

Product PEPPERMINT ESSENTIAL OIL (YAKIMA)

 Lot #
 01007204

 Mfg Date
 05/2023

 Best Before
 05/2025

Properties	Specifications	Results	
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Appearance	Liquid	Conform	
Color	Colorless- Pale yellow	Conform	
Odor	Characteristic	Conform	
Refractive index 20° C	1.4590 - 1.4690	1.4602	
Specific Gravity 200 C	0.8900 - 0.9180	0.9004	
Optical Rotation	-32 to -18	26.12	
Flash Point <sup>0</sup> F (Closed up)	160	Conform	



Product PEPPERMINT ESSENTIAL OIL (YAKIMA)

 Lot #
 01006719

 Mfg Date
 10/2022

 Expiration Date
 10/2024

Properties	Specifications	Results	
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Appearance	Liquid	Conform	
Color	Colorless Pale Yellow	Conform	
Odor	Characteristic	Conform	
Refractive Index 20 °C	1.4590 - 1.4650	1.4606	
Specific Gravity 20/200 C	0.8900 - 0.9180	0.9041	
Optical Rotation	-32.00 to -18.00	-26.59	
Flash Point <sup>0</sup> F (Closed Cup)	160	Conform	



Product PEPPERMINT ESSENTIAL OIL (YAKIMA)

**Lot #** MD103555

Manufacturing DateMay 2022Expiration DateMay 2024

Properties	Specifications	Results
Dimethyl Sulfide	In set pass	Pass
Free Menthol	· ≥ 40	44.89
Identification	In set pass	Pass
Menthofuran	≥ 4.4 ≤ 4.9	4.42
Neo Isopulegol	≤ 0.15	0.11
Optical Rotation	≥ -32 ≤ -18	-25.48
Pulegone	≤ 2	1.348
Refractive Index @20C	≥ 1.4590 ≤ 1.4650	1.4615
Solubility in alcohol	In set 1 ML Dissolves in 3 ML	1ML Dissolves in 3 ML 70%
•	70% Alcohol	alcohol
Specific Gravity @20C	≥ 0.8990 ≤ 0.9110	0.9039
Specific Gravity @25C	≥ 0.8960 ≤ 0.9080	0.9009
Total Esters as Menthyl Acetate	≥ 5.0	5.25
Total Menthol	≥ 50	50.989
Flashpoint		160 / 71



Product PEPPERMINT ESSENTIAL OIL (YAKIMA)

**Lot #** MD102902

Manufacturing Date 04/2022 Expiration Date 04/2024

Properties	Specifications	Results
Dimethyl Sulfide	In set pass	Pass
Free Menthol	≥ 40	45.49
Identification	In set pass	Pass
Menthofuran	≥ 4.4 ≤ 4.9	4.4
Neo Isopulegol	≤ 0.15	0.13
Optical Rotation	≥ -32 ≤ -18	-25.24
Pulegone	≤ 2	1.36
Refractive Index @20C	≥ 1.4590 ≤ 1.4650	1.4611
Solubility in alcohol	In set 1 ML Dissolves in 3 ML	1ML Dissolves in 3 ML 70%
	70% Alcohol	alcohol
Specific Gravity @20C	≥ 0.8990 ≤ 0.9110	0.9045
Specific Gravity @25C	≥ 0.8960 ≤ 0.9080	0.9015
Total Esters as Menthyl Acetate	≥ 5.0	5.0
Total Menthol	≥ 50	50.0
Flashpoint		160 / 71



Product PEPPERMINT ESSENTIAL OIL (YAKIMA)

**Lot #** MD95186

Manufacturing DateJune 2021Expiration DateJune 2023

Properties	Specifications	Results
Dimethyl Sulfide	In set pass	Pass
Free Menthol	≥ 40	45.63
Identification	In set pass	Pass
Menthofuran	≥ 4.4 ≤ 4.9	4.46
Neo Isopulegol	≤ 0.15	0.11
Optical Rotation	≥ -32 ≤ -18	-25.36
Pulegone	≤ 2	1.22
Refractive Index @20C	≥ 1.4590 ≤ 1.4650	1.4617
Solubility in alcohol	In set 1 ML Dissolves in 3 ML	1ML Dissolves in 3 ML 70%
•	70% Alcohol	alcohol
Specific Gravity @20C	≥ 0.8990 ≤ 0.9110	0.9030
Specific Gravity @25C	≥ 0.8960 ≤ 0.9080	0.9000
Total Esters as Menthyl Acetate	≥ 5.0	5.0
Total Menthol	≥ 50	51.54
Flashpoint		160 / 71



Product PEPPERMINT ESSENTIAL OIL (YAKIMA)

Lot # MD96030 Shelf Life 2 years

Properties	Specifications	Results
Dimethyl Sulfide	In set pass	Pass
Free Menthol	≥ 40	45.728
Identification	In set pass	Pass
Menthofuran	≥ 4.4 ≤ 4.9	4.40
Neo Isopulegol	≤ 0.15	0.126
Optical Rotation	≥ -32 ≤ -18	-25.48
Pulegone	≤ 2	1.342
Refractive Index @20C	≥ 1.4590 ≤ 1.4650	1.4613
Solubility in alcohol	In set 1 ML Dissolves in 3 ML	1ML Dissolves in 3 ML 70%
•	70% Alcohol	alcohol
Specific Gravity @20C	≥ 0.8990 ≤ 0.9110	0.9037
Specific Gravity @25C	≥ 0.8960 ≤ 0.9080	0.90077
Total Esters as Menthyl Acetate	≥ 5.0	5.0
Total Menthol	≥ 50	51.325
Flashpoint		160 / 71



Product PEPPERMINT ESSENTIAL OIL (YAKIMA)

**Lot #** 14243726 **Shelf Life** 1 year

Properties	Specifications	Results	
Appearance	Liquid	Conform	
Color	Colorless Pale Yellow	Conform	
Odor	Characteristic	Conform	
Refractive Index 20 °C	1.4590 - 1.4650	1.4606	
Specific Gravity 20/200 C	0.8900 - 0.9180	0.9041	
Flash Point <sup>0</sup> F (Closed Cup)	160	Conform	



Product PEPPERMINT ESSENTIAL OIL (YAKIMA)

**Lot #** 13693717 **Shelf Life** 1.5 years

Properties	Specifications	Results	
Appearance	Liquid	Conform	
Color	Colorless- Pale yellow	Conform	
Odor	Characteristic	Conform	
Refractive index 20° C	1.4590 - 1.4690	1.4601	
Specific Gravity 20 <sup>0</sup> C	0.8900 - 0.9180	0.9042	
Flash Point <sup>0</sup> F (Closed up)	160	Conform	



Product PEPPERMINT ESSENTIAL OIL (YAKIMA)

**Lot #** 12311717 **Shelf Life** 1.5 years

Properties	Specifications	Results	
Appearance	Liquid	Conforms	
Odor	Characteristic	Conforms to Standard	
Color	Colorless Pale yellow	Conforms	
Refractive Index 20°C	1.4590 – 1.4650	1.4606	
Specific Gravity 20/20°C	0.8900 - 0.9180	0.9033	
Flash Point <sup>0</sup> F (Closed Cup)	160 Minimum	Conforms	