

WHITENING

For skin whitening

# ARBUTIN

INCI NAME : ARBUTIN



## GENERAL DESCRIPTION FOR RAW MATERIAL

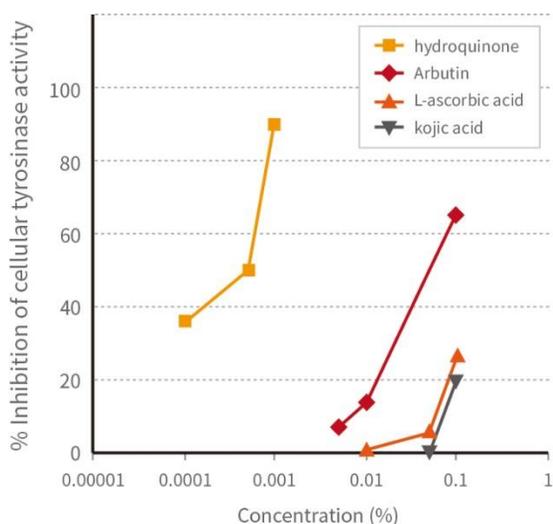
Arbutin is the active substance originated from natural plant (bearberry) which can whiten and lighten skin. It can infiltrate into the skin quickly without affecting the concentration of cell multiplication and effectively prevent activity of tyrosinase in the skin and the forming of melanin. By combined arbutin with tyrosinase, decomposition and drainage of melanin are accelerated, splash and fleck can be removed and no side effects are caused. It is one of the safest and most efficient whitening materials that are popular at present. It is also the most competitive whitening activity.

Arbutin protects the skin against damage caused by free radicals, Arbutin is a skin whitening agent which is very popular in Japan and Asian countries for skin de-pigmentation, Arbutin inhibits the formation of melanin pigment by inhibiting tyrosinase activity.

## EFFICACY

## REFERENCE

### Tyrosinase activity Inhibition





US006388103B2

(12) **United States Patent**  
Lee et al.

(10) **Patent No.:** US 6,388,103 B2  
(45) **Date of Patent:** May 14, 2002

(54) **PREPARATION METHOD OF ARBUTIN INTERMEDIATES**

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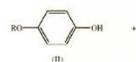
(\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) **Appl. No.:** 09/838,841

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(57) **ABSTRACT**

The invention is related to a preparation method of arbutin intermediate (chemical formula I). It is characterized by the glycosylation of hydroquinone or mono-protected hydroquinone (chemical formula II) with pentaacetyl-β-D-glucose (chemical formula III) in the presence of Lewis acid and base as catalysts.



## TECHNICAL INFORMATION

### Processing & Dosage

The recommended dosage of ARBUTIN is 2.0% ~ 7.0% to obtain a significant skin whitening effect. ARBUTIN is a water soluble ingredient. In order not to disturb the structure and conformation of the actives, it is recommended to incorporate it into formula at the last phase of the formulation at about 40°C.

### Storage & Shelf life

ARBUTIN should be stored at room temperature in a tightly closed and lightproof package. If stored in these appropriate conditions the shelf life is at least 24 months. Once the original packing is opened, it is highly recommended to use at once.

### Safety information

The toxicological profile of ARBUTIN was assessed

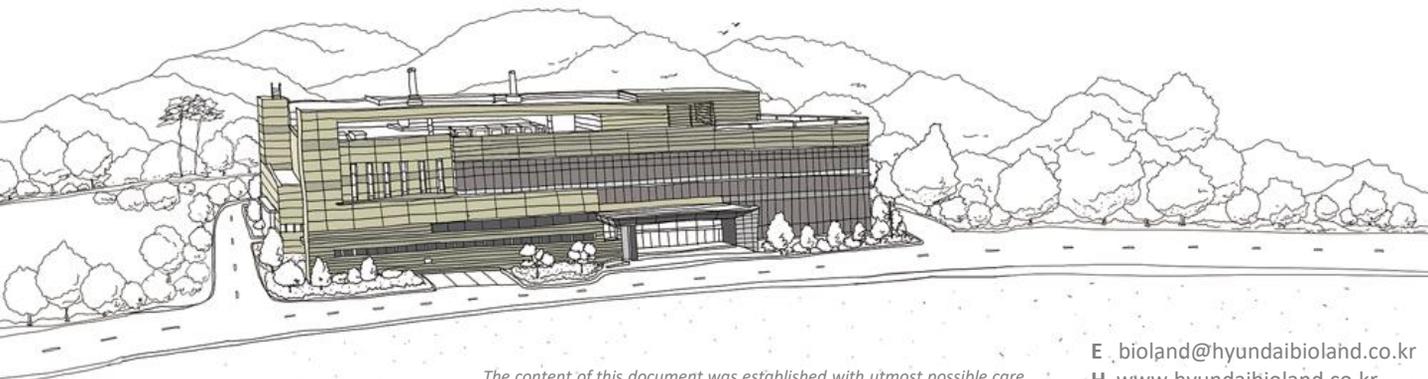
- Acute oral toxicity
- Eye Irritation
- Skin Irritation
- Acute dermal toxicity
- Skin Sensitization

## SPECIFICATION

<b>Description</b>	White Powder
<b>Identification</b>	
<b>Anthron</b>	Blue green
<b>UV Absorbance Peak</b>	Max 283 ± 2nm
<b>Loss on drying (1g, 105°C, 3hr)</b>	≤ 1.5%
<b>Residue on ignition (1.0g)</b>	≤ 0.5%
<b>Assay (by HPLC on dry basis)</b>	≥ 98.0%
<b>Microbiological Purity</b>	
<b>Total bacterial count</b>	Not more than 100 cfu/g
<b>Yeast &amp; molds</b>	Not more than 10 cfu/g

## PRODUCT INFORMATION

<b>TRADE NAME</b>	ARBUTIN	<b>INCI Key Index</b>
<b>INCI NAME</b>	COMPOSITION (INCI Key Index)	A : Greater than 50%
<b>ARBUTIN</b>	A	B : Greater than 25% but less than or equal to 50%
<b>STANDARD PACKAGE</b>	5KG	C : Greater than 10% but less than or equal to 25%
		D : Greater than 5% but less than or equal to 10%
		E : Greater than 1% but less than or equal to 5%
		F : Greater than 0.1% but less than or equal to 1%
		G : Less than or equal to 0.1%



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