

Code: FQ01-00

Date: 20 Nov 2019

Quality Control of TabibDaru Company
Registration Paper of Quality Control Test of Products

Tabib daru
طیب دارو

Sample Name: <i>Asafoetida</i> oil	Batch Number: TBQ-98-463		Reception Date: 15 Nov 2019
Expire Date: Nov 2021	Scientific Name: <i>Ferula assa-foetida</i>		Lab Temperature: 25 °C
Characteristic	Test results	Acceptance limit	Test Method
Appearance			
Color	Conform	Pale yellow color	Visual
Odor	Conform	Onion, Garlic	Olfactory
Optical Rotation	Conform	-9 to +9.18	
Refractive Index	Conform	1.49-1.51	
Density at 20 °C	Conform	0.91-0.930	
Chemical Composition of essential oil			
α -Thujene		0.05	GC-MS analysis
α-Pinene		9.72	
Camphene		0.04	
Sabinene		0.04	
β-Pinene		19.23	
Myrcene		0.62	
α -Phellandrene		1.58	
2,3,4-Trimethylthiophene		0.54	
p-Cymene		0.23	
Limonene		2.13	
Ocimene <(Z)-beta		2.77	
Ocimene <(E)-beta		2.64	
Thiophene, 3,4-diethyl-		0.15	
Ocimene <allo		0.19	
Ocimene <neo-allo		0.05	
n-Propyl sec-butyl disulfide		0.54	
1-Propenyl sec-butyl disulfide (Z)		10.87	
1-Propenyl sec-butyl disulfide (E)		44.22	
sec-Butyl Disulfide		0.33	
3,6-Dimethyl-1,4-dithiane-2,5-dione		1.13	
3-Ethyl-2,4,5-trithiahexane		0.89	
β -Gurjunene		0.34	
Caryophyllene <9-epi-(E)		0.27	
Epi-bicyclosesquiphellandrene		0.07	
Germacrene A		0.04	
Cis Cadina-1,4-diene		0.04	
γ -Patchoulene		0.03	
β -Dihydro agarofuran		0.38	
γ -Cadinene		0.15	
delta Cadinene		0.19	
Guaiol		0.05	
Eudesmol		0.03	
10-epi- γ -Eudesmol		0.41	
Agarospinol		0.07	
Microbial Specification			
Total aerobic Microbial count (CFU/ml)	<10	<100	USP41
Total Fungi and yeast count (CFU/ml)	<10	<10	
<i>Pseudomonas aeruginosa</i>	Negative	Negative	
<i>Staphylococcus aureus</i>	Negative	Negative	
<i>Salmonella</i> sp.	Negative	Negative	
<i>Escherichia coli</i>	Negative	Negative	
<i>Candida albicans</i>	Negative	Negative	
Results: Asafoetida essential oil is extracted by hydro-distillation and is really pure, natural and without any artificial or hazardous components or any kind of adulteration.			
Tester Sign & Name	Technical Assistant sign & Name:	Lab Manager sign & Name:	
Dr. Dasht Bozorgi	Mrs. Niknafs	Dr. M. Mahboubi	

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