:

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

Baby Products

Dehydroacetic acid and Benzyl alcohol can be used in Baby Products with no change in formulation levels.

Microbiological effectiveness

Dehydroacetic acid and Benzyl alcohol is effective against bacteria, yeasts and mould fungi. For optimum effectiveness, a contact time of 48 hours is necessary. The preservative works by a series of chemical reactions with the microorganisms, if used in heavily contaminated products, some loss of active effectiveness of the preservative will occur.

Good production hygiene as well as the use of ingredients with low microorganism levels will help produce products that meet the desired testing standard.

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Usage Instructions

General

Prolonged heating should be avoided with this preservative (in excess of 4 hours) and it is desirable to add the preservative to the cool down stage of manufacture. The optimum time to add this preservative is when the temperature is below 40c.

pH Stability

This product is stable up until pH 7. The efficacy is reduced with higher pH levels and the preservative is ineffective at pH levels greater than 7.

Emulsions

Emulsions can be preserved with 0.4 - 1.1% Dehydroacetic acid and Benzyl alcohol

Solutions

For Shampoo, Shower Gel and Bath Foam as well as hand cleaning products, good preservation results are achieved between 0.4% and 1.1% Dehydroacetic acid and Benzyl alcohol.

Wet Wipes

Wet Wipes can be preserved with between 0.4 - 1.1% Dehydroacetic acid and Benzyl alcohol

Aerosols

Prohibited under EU Cosmetic Regulations.

Solubility

Dehydroacetic acid and Benzyl alcohol is not fully soluble in water, therefore should only be used in solutions and emulsions.

Compatibility

Dehydroacetic acid and Benzyl alcohol is fully effective in anionic, cationic and non-ionic systems as well as showing good compatibility with most major surfactants. The preservative presents no interaction problems with sulphite ions, however in the presence of iron ions can show some yellow discoloration.

Although testing of a 1% solution in Stainless Steel, Aluminium, Polyethylene, Polystyrene, Polyoxymethylene, Polyvinyl chloride, Polyethylterphthalate (PET) has shown these to be suitable materials for packaging, compatibility should always be evaluated with final packaging.

Storage

We recommend storing in the original container at room temperature. Keep out of the reach of children.

Purchase & Technical Documentation

All naturallythinking Products are available to purchase online at www.naturallythinking.com. Visit our website for latest pricing and to download Technical Documentation, Safety Data Sheets and Certificates of Analysis.

Dehydroacetic acid & Benzyl alcohol can be found by following this link:
<http://www.naturallythinking.com/dehydroacetic-acid-benzyl-alcohol-gfecosafe-preservative-eco-equivalent.html>

Formulation Example

Example Non Ionic Cream Formula (ph 6.5)

75% Naturallythinking Aqua
8% Myristyl propionate
6% Naturallythinking Glyceryl stearate
5% Naturallythinking Glycerin
4% PEG-20 Glyceryl stearate
1.5% Naturallythinking Cetearyl alcohol
<1% Naturallythinking Sodium hydroxide

The above formula was tested with 1% Dehydroacetic acid and Benzyl alcohol by streaking out onto tryptone soya agar after 3, 6, 24, 48, 72 and 168 hours. The cultures are incubated for 48 hours at 37c except for *Aspergillus brasiliensis* which is incubated for 72 hours at 25 - 27c.

Organism / Hours	3	6	24	48	72	168
1	-	-	-	-	-	-
2	C	++++	-	-	-	-
3	++++	+++	-	-	-	-
4	C	C	++++	++++	++	-
5	C	C	+++	+++	++	-

1) *Pseudomonas aeruginosa* 2) *Escherichia coli* 3) *Staphylococcus aureus* 4) *Candida albicans* 5) *Aspergillus brasiliensis*

Key

- no growth
+ slight growth
++ moderate growth
+++ heavy growth
++++ massive growth
C surface covered



Shop, Warehouse & Production

Naturallythinking
Unit 5, The Tramsheds
Coomber Way
Croydon
CR0 4TQ

Natural Plant Center

38 Telegraph Track
Wallington
Surrey
SM6 0SH

Lavender Fields

Oak Tree Farm
Croydon Lane
Banstead
Surrey
SM7 3BE

www.naturallythinking.com

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