

BLACKCURRANT POWDERED EXTRACT, WATER SOLUBLE PRESERVATIVE

Suitable for beauty and personal care applications.

INCI: Ribes Nigrum (Blackcurrant) Fruit Extract

Extraction: Aqueous Extract, Filtered and Spray Dried

Shelf Life: 1 Year

Origin: USA

Background:

Blackcurrants are originally native to the United Kingdom and regions of Europe and Asia. The berries grow on shrubs that reach a height up to 6' tall. Blackcurrants are traditionally used as a natural flavoring and as a key ingredient in jams, deserts, syrups and liqueurs.

Blackcurrants are beginning to gain widespread attention as they are rich in phytochemicals that naturally inhibit microbial growth.

As the media continues to focus its attention on the risks of parabens, formaldehyde releasers, and other synthesized preservatives, product formulators and manufacturers are facing the growing challenge of procuring natural alternatives that provide suitable broad-spectrum protection.

Praan Naturals is pleased to offer manufacturers and formulators a range of premium quality natural preservatives, including Blackcurrant Powdered Extract.

Blackcurrant Powdered Extract helps to resist microbial contamination and control microbial growth while simultaneously offering nutritive skin conditioning benefits.

Properties:

- Product Form: Powdered Extract
- Solubility: Water
- Color: Pale Pink with Deep Pink Specks
- Odor: Very Faint, Characteristic Aroma
- Texture: Free Flowing, Fine Powder
- pH (1% Solution in Water): 3.0-6.0
- Skin Conditioning
- Antimicrobial (Antibacterial and Antifungal)
- Microorganisms Tested:
 - E. coli
 - C. albicans
 - P. aeruginosa
 - A. brasiliensis
 - S. aureus



Uses:

Blackcurrant Powdered Extract is well suited for use as a natural antimicrobial in the production of skin care, hair care and cosmetic formulations. Blackcurrant Powdered Extract also helps to condition the skin. It can be utilized in formulations intended for sensitive skin.

Blackcurrant Powdered Extract is water-soluble and can be added to water based formulations or during the water phase of emulsions. It is stable and efficacious at temperatures up to 167 degrees F (75 degrees C) and within a pH range of 3-8.

Recommended Usage Rate: 1 - 3%

All formulations should be challenge tested by a qualified laboratory to ensure that each batch is properly preserved. The method of production, the specific components of the formulation, the environment in which the batch is formulated and the method of packaging all play a crucial role in the resulting shelf life of a batch. Therefore, we cannot guarantee your results when incorporating natural preservatives into your formulations. Only lab challenge testing can determine how and if a preservative is achieving the desired results.

Storage Information:

Storage Information: Store in a cool, dry location. The ideal storage temperature range is 73-78 degrees Fahrenheit (23-25 degrees Celsius). Do not freeze.

For more information regarding Praan Naturals Blackcurrant Powdered Extract and our range of preservatives and other natural ingredients, visit PRAANnaturals.com or call our Customer Care department at (800) 340-0080 or (203) 702-2500.





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Test Results

Minimum Inhibitory Concentrations (MIC), using a standard growth media dilution method and both bacterial and fungal cultures, were determined to evaluate the ability of Blackcurrant Powdered Extract to protect against microbial proliferation. The results, shown below, indicate that Blackcurrant Powdered Extract can provide effective protection for cosmetic formulations.

	<i>E. coli</i>	<i>P. aeruginosa</i>	<i>S. aureus</i>	<i>A. brasiliensis</i>	<i>C. albicans</i>
MIC%	1.00	0.50	1.00	2.00	1.00

Table 1: MIC data for Blackcurrant Powdered Extract.

A Double Challenge Test using 2% Blackcurrant Powdered Extract was also conducted to evaluate the ability of the product to provide antimicrobial protection in cosmetic finished products. A basic O/W emulsion was used as the base. The samples were inoculated with *E. coli*, *P. aeruginosa*, *S. aureus*, *A. brasiliensis* and *C. albicans* and incubated for 28 days. During this period, samples were periodically collected and tested for the presence of viable microorganisms. Following the initial 28 days of incubation, the samples were re-inoculated with the microbial cultures for another period of 28 days. The results are shown below.

	<i>E. coli</i>	<i>P. aeruginosa</i>	<i>S. aureus</i>	<i>A. brasiliensis</i>	<i>C. albicans</i>
Inoculum (Initial)	1.0x10 ⁶	1.4x10 ⁶	3.6x10 ⁶	4.0x10 ⁵	2.0x10 ⁷
Day 0	99.980%	99.971%	99.932%	99.400%	99.615%
Day 7	>99.999%	>99.999%	>99.999%	99.760%	99.856%
Day 14	>99.999%	>99.999%	>99.999%	99.775%	99.896%
Day 21	>99.999%	>99.999%	>99.999%	99.782%	99.904%
Day 28	>99.999%	>99.999%	>99.999%	99.782%	99.909%
Inoculum (Reinoculated)	1.1x10 ⁶	4.9x10 ⁵	2.6x10 ⁵	2.0x10 ⁴	1.0x10 ⁵
Day 7	99.961%	99.992%	99.990%	96.500%	91.500%
Day 14	99.982%	>99.999%	99.946%	97.400%	92.000%
Day 21	>99.999%	>99.999%	>99.999%	99.350%	99.991%
Day 28	>99.999%	>99.999%	>99.999%	99.955%	99.991%

Table 2: Challenge Test results for 2% Blackcurrant Powdered Extract in a cream base inoculated on day 0 and re-inoculated on day 28. Results show % reduction in viable organisms.

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