

Internal Code: A / 9025



Customer Identification

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Sample Identification

Product Name	Rosemary Es.Oil CT Verbenone	Date Received	21/08/2024 12:01
Product Type	Essential oils (Without norms)	Report Issue Date	26/08/2024 14:27
Botanical Name	<i>Rosmarinus officinalis var. Verbenoniferum</i>		
Batch	04G01		
Label name	ROSEMARY (ROSMARINUS OFFICINALIS PROSTRATUM)	Norm/Specification	Internal

Essential Oils Characterization (Chemotyping)

Chromatographic Analysis

Essential Oils Characterization

Method: Internal + ISO 7609

Technique: GC-FID + GC-MS.

Components are identified by GC-MS, being processed by a deconvolution algorithm, and quantified by GC-FID, using the internal normalization method.

Acquisition through two chromatographs in parallel (one with polar column and the other apolar), to ensure the resolution of all components with high reliability. All the data obtained from both lines are processed by an algorithm that select the most accurate ones.

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Operating Conditions:

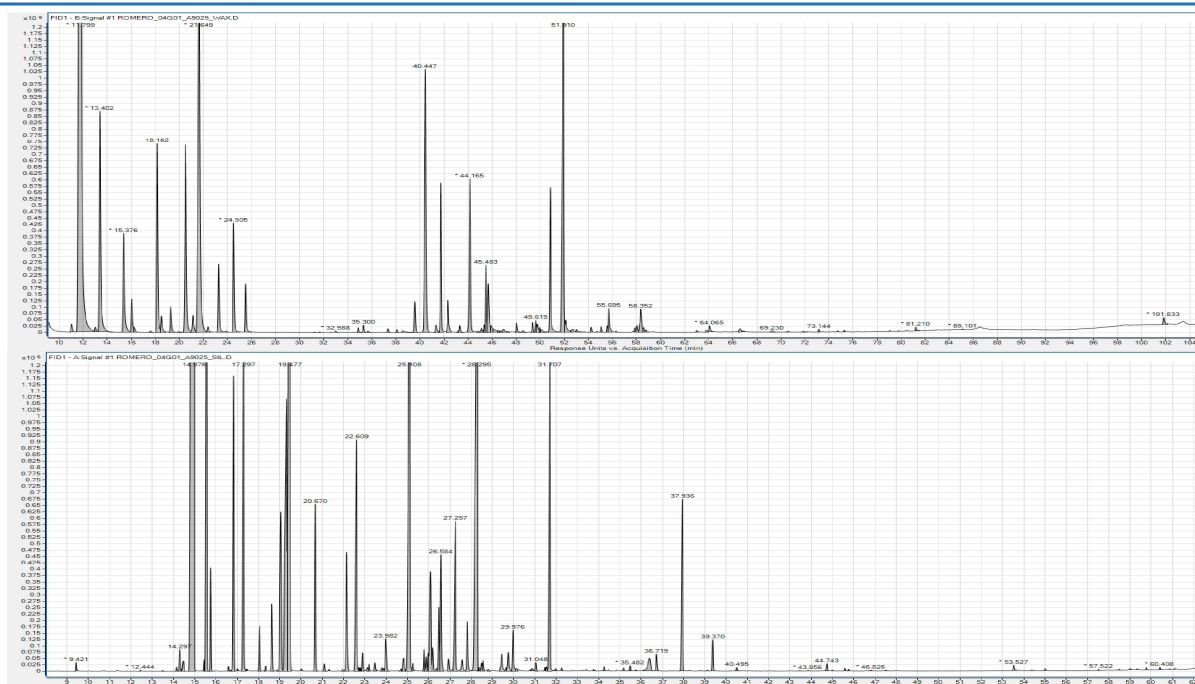
POLAR COLUMN EQUIPMENT: GC (FID) 8890 / MS 5977B. Column: DB_WAX UI 60m x 0.25mm x 0.5 µm. Flow: 1.6 ml/min. Carrier gas: Helium.
Injection: 1.0 µl (FID), 1.0 µl (MSD). Dil. 1:10. Split 100:1. Mass Range: 33 to 350.
Temperature Program: 6 min at 50°C -> 2°C/min to 190°C -> 4°C/min to 220°C -> 10 min at 220°C -> 4°C/min to 240°C -> 10 min at 240°C

APOLAR COLUMN EQUIPMENT: GC (FID) 8890 / MS 5977B. Column: HP-5MS Ultra Inert 60m x 0.25mm x 0.25 µm. Flow: 1.5 ml/min. Carrier gas: Helium.
Injection: 1.0 µl (FID), 1.0 µl (MSD). Dil. 1:10. Split 100:1. Mass Range: 33 to 350 up to minute 66, 50 to 500 up to the end.
Temperature Program: 0 min at 50°C -> 3°C/min to 220°C -> 10°C/min to 285°C -> 9 min at 285°C

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Chromatogram



RI-WAX	RI-HP5	Compounds	CAS N°	%	Specification	Chemical Family	IFRA Restriction
	922	5,5-Dimethyl-1-vinylbicyclo[2.1.1]hexane	16626-39-4	0.03		Monoterpene	
1009	924	Tricyclene	508-32-7	0.16		Monoterpene	
1025	933	Alpha-Pinene	80-56-8	43.56	15.00 - 40.00	Monoterpene	Cosmetic Allergen
1029	918	Alpha-Thujene	2867-05-2	0.11		Monoterpene	
1060	948	Alpha-Fenchene	471-84-1	0.07		Monoterpene	
1069	953	Camphene	79-92-5	4.09		Monoterpene	
1114	978	Beta-Pinene	127-91-3	1.96		Monoterpene	Cosmetic Allergen
1126	972	Sabinene	3387-41-5	0.03		Monoterpene	
1130	971	Verbenene	4080-46-0	0.62		Monoterpene	
1131	797	Mesityl Oxide	141-79-7	0.05		Aliphatic ketone	
1158	1009	Delta-3-Carene	13466-78-9	0.03		Monoterpene	
1165	991	Beta-Myrcene	123-35-3	3.21		Monoterpene	
1170	997	Alpha-Phellandrene	99-83-2	0.30		Monoterpene	
1186	1018	Alpha-Terpinene	99-86-5	0.45		Monoterpene	Cosmetic Allergen
1206	1021	Limonene	5989-27-5	3.73	Max. 5.00	Monoterpene	Cosmetic Allergen
1218	1031	Beta-Phellandrene	555-10-2	0.31		Monoterpene	

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1222	1039	1,8-Cineole	470-82-6	10.48	4.00 - 18.00	Monoterpenic ether	
1238	1035	Cis-Beta-Ocimene	3338-55-4	0.07		Monoterpene	
1254	1058	Gamma-Terpinene	99-85-4	1.12		Monoterpene	
1256	1046	Trans-Beta Ocimene	3779-61-1	0.02		Monoterpene	
1262	986	3-Octanone	106-68-3	0.02		Aliphatic ketone	
1278	1025	Para-Cymene	99-87-6	1.69		Monoterpene	
1291	1086	Alpha-Terpinolene	586-62-9	0.77		Monoterpene	Cosmetic Allergen
	1397	Unknown Ketone	-	0.26		Ketone	
1444	1107	Filifolone	4613-37-0	0.12		Monoterpenic ketone	
1446	1093	Alpha-p-Dimethylstyrene	1195-32-0	0.09		Monoterpene	
1550	1105	Cis-Sabinene Hydrate	17699-16-0	0.05		Monoterpenic alcohol	
1509	1125	Alpha-Campholenal	4501-58-0	0.11		Monoterpenic aldehyde	
1526	1122	Chrysanthenone	473-06-3	0.50		Monoterpenic ketone	
1536	1160	Cis-Pinocamphone	547-60-4	0.45		Monoterpenic ketone	
1537	960	Benzaldehyde	100-52-7	0.01		Aromatic Aldehyde	Cosmetic Allergen/Dermal Sens. and Systemic Tox.
1541	1149	Camphor	76-22-2	5.30	1.00 - 19.1	Monoterpenic ketone	Cosmetic Allergen
1553	1100	Linalool	78-70-6	1.93		Monoterpenic alcohol	Cosmetic Allergen
1565	1176	Cis-Isopinocampone	15358-88-0	0.15		Monoterpenic ketone	
1582	1112	Fenchol<exo->	22627-95-8	0.06		Monoterpenic alcohol	
1589	1164	Pinocarvone	16812-40-1	0.08		Monoterpenic ketone	
1599	1288	Bornyl Acetate	76-49-3	2.72	1.00 - 13.00	Monoterpenic ester	
1617	1450	Trans-Beta Caryophyllene	87-44-5	1.39		Sesquiterpene	Cosmetic Allergen
1622	1184	Terpinen-4-ol	562-74-3	0.86		Monoterpenic alcohol	
1662	1170	Delta-Terpineol	7299-42-5	0.13		Monoterpenic alcohol	
1692	1151	Trans-Verbenol	1820-09-3	0.17		Monoterpenic alcohol	
1694	1454	Alpha-Humulene	6753-98-6	0.25		Sesquiterpene	
1696	1195	Alpha-Terpineol	98-55-5	1.34		Monoterpenic alcohol	Cosmetic Allergen
1713	1167	Borneol	507-70-0	0.75		Monoterpenic alcohol	
1717	1349	Alpha-Terpiny Acetate	80-26-2	0.01		Monoterpenic ester	
1736	1208	Verbenone	80-57-9	7.30	4.00 - 14.00	Monoterpenic ketone	
1758	1380	Geranyl Acetate	105-87-3	0.01		Monoterpenic ester	Cosmetic Allergen

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1798	1202	Myrtenol	515-00-4	0.12		Monoterpenic alcohol	
1806	1209	Alpha-Campholenol	1901-38-8	0.39		Monoterpenic alcohol	
1839	1189	Para-Cymen-8-ol	1197-01-9	0.11		Monoterpenic alcohol	
1853	1255	Geraniol	106-24-1	0.31		Monoterpenic alcohol	Cosmetic Allergen/ Dermal Sens. and Systemic Tox.
1935	1838	Neophytadiene	504-96-1	0.06		Diterpene	
1951	1394	Trans-Jasmone	6261-18-3	0.13		Monoterpenic ketone	
2014	1578	Caryophyllene Oxide	1139-30-6	0.06		Sesquiterpenic Epoxide	
2026	1403	Methyl Eugenol	93-15-2	0.04		Phenylpropanoid	Dermal Sens. and Systemic Tox.
2142	1573	Cis-3-Hexenyl Benzoate	25152-85-6	0.01		Phenolic ester	
2168	1293	Thymol	89-83-8	0.03		Monoterpenic phenol	
2192	1316	Carvacrol	499-75-2	0.03		Monoterpenic phenol	
Total Identified (%)		98.21					
Total Area:		1.9E+7					

Conclusion

The GC profile corresponds to Rosmarinus officinalis CT Verbenone.

Checked & Approved by:

Luciano Colombina
GC/MS Analyst

