

## Certificate of Analysis

Product: Cedarwood Virginian Oil  
Botanical Name: *Juniperus virginiana L.*  
Country of Origin: USA

### PHYSICAL AND CHEMICAL PROPERTIES

TEST	RESULT	SPECIFICATION
Specific Gravity @ 20° C	0.949	0.941 - 0.970
Refractive Index @ 20° C	1.505	1.500 - 1.508
Optical Rotation @ 20° C	-32.00°	-38° - -14°

### GAS CHROMATOGRAPH ANALYSIS (TYPICAL)

CONSTITUENT	RESULT (%)	SPECIFICATION (%)
$\alpha$ funebrene	1.10	
$\alpha$ cedrene	26.23	18.00 - 32.00
$\beta$ funebrene		
$\beta$ caryophyllene	0.71	
$\beta$ cedrene	4.87	$\leq 8.00$
thujopsene	23.38	10.00 - 30.00
$\alpha$ himachalene	0.25	
$\beta$ acoradiene	0.50	
$\beta$ chamigrene	1.64	
$\alpha$ cuparene	1.53	
cedrol	19.32	16.00 - 26.00
widdrol	2.48	
$\gamma$ himachalene	0.39	
$\alpha$ cadinene	1.15	