

**Product Specifications**  
Standardized Bilberry Powder, 25%  
(*Vaccinium myrtillus*)

**Product Code:** 70100100  
**Date:** September 2018

**Product Specification**

**Product Description:** Pure bilberry (*Vaccinium myrtillus*) extract; spray-dried and standardized to a minimum anthocyanin content of 25%

**Product Properties**

Color	Dark red-violet
Appearance	Powder; hygroscopic
Taste	Characteristic of bilberry; astringent
Odor	Characteristic of bilberry
Mesh size	≥ 97% through 80 mesh
Excipient	None
Extract ratio	90-100:1
Identity	HPLC anthocyanin profile unique to bilberry
Plant part used	Berries

**Analytical Values**

**Spec.**

Anthocyanins ( <i>Expr. as cyanidin-3-glucoside; HPLC</i> )	≥ 25.0	g/100 g
Moisture	≤ 4.5	%

**Heavy Metals**

**Spec.**

Cadmium	≤ 0.2	ppm
Lead	≤ 0.5	ppm
Arsenic	≤ 1.0	ppm
Mercury	≤ 0.1	ppm

**Microbiological Values**

**Spec.**

Yeasts and molds	≤ 100	CFU/g
Total plate count	≤ 10,000	CFU/g
<i>E. coli</i>	Negative	CFU/g
<i>Salmonella</i>	Negative	CFU/25 g

**Country of Origin:** China (finished product); Sweden/Finland/Poland/Ukraine (raw materials)

**Packaging:** Packed in 5 – 20 kg poly bags in box

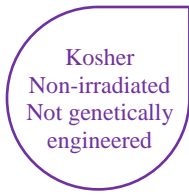
**Storage:** The product must be stored in a dark, cool, and dry area. Keep the package well-sealed since the product is hygroscopic. Color may change at the end of shelf life.

**Best Used By:** 36 months after production date under proper storage conditions

*Melanie Bush*

Quality Control

The information contained herein is, to the best of our knowledge, correct. The data outlined and the statements made are intended only as a source of information. No warranties, expressed or implied, are made. On the basis of this information, it is suggested that you evaluate the product on a laboratory scale prior to use in a finished product.



## **Product Specifications**

Standardized Bilberry Powder, 25%  
(*Vaccinium myrtillus*)

**Product Code:** 70100100

**Date:** September 2018

## **Composition Statement**

We hereby certify that, for the above named product, the composition is as follows:

**Genus and species:** *Vaccinium myrtillus*  
**Plant part used:** Berries (whole fruit)  
**Ingredients:** 100% Bilberry extract  
**Country of origin:** China (manufacturing), Sweden/Finland/Poland/Ukraine (berries)  
**Harmonized code:** 1302.19  
**Final form:** Powder

## **GMO Statement**

The above named product is not genetically engineered.

## **Gluten-Free Statement**

The above named product is entirely of fruit/vegetable origin. It is not produced from and does not contain any gluten or gluten byproducts; therefore, it is considered gluten-free.

## **Vegan Statement**

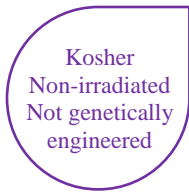
The above named product is entirely of fruit/vegetable origin and is not produced from any animal products or byproducts; therefore it is considered vegan-friendly.

## **BSE/TSE Statement**

The above named product is risk free for BSE/TSE because it is not processed with any meat products or by-products. Furthermore, no meat products or by-products are manufactured or processed on the premises.

## **Irradiation and Sterilization Statement**

The above named product has not been irradiated during the manufacturing process, nor has any chemical sterilization method been used. We also confirm that it has not been exposed to ethylene oxide (EtO) and is considered an EtO-free product. The product has been flash-pasteurized.



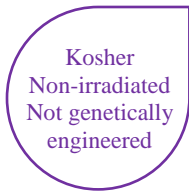
**Product Specifications**  
 Standardized Bilberry Powder, 25%  
 (*Vaccinium myrtillus*)

**Product Code:** 70100100  
**Date:** September 2018

**Nutritional Profile**

	Mean values per 100 g	
Energy	111	kJ
Water	4.62	g
Carbohydrates	3.00	g
Total sugar	3.00	g
Total fat	0.0	g
Lipids	0.32	g
Dietary fiber	0.0	g
Insoluble dietary fiber	0.0	g
Soluble dietary fiber	0.0	g
Vitamin A	0.1	µg
Vitamin C	0.1	mg
Cholesterol	0.0	mg
Calcium	8.17	mg
Iron	5.89	mg
Potassium	73.5	mg
Ash	0.55	g
Protein	3.50	g
Sodium	24.3	mg

As with any organic material, there may be some variation in the nutritional composition. The following values are being supplied to you to aid in your development work, but should not be used solely to determine your nutrient labeling. You may need to analyze for those nutrients as they occur in your final product as required by the Code of Federal Regulations Title 21; section 101.9.



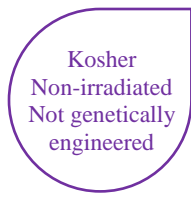
**Product Specifications**  
 Standardized Bilberry Powder, 25%  
 (*Vaccinium myrtillus*)

**Product Code:** 70100100  
**Date:** September 2018

**Allergen Statement**

Description of Allergen	Present in the Product	Source	Present in Other Products Mfg. on the Same Line	Present in the Same Mfg. Plant
Artificial colors/preservatives	No		No	No
Autolyzed yeast	No		No	No
Celery	No		No	No
Cereal proteins (include HVP)	No		No	No
Corn or corn products	No		No	No
Cottonseed flour	No		No	No
Egg or egg products	No		No	No
Fish or fish products	No		No	No
Gluten	No		No	No
Milk or milk-derived products	No		No	No
Mustard or mustard products	No		No	No
Peanuts or peanut products	No		No	No
Seeds or seed products	No		No	No
Sesame or sesame products	No		No	No
Shellfish, crustaceans	No		No	No
Soybeans or soybean products	No		No	No
Sulfites	No		No	No
Tree nuts (almond, brazil nut, cashew, chestnut, hazelnut, pine nuts, pistachio, pecan, macadamia, walnut)	No		No	No
Wheat or wheat products	No		No	No
Yeast or yeast products	No		No	No

Effective procedures are in place to avoid cross-contamination of the product with the allergens not present in the product but noted in columns III and IV.



# Product Specifications

## Standardized Bilberry Powder, 25% (*Vaccinium myrtillus*)

**Product Code:** 70100100  
**Date:** September 2018

## Safety Data Sheet

### Section I Product and Company Identification

Product:	Standardized Bilberry Powder, 25%	Product code:	24198000
Supplier:	Artemis International, Inc. 3711 Vanguard Dr. – Suite A Fort Wayne, IN 46809-3301 USA	Phone:	260-436-6899
		Fax:	260-478-6900

### Section II Composition/Ingredients

Ingredients:	Bilberry extract (100%)
--------------	-------------------------

### Section III Hazard Identification

The material is not defined as hazardous under the definition of hazardous material defined in the Occupational Safety and Health Administration (OSHA) Hazardous Communication Rule, given in 29 CFR §1910.1200.	
Physical hazards:	Not classified as a physical hazard
Health hazards:	Not classified as a health hazard
Environmental hazards:	Not classified as an environmental hazard
Specific hazards:	Dusts may irritate the respiratory tract, skin, and eyes.
Main symptoms:	Upper respiratory tract irritation, coughing, irritation of eyes and mucous membranes

### Section IV First Aid Measures

Eye contact:	Dusting of powder may cause eye irritation. Flush eyes with water for 15 minutes. Get medical attention if symptoms develop and persist.
Skin contact:	Product is not irritating to skin; however, flush with water or soap and water for 15 minutes or until all traces have been removed. Seek medical attention if symptoms develop and persist.
Inhalation:	Product may cause irritation of the nose and throat. If inhaled, remove personnel to fresh air and, if needed, seek medical attention.
Ingestion:	Product is not known to result in significant adverse health effects. If swallowed, rinse mouth and throat with water. Drink water.

### Section V Fire Fighting Measures

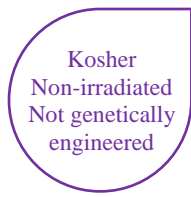
Flammability:	Product is not combustible.
Extinguishing media:	Product is not flammable. Use water, carbon dioxide, dry powder extinguisher, or other media appropriate for materials actually involved in fire.
Special fire fighting procedures:	Follow the general fire precautions indicated in the workplace.
Unusual fire and explosion hazards:	None

### Section VI Accidental Release Measures

Leak and spill procedures:	Prevent further spill of material, and contain material already spilled. Sweep up spilled material for disposal. Flush spill area with water spray. CAUTION! Material on wet floor may be slippery.
Personal precautions:	Avoid inhalation of dust and contact with skin and eyes. Wear appropriate protective equipment and clothing during clean-up.
Methods for cleaning up:	Avoid dust formation. Remove small spills with vacuum cleaner.
Environmental precautions:	Prevent further leakage or spillage.

### Section VII Handling and Storage

Handling procedures:	No special equipment required. Avoid inhalation of dust. Use only with adequate ventilation.
Hygiene practices:	Follow food GMPs. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling.
Storage:	Store in a cool, dry location. Keep container closed. Normal room ventilation satisfactory.



**Product Specifications**  
 Standardized Bilberry Powder, 25%  
 (*Vaccinium myrtillus*)

**Product Code:** 70100100  
**Date:** September 2018

**Section VIII Exposure Controls and Personal Protection**

Engineering controls:	Eyewash fountains and safety showers should be easily accessible.
Respiratory protection:	Provide adequate ventilation. Respirator not normally required. In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter.
Protective gloves:	Avoid skin contact. Wear gloves for extended or repeat skin contact with powder.
Eye protection:	Avoid eye contact. Wear safety glasses while handling powder.
Clothing:	Standard work clothing; wash regularly.

**Section IX Physical and Chemical Characteristics**

Appearance:	Dark violet red powder	Boiling point:	N/A
Odor:	Characteristic of bilberry	Freezing point:	N/A
Physical state:	Solid	Melting point:	Not known
pH:	Not known	Vapor pressure:	Not known
Solubility in water:	Soluble	Vapor density:	Not known
Density:	Not known		

**Section X Stability and Reactivity**

Chemical stability:	Stable, no decomposition
Conditions to avoid:	None known
Materials to avoid:	None known
Hazardous decomposition or byproducts:	None known
Hazardous polymerization:	Does not occur

**Section XI Toxicological Information**

No known toxic effects from acute or chronic exposure

**Section XII Ecological Information**

No known environmental impact. Product is biodegradable.

**Section XIII Disposal Information**

Waste disposal method: Incinerate or landfill in accordance with local, state, or federal regulations.

**Section XIV Transportation Information**

Shipping information: Non-hazardous

**Section XV Regulatory Information**

None of the ingredients in this product are hazardous materials listed by OSHA.

**Section XVI Other Information**

HMIS®: Health: 1 Flammability: 1 Reactivity: 0

All information appearing herein is based upon data obtained from the raw material manufacturer and/or recognized technical sources. While the information above is believed to be true and accurate, the author makes no representations as to its accuracy or sufficiency. Conditions of use are beyond the producer's control, and therefore the users are responsible to verify this data under their own particular conditions, applications, and regulations to determine whether the product is suitable for their particular purposes, and they assume all risks of their use, handling, disposal, reliance upon, publication, or use of the information contained herein. This information applies only to the product designated above and does not necessarily apply to its use in combination with other materials, products, chemical compounds, structures, or processes.

*Melanie Bush*

Quality Control

The information contained herein is, to the best of our knowledge, correct. The data outlined and the statements made are intended only as a source of information. No warranties, expressed or implied, are made. On the basis of this information, it is suggested that you evaluate the product on a laboratory scale prior to use in a finished product.