## PHYTOCIDE ELDERBERRY OS

接骨木果植物殺菌劑(油溶性)

**INCI NAME:** Sambucus Nigra Fruit Extract

接骨木黑果實萃取物

建議用量: 0.5-2.0%

建議用途: 抗微生物 抗發炎 抗氧化 去頭皮屑 無防腐劑產品

有數種接骨木均會結生接骨木果實.大多數的研究公佈資料均提及黑果接骨木(S 其他具有相似化學成分的接骨木樹種尚包括:美洲黑接骨木或通用黑骨木 羚羊 矮林 藍接骨木 矮接骨木 紅果實接骨木 以及有骨消 . 美洲接骨木與歐洲接骨 木常在文獻中被同時討論;此因他們許多用途相同,同時亦含有共同的一些成分



歐洲接骨木可長至30 呎高,雖源生於歐洲但已移植於美洲。傳統上其花、葉一直用於減輕疼痛、消腫、消炎、利尿以及用作發汗劑或怯痰劑,其葉片亦一直用於坐浴老化的樹皮一直被用作一種利尿劑、緩瀉藥及催吐藥。果實在傳統上一直被用作食物的調味料和用作調製接骨木水果酒和水果派。

接骨木的花和果實最常用作藥用;因其富含具有各種作用的類黃酮物質及花青素包括抗氧化及免疫活性特

質。接骨木萃取物業經證實在治療一般感冒和流感上是有效的。樹及葉片、種子及未成熟的果實含有可能具有毒性的生氰黑骨接木苷。

接骨木種子富含十一烯酸(undecylenic acid),其可提供具抗霉強效的微生物抑制作用,接骨木果實亦富含單寧酸,其同樣可能有助於抗微生物的效果。證據顯示,存於接骨木果實中的一些活性成分,可能對肌膚亦具抗炎效果,這些植物性的化學物質可予以分離出後,用作化妝品和個人保養品中的抗微生物劑。尋找傳統防腐劑替代品的渴望,並非一種新概念;爲因應此一需求,本公司的微系統部門已研發出接骨木殺菌劑(PhytoCide Elderberry OS),該萃取物富含能抑制微生物生長的植物性化學成分。本公司微系統部門執行了一項對抗革蘭氏陽性與陰性細菌、酵母菌和黴菌的免疫抗原紀量測試,俾進一步闡明油溶性接骨木植物殺菌劑的抗微生物效果.

## 最小抑菌濃度測試資料詳如下表,各項測試結果均顯示本接骨木植物殺菌劑於濃 1.0%到5.0%之間時,均能抑制受測微生物的生長.

A modified Minimum Inhibitory Concentration (MIC) test was performed to evaluate the antifungal benefits of **PhytoCide Elderberry OS**. The results demonstrate that concentrations between 1% and 5% are capable of inhibiting the growth of the test organisms.

Organism	Time	1.0%	5.0%	+ Control	- Control
C. albicans	24 Hours	G	G	G	NG
	48 Hours	NG	NG	G	NG
	5 Days	NG	NG	G	NG
	7 Days	NG	NG	G	NG
A. niger	24 Hours	G	G	G	NG
	48 Hours	G	G	G	NG
	5 Days	G	NG	G	NG
	7 Days	NG	NG	G	NG

Figure 1. Minimal Inhibitory Concentrations, G=Growth, NG=No Growth

A Double Challenge test against Gram(+) and Gram(-) bacteria, as well as yeast and mold was completed to further elucidate the broad antimicrobial efficacy of **PhytoCide Elderberry OS**.

	E. coli	P. aeruginosa	S. aureus	C. albicans	A. niger
Inoculum level (initial)	7.5 X 10 <sup>5</sup>	2.7 X 10 <sup>5</sup>	7.2 X 10 <sup>5</sup>	2.4 X 10 <sup>5</sup>	2.1 X 10 <sup>5</sup>
Day 1	>99.999%	99.997%	>99.999%	99.996%	99.996%
Day 7	>99.999%	99.997%	>99.999%	99.996%	99.996%
Day 14	>99.999%	99.997%	>99.999%	99.996%	99.996%
Day 21	>99.999%	99.997%	>99.999%	99.996%	99.996%
Day 28	>99.999%	99.997%	>99.999%	99.996%	99.996%
Inoculum (re-inoculated)	8.3 X 10 <sup>5</sup>	5.2 X 10 <sup>5</sup>	6.8 X 10 <sup>5</sup>	2.3 X 10 <sup>5</sup>	2.4 X 10 <sup>5</sup>
Day 7	>99.999%	99.998%	>99.999%	99.996%	99.996%
Day 14	>99.999%	99.998%	>99.999%	99.996%	99.996%
Day 21	>99.999%	99.998%	>99.999%	99.996%	99.996%
Day 28	>99.999%	99.998%	>99.999%	99.996%	99.996%

Figure 2. Percent reduction in viable microorganism concentration.

本產品近日已以1.0至5.0%用量配製成試用品. 我們建議應於低於75℃溫度下添加 1.0~5.0%之間的接骨木殺菌劑, 同時PH酸鹼值應保持在3-9之間.



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