

Certificate of Analysis

Product information		Batch information	
Product name	Coptis Root Extract	Batch no.	4353203
Botanical name	Coptis chinensis	Production date	March 2019
OHI product code	HECOPTROOT	Best Before End	March 2021
Plant part	Root		
Country of origin	P.R.CHINA		

Analysis item	Specification	Result	Analysis test method
Assay	10% Berberine	10.25%	Titration
Organoleptic properties			
Appearance ¹	Fine Yellow powder	Conform to specification	Visual
Taste	Typical to botanical	Conform to specification	Gustatory
Odor	Typical to botanical	Conform to specification	Olfactory
Physical properties			
Sieve analysis	80	Conform to specification	Mesh screen or equivalent
Moisture content	≤5%	3.36%	IR balance or equivalent
Ash	≤5%	3.17%	2g/525°C/5hrs or equivalent
Heavy metals²			
Arsenic (As)	≤ 1 ppm	Conform to specification	AA or equivalent
Cadmium (Cd)	≤ 1 ppm	Conform to specification	AA or equivalent
Lead (Pb)	≤ 3 ppm	Conform to specification	AA or equivalent
Mercury (Hg)	≤ 0.1 ppm	Conform to specification	AA or equivalent
Total heavy metals	≤ 10 ppm	Conform to specification	Colorimetry or equivalent
Microbiology			
Total plate count	≤10000cfu/g	Conform to specification	AOAC or equivalent
Yeasts & Molds	≤1000cfu/g	Conform to specification	AOAC or equivalent
Salmonella	Absent/10g	Conform to specification	AOAC or equivalent
E.Coli	Absent/1g	Conform to specification	AOAC or equivalent
Identification	Positive	Conform to specification	TLC

Additional information

Sterilization method High Temperature & High Pressure Short time (5" - 10")

Re-test date 24 months from production date in original packaging and qualified storage conditions.

Storage Store product in tightly sealed containers in dry and dark environment at room temperature.

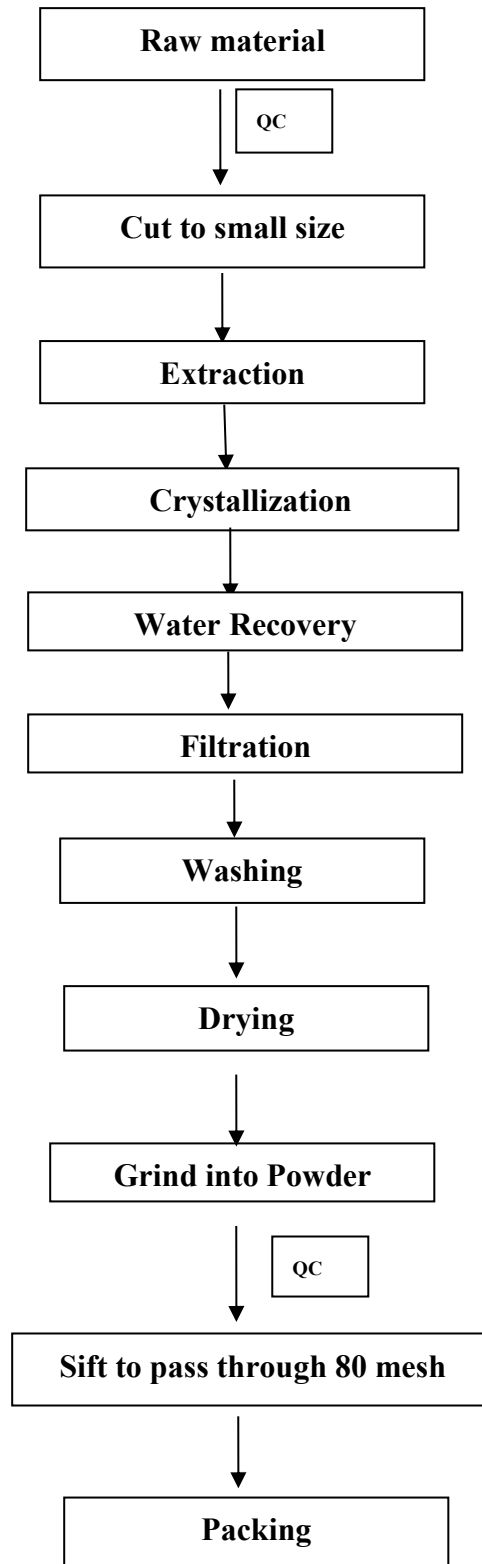
Avoid exposure to air pollution, heat, sunshine and moisture. Reclose containers tightly after use.

1 This is a natural product; color variations may appear between extraction batches due to crop, harvest and seasonal fluctuations.

2 Individual and total heavy metals are not being tested for each batch. Random analyses are being regularly performed minimum once a year.

Before using, read, understand and comply with the information and precautions in the technical data sheets, material safety data sheets, corporate label and other product literature. The information presented herein, while not guaranteed, was prepared and tested by technical personnel and, to the best of our knowledge and belief, is true and accurate as of the date hereof. No warranty, representation or guarantee, express or implied, can be made regarding accuracy, performance, stability, reliability or use. This information is not intended to be all-inclusive, because the manner and conditions of use, handling, storage and other factors may involve other or additional safety or performance considerations. The user is responsible for determining the suitability of any material for a specific purpose and for adopting such safety precautions as may be required. Refer to material safety data sheets for specific and handling instructions. Product might be an irritant. MADAR, does not warrant the results to be obtained in using any material, and disclaims all liability with respect to the use, handling or further processing of any such material. No suggestion for use is intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patent, trademark or copyright or to violate any federal, state or local law or regulation. This document is the property of MADAR. Document must be returned by receiver upon request. The information contained herein is confidential and may not be copied, shown, or otherwise disclosed, directly or indirectly, to any person not subject to a MADAR supply contract or confidentiality and nondisclosure agreement without the express, written consent of MADAR.

Manufacturing Flow Chart Coptis Extract 10% Berberine





Material Safety Data Sheet

Product Name: Coptis Extract 10%
1.1 Chemical Properties :with typical properties of coptis root 1.2 Form :Fine powder 1.3 Color : Fine yellow to yellow green powder 1.4 Odor :Characteristic
2. Physical Properties PH Value N/A Melting point N/A Boiling Point N/A Igniting point N/A Flash Point N/A Explosion Point N/A Bulk Density 0.4-0.8g/ml Solubility Soluble in hydro-alcoholic solution
3. Transport information Far from away humidity, sunshine, high-temp., and acidic, alkaline substance.
4. Stability and Reactivity 4.1. Condition to be avoided Humidity, sunshine, high-temp. 4.2. Substances to be avoided Acidic, alkaline substance 4.3. Hazardous decomposition Acid, base.



<p>5. Protection, handling and storage</p> <p>5.1. Safety technical measure: Far away from fire, humidity and other hazardous chemicals</p> <p>5.2. Personal Equipment Respiratory Protection: to use respirator when mesh the powder. Eye Protection: to use special glasses when mesh the powder. Hand protection: no need special protection measure, when contact hands, use water to wash. Other Information: no more available</p> <p>5.3. Industrial Hygiene To avoid the powder contact eye and respiratory system.</p> <p>5.4. Explosion and fire fighting measures Use quantity water</p> <p>5.5. Disposal condition Disposal properly</p>
<p>6. Accidental release measures/Fire fighting measures</p> <p>6.1. Accidental release measures Washing up the attached area with water</p> <p>6.2. Suitable extinguishing media</p> <p>6.3. First aid measures In case of eye and skin contacted: rinse out with water</p> <p>6.4. Other information No more information available.</p>
<p>7. Toxicological information Coptis Extract 10% has high safety coefficient. It belongs to actual nontoxicity determined By acute toxicity experiment.</p>
<p>8. Ecological Information No ecological problems are to be expected when the product is handled and used with care and attention.</p>
<p>9. Other Information No more information available.</p>



Specification Sheet

Product Name	Coptis Extract	Plant Part Used	Root(Dried, 100% Natural)
Specification	10%	Active Ingredient Markers	Berberine
Latin Name	<i>Coptis chinensis Franch.</i>	Country of Origin	P. R. China

Analysis Items	Specifications	Test Methods
Organoleptic		
Appearance & Color	Fine yellow to yellow green powder	Visual
Odor & Taste	Characteristic	Organoleptic
Solubility	Soluble in hydro-alcoholic solution	Visual
Marker Compounds		
Assay	NLT 10% Berberine	HPLC
Physical Characteristics		
Mesh Size	NLT 90% through 80 mesh	80 Mesh Screen
Moisture Content	NMT 8.0%	GB.5009.3
Ash Content	NMT 10.0%	GB.5009.4
Heavy metals		
Total Heavy Metals	NMT 20ppm	CP2015
Arsenic (As)	NMT 2ppm	GB.5009.11
Lead (Pb)	NMT 2ppm	GB.5009.12
Microbiological Tests		
Total Plate Count	NMT 10,000cfu/g	GB.4789.2
Total Yeast & Mold	NMT 1000cfu/g	GB.4789.15
E. Coli	Negative	GB.4789.3
Salmonella	Negative	GB.4789.4
Staphylococcus	Negative	GB.4789.10
Packing and Storage		
	Store in a well-closed container away from moisture.	
Shelf Life	2 years if sealed and store away from direct sun light.	