



GC-MS Analysis					
Product Name		Black Pine Es.Oil			
Product Type		Essential oil			
Botanical Name		<i>Pinus nigra</i>			
Batch N°		BP2023001B			
Label name		GREEK BLACK PINE ORGANIC ESSENTIAL OIL			
Density at 20°C (g/cm³)		0.865			
Refractive index		1.475			
Optical rotation at 20°C		-23°			
Production Date		August 2022			
Shelf Life		5 years			
Origin		Greece			
Production		Steam Distillation			
Plant Part		Needles			
Time	Compounds	CAS N°	%	Chemical Family	IFRA 49th Restriction
13.62	Alpha-Pinene	80-56-8	42.57	Monoterpene	
14.58	Camphene	79-92-5	3.72	Monoterpene	
20.75	Beta-pinene	18172-67-3	24.40	Monoterpene	
22.8	Beta-Myrcene	123-35-3	5.36	Monoterpene	
24.78	Delta-3-carene		0.87	Monoterpene	
25.5	Limonene	138-86-3	8.32	Monoterpene	Cosmetic Allergen
26.62	Alpha-terpinolene	586-62-9	0.40	Monoterpene	

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essential oils

27.02	Beta-phellandrene	555-10-2	2.11	Sesquiterpene
27.56	Beta-ocimene	13877-91-3	1.55	Sesquiterpene
28.34	Gamma-terpinene	99-85-4	0.10	Sesquiterpene
30.61	Terpinen-4-ol	562-74-3	0.88	Alcohol
48.6	Alpha-terpineol	98-55-5	0.19	Alcohol
54.6	Alpha-murolene	31983-22-9	0.40	Sesquiterpene
55.88	Gamma-cadinene	1460-97-5	0.90	Sesquiterpene
65.04	Delta-cadinene	483-76-1	1.90	Sesquiterpene
66.05	Beta-caryophyllene	87-44-5	1.96	Sesquiterpene
66.32	Alpha-humulene	6753-98-6	0.34	Sesquiterpene
67.08	Gamma-murolene	30021-74-0	0.68	Sesquiterpene
Total			96.65	

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