



Certificate of Analysis

| Product information | | Batch information | |
|---------------------|----------------------------|-------------------|---------------|
| Product name | Coptis Root Extract | Batch no. | 4383301 |
| Botanical name | Coptis chinensis | Production date | December 2019 |
| OHI product code | HECOPTROOT | Best Before End | January 2023 |
| 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.

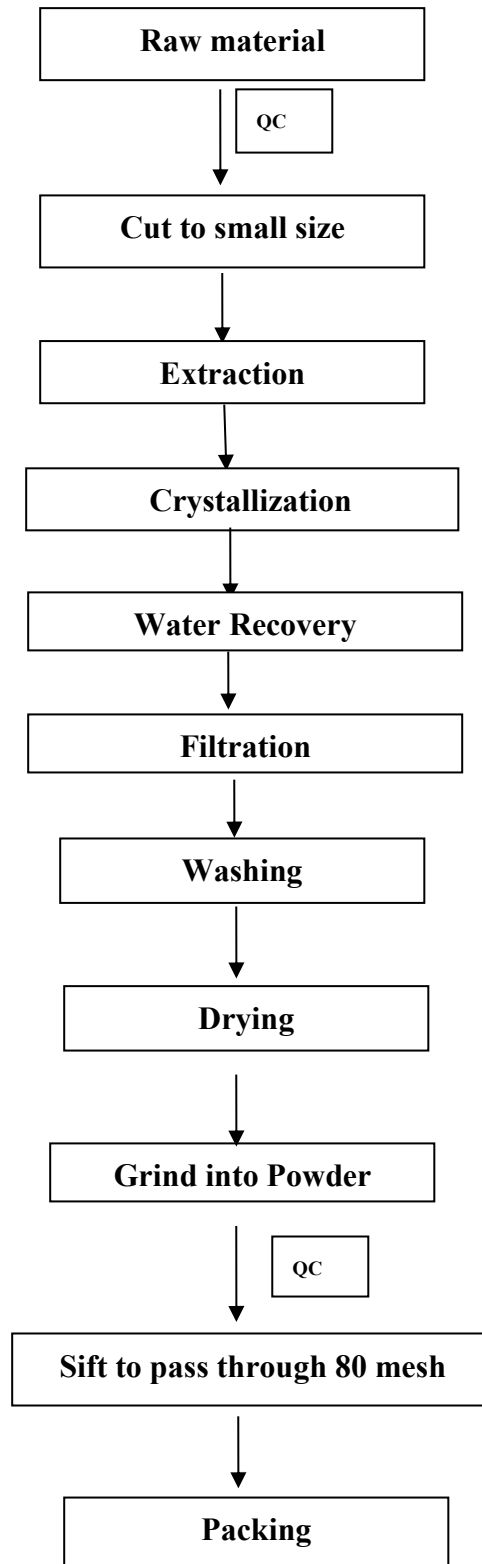
Avoid exposure to air pollution, heat, sunshine and moisture. Reclose containers tightly after use.

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

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| |
| 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. |



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| <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

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|----------------------|---------------------------------|----------------------------------|----------------------------------|
| 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. | |