

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**Chemicals Found in Piper betel**

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	4-ALLYL-PYROCATECHOL	Leaf	--	--		
0	ALLYL-CATECHOL	Leaf	50	2600		
1	ARECAIDINE	Plant	--	--		
25	ARECOLINE	Plant	--	--		
112	ASCORBIC-ACID	Leaf	43	2130	-0.2462832387368517	
0	ASH	Leaf	23000	157500	0.6809357345336916	
2	ASPARAGINE	Leaf	--	--		
53	BETA-CAROTENE	Leaf	19	175	-0.37582350890658794	
4	CADINENE	Leaf	50	3800	-1	
28	CALCIUM	Leaf	2300	15750	-0.18360872621418833	
0	CARBOHYDRATES	Leaf	61000	418000	-1.5416117849819475	
37	CARVACROL	Leaf	45	2350	3.222963257076183	
31	CARYOPHYLLENE	Leaf	60	5000	2.1210397339256697	
3	CHAVICOL	Leaf	100	7000	-1	
0	CINEOLE	Leaf	50	2600	-0.4616273718944627	
0	DIASTASE	Leaf	8000	18000		
0	EO	Leaf	2000	42000	2.6796928616823648	
12	ESTRAGOLE	Leaf	--	6130	-0.27090395304983655	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
76	EUGENOL	Leaf	535	17850	1.2809856325817552	
5	EUGENOL-METHYL-ETHER	Leaf	80	6635	2.155709789419842	
0	FAT	Leaf	8000	135000	1.5650078608579805	
15	FIBER	Leaf	23000	157500	-0.04989641634679875	
22	GABA	Plant	--	--		
7	GLUCOSE	Leaf	14000	32000	-0.32640677414087715	
0	HAVIBETOL	Leaf	--	4000		
3	HYDROXY-CHAVICOL	Leaf	--	--		
6	IRON	Leaf	35	240	-0.31224113495189265	
39	NIACIN	Leaf	6	48	-0.6021070257489586	
5	ORNITHINE	Leaf	--	--		
9	OXALIC-ACID	Leaf	--	--		
16	P-CYMENE	Leaf	25	1050	0.4722231642693859	
4	PHOSPHORUS	Leaf	400	2740	-0.4105585761191793	
0	POTASSIUM-NITRATE	Leaf	2600	4200		
0	PROTEIN	Leaf	31000	212000	0.0015457821246706465	
0	PYROCATECHIN	Plant	--	--		
15	RIBOFLAVIN	Leaf	0.2	2	-0.16848655199175794	
5	STARCH	Leaf	10000	31000	-0.12596694486365365	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	SUCROSE	Leaf	6000	25000	-0.08410495842358359	
0	SUGARS	Leaf	24000	56000	-0.8599112327418778	
35	TANNIN	Leaf	10000	20500	-1.0990873207502265	
0	TERPENENE	Leaf	--	--		
31	THIAMIN	Leaf	0.1	4.8	-0.7303840792256565	
0	WATER	Leaf	854000	854000	0.23130077727695397	