

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

**Chemicals Found in *Symphytum officinale***

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
12	ALLANTOIN	Leaf	1100	20000	1	
12	ALLANTOIN	Root	6000	8000	1.414211703032736	
5	ALUMINUM	Leaf	26	237	-0.5262242971508979	
5	ALUMINUM	Root	237	237	-0.18531623688311008	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
112	ASCORBIC-ACID	Root	132	132	-0.5705165097451346	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
112	ASCORBIC-ACID	Leaf	88	800	-0.3696902910647434	
0	ASH	Root	140000	140000	2.0685940802719145	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	ASH	Leaf	3960	36000	-1.4597451047029075	
2	ASPARAGINE	Root	10000	30000	0	
53	BETA-CAROTENE	Leaf	12	108	-0.6676049250693852	
53	BETA-CAROTENE	Root	660	660	3.7837756184374194	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	BORNESITOL	Root	--	--		Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
102	CAFFEIC-ACID	Root	--	--		
28	CALCIUM	Root	11300	11300	0.4268132451111813	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	CALCIUM	Leaf	1980	18000	-0.029871524092770517	
0	CARBOHYDRATES	Root	759000	759000	-0.9117311715674291	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	CARBOHYDRATES	Leaf	83490	759000	1.1702299618640322	
0	CAROTENES	Plant	6300	6300	1	
77	CHLOROGENIC-ACID	Root	--	--		
20	CHOLINE	Root	--	--		
24	CHROMIUM	Root	8	8	1.034555549691094	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
24	CHROMIUM	Leaf	0.2	1.8	-0.4929482981471673	
2	COBALT	Root	129	129	2.254743268218843	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
2	COBALT	Leaf	--	--		
3	CONSOLICINE	Root	--	--		
4	CONSOLIDINE	Root	17	17		
0	D-MANNOSE	Root	--	--		
3	ECHIMIDINE	Root	--	--		
0	ECHINATINE	Root	--	--		
0	FAT	Leaf	1320	12000	-0.8859870390618501	
0	FAT	Root	17000	17000	-0.1960836859599246	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	FIBER	Root	72000	72000	-0.35781867764508235	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	FIBER(CRUDE)	Leaf	--	90000	-0.9755416251576845	
0	FIBER(DIETARY)	Leaf	--	480000	1.2687612918424682	
8	FRUCTOSE	Root	--	--		
22	GABA	Root	--	--		
7	GLUCOSE	Root	--	--		
4	GLUCURONIC-ACID	Root	--	--		
0	GUM	Root	50000	100000	-0.2627053187642807	
0	HELIOSUPINE-N-OXIDE	Root	--	--		
0	HYPOXANTHINE	Root	--	--		Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
6	IRON	Leaf	1.3	12	-0.890161290433994	
6	IRON	Root	810	810	0.7351070892840852	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	ISOBANERENOL	Root	--	--		
0	KILOCALORIES	Root	2170	2170	-2.6349381148764963	
0	L-ARABINOSE	Root	--	--		
0	L-RHAMNOSE	Root	--	--		
3	LASIOCARPINE	Root	--	--		
3	LITHOSPERMIC-ACID	Root	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	LYCOPSAMINE	Root	--	--		
65	MAGNESIUM	Leaf	77	700	-1.3227963811163561	
65	MAGNESIUM	Root	1700	1700	-0.45843259303324313	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	MANGANESE	Root	67	67	0.2541689976431844	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	MANGANESE	Leaf	0.6	5.8	-0.4502436253607189	
3	MUCILAGE	Root	290000	290000	1.2769493662553644	
1	MUCOPOLYSACCHARIDES	Root	250000	300000		
39	NIACIN	Root	--	67	0.48577546650469927	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
39	NIACIN	Leaf	10	89	-0.10339986544967049	
0	OCTADECATETRAENIC-ACID	Seed	--	--		
4	PHOSPHORUS	Leaf	242	2200	-0.5099115436962968	
4	PHOSPHORUS	Root	2111	2111	-0.24717782192265478	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	POTASSIUM	Leaf	1870	17000	-0.5892446041503846	
14	POTASSIUM	Root	15900	15900	0.008875914897978466	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	PROTEIN	Leaf	15400	140000	-0.7167237861233011	
0	PROTEIN	Root	94000	94000	-0.27414804901656553	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PYROCATECHINS	Root	24000	24000		
0	REDUCING-SUGARS	Root	51500	51500		
0	RESIN	Root	--	--		
15	RIBOFLAVIN	Leaf	0.8	7.2	-0.1441116267822773	
15	RIBOFLAVIN	Root	7.2	7.2	0.6839813792958593	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
57	ROSMARINIC-ACID	Leaf	5000	5000	-0.34272410314857343	
60	SELENIUM	Root	--	5.7	0.043025803419244356	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
60	SELENIUM	Leaf	0.1	1.2	-0.29034536355768803	
1	SILICIC-ACID	Leaf	40000	40000		
1	SILICIC-ACID	Root	--	--		
4	SILICON	Root	35	35	-0.18212553697929784	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	SILICON	Leaf	1	9	-0.38642290679786806	
0	SITOSTEROL	Root	--	--		
1	SODIUM	Leaf	12	110	-0.6277481449277332	
1	SODIUM	Root	3510	3510	1.1215361621673223	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
12	STIGMASTEROL	Root	--	--		
14	SUCROSE	Root	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SUGARS	Leaf	9900	90000	0.3611228146781439	
0	SYMLANDINE	Plant	--	--		
1	SYMPHYTINE	Root	--	--		
0	SYMPHYTOCYNOGLOSSIN	Root	21	21		
35	TANNIN	Plant	80000	90000	0.09291261850435828	
31	THIAMIN	Root	1.2	1.2	-0.48699564487025615	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	THIAMINE	Leaf	0.2	2.2	-0.7312289774690925	
4	TIN	Root	6.7	6.7	-0.9947649249747477	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	TIN	Leaf	0.7	6.7	-1.0681794992129428	
0	VIRIDIFLORINE	Plant	--	--		
0	WATER	Root	862000	862000	0.6071058751570949	
0	WATER	Leaf	--	890000	0.4109041271949558	
3	XYLOSE	Root	--	--		
77	ZINC	Leaf	--	--		
77	ZINC	Root	2.8	2.8	-0.9363126098748169	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.