



# Bilberry

Botanical Extract



## Bilberry Fruit Dry Extract EP

Between 32.4% and 39.6% anthocyanins



## Bilberry Fruit Dry Extract USP

NLT 36% anthocyanins



## Uses

**Anthocyanins** are the main flavonoids in Bilberry and they have proven to be potent antioxidant compounds that improves the body's defences against oxidative stress

Bilberry extract preparations are used in the prevention and as adjuvants in the treatment of **vascular and blood disorders**, such as varicose veins and increased capillary permeability

Bilberry has been widely used as a remedy for poor vision and "night blindness"

It improves **visual acuity** in healthy individuals and may be useful to people suffering from eye diseases, such as cataracts, macular degeneration, retinitis pigmentosa, glaucoma and myopia

It is indicated as an adjuvant in the preventive treatment of diabetic retinopathy

## Key

**EP** European Pharmacopeia monograph

**USP** U.S. Pharmacopeia monograph

**DMF** Drug Master File available

 Pharmaceutical (API)

 Food supplement Ingredient

## Linnea Extracts

### The philosophy of Excellence

- Native only to the wilds of northern and eastern **European countries**
- The fruit is **harvested and checked carefully** before shipping
- Obtained exclusively from the fruits of **shrubs**, that are recognized to have the most effective active substance composition
- The **harvest is monitored** by Linnea staff

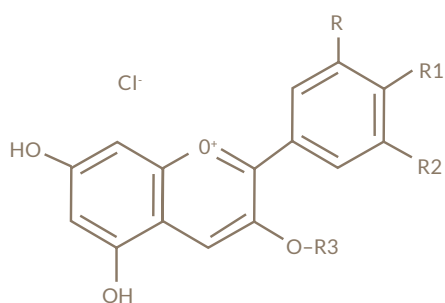
Linnea staff works on-site to check the quality of this delicate fruit is maintained, by monitoring every step involved in harvesting, cleaning, refrigeration, storage, and transportation



Vaccinium Myrtillus fruits

## Technical Description

Name of the plant	Vaccinium myrtillus L.
Part of the plant used	Berries
Description	Fresh Bilberry Fruit Dry Extract, refined and standardized
CAS number	84082-34-8
Appearance	Dark-violet, amorphous and hygroscopic powder
Solubility	Insoluble in acetone and chloroform, partially soluble in water
Storage	Preserve in tight container, protected from light, heat and humidity



Cyanidin 3-O-glucose	R2=H, R=R1=OH
Delphinidin 3-O-glucose	R=R1=R2=OH
Malvidin 3-O-glucose	R1=OH, R=R2=OMe
Peonidin 3-O glycoside	R=OMe, R1=OH; R2=H
Petunidin 3-O-glycoside	R=R1=OH; R2=OMe
R3= arabinose or glucose or galactose	

## Analytical Description

	Bilberry Fruit Dry extract EP*	Bilberry Fruit Dry Extract USP
Identification of Anthocyanins	Complies – TLC Complies – HPLC	Complies – TLC Complies – HPLC
Content of Anthocyanins: HPLC (on dry basis, expressed as Cyanidin 3-O-glucoside chloride)	Between 32.4% and 39.6%	NLT 36.0%
Content of Anthocyanidins	NMT 1.0 %	NMT 1.0%
Water Content	NMT +4.5% (LoD)	NMT +4.5% (KF)
Ash	NMT 2.0% (Total Ash)	NMT 3.0% (Sulphated Ash)

\* Complies with the Eur. Ph. monograph: "Fresh Bilberry Fruit Dry Extract Refined and Standardised", current edition

## Discover Linnea's full range of Botanical Products:

 Butylscopolamine

 5-HTP

 Cannabis-Hemp

 Vinpocetine

 HMRLignan™

 Ginkgo biloba

 Vincamine

 Bilberry

 Red Clover

## Linnea's Certificates



High level of compliance with GMPs in product manufacturing

GMP compliance certified by



GMO free



Allergen, Gluten, Lactose, Melamine Free



Vegan certified



Kosher certified



Halal certified

No materials containing engineered nanomaterial are used in the manufacturing process and the product is not irradiated. The raw material, intermediates and auxiliary compounds are free from pesticides, dioxin and aflatoxins.

Manufactured by



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