

## Dr. Duke's Phytochemical and Ethnobotanical Databases

### Chemicals found in *Pinus edulis*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PUFA	Seed	256680.0	272775.0	1.2718279447919925	USDA's Ag Handbook 8 and sequelae)
27	LINOLEIC-ACID	Seed	248820.0	264420.0	1.3477431955517754	USDA's Ag Handbook 8 and sequelae)
13	MUFA	Seed	229420.0	243800.0	0.9721128191484206	USDA's Ag Handbook 8 and sequelae)
18	OLEIC-ACID	Seed	215280.0	228780.0	0.901605716043594	USDA's Ag Handbook 8 and sequelae)
13	PALMITIC-ACID	Seed	44160.0	46930.0	0.2687171251309469	USDA's Ag Handbook 8 and sequelae)
14	ARGININE	Seed	22510.0	23920.0	-0.030504068309975933	USDA's Ag Handbook 8 and sequelae)
8	STEARIC-ACID	Seed	20110.0	21400.0	-0.10108270827658257	USDA's Ag Handbook 8 and sequelae)
8	GLUTAMIC-ACID	Seed	19690.0	20925.0	-0.8770731141347408	USDA's Ag Handbook 8 and sequelae)
15	FIBER	Seed	11000.0	53100.0	-0.6449499340719145	--
3	ASPARTIC-ACID	Seed	10540.0	11200.0	-1.0110621613639723	USDA's Ag Handbook 8 and sequelae)
2	LEUCINE	Seed	8340.0	8865.0	-0.7864689107304623	USDA's Ag Handbook 8 and sequelae)
3	ALANINE	Seed	6050.0	6430.0	-0.7921205426745387	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Seed	5980.0	6255.0	-0.7089739224142836	USDA's Ag Handbook 8 and sequelae)
12	GLYCINE	Seed	5890.0	6260.0	-0.6784087064936613	USDA's Ag Handbook 8 and sequelae)
14	POTASSIUM	Seed	5600.0	7853.0	-0.41483433108703255	--
1	SERINE	Seed	4910.0	5220.0	-1.0261557844237532	USDA's Ag Handbook 8 and sequelae)
3	ISOLEUCINE	Seed	4500.0	4780.0	-0.7288031126441246	USDA's Ag Handbook 8 and sequelae)
7	PHENYLALANINE	Seed	4430.0	4710.0	-0.815674639294065	USDA's Ag Handbook 8 and sequelae)
4	LYSINE	Seed	4340.0	4615.0	-1.0136950313408202	USDA's Ag Handbook 8 and sequelae)
8	TYROSINE	Seed	4240.0	4505.0	-0.7496706395400166	USDA's Ag Handbook 8 and sequelae)
4	THREONINE	Seed	3670.0	3900.0	-0.9478946559921904	USDA's Ag Handbook 8 and sequelae)
7	HISTIDINE	Seed	2770.0	2945.0	-0.8451519352622784	USDA's Ag Handbook 8 and sequelae)
2	PALMITOLEIC-ACID	Seed	2500.0	2655.0	-0.2347354824299904	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
65	MAGNESIUM	Seed	2180.0	2650.0	-0.1169887078856715	USDA's Ag Handbook 8 and sequelae)
2	CYSTINE	Seed	2100.0	2230.0	-0.6400004513896891	USDA's Ag Handbook 8 and sequelae)
15	METHIONINE	Seed	2070.0	2200.0	-0.5460811806678808	USDA's Ag Handbook 8 and sequelae)
29	TRYPTOPHAN	Seed	1460.0	1550.0	-0.6053664112887261	USDA's Ag Handbook 8 and sequelae)
1	SODIUM	Seed	675.0	860.0	0.6494631787875544	--
4	PHOSPHORUS	Seed	145.0	590.0	-1.2587591014584043	USDA's Ag Handbook 8 and sequelae)
28	CALCIUM	Seed	59.0	117.0	-0.7400347524509366	--
39	NIACIN	Seed	43.0	46.0	0.0932133460540848	USDA's Ag Handbook 8 and sequelae)
77	ZINC	Seed	40.0	50.0	0.1382020296387132	--
6	IRON	Seed	28.0	37.0	-0.5287176209786577	--
112	ASCORBIC-ACID	Seed	20.0	21.0	-0.32584931994831046	USDA's Ag Handbook 8 and sequelae)
31	THIAMIN	Seed	12.0	13.0	1.5307148108726454	USDA's Ag Handbook 8 and sequelae)
12	COPPER	Seed	10.0	12.0	-0.2552864959153795	--
7	SALICYLATES	Seed	5.0	6.0	-0.3079859080069262	J. Amer. Diet. Ass. 85(8):950.
15	RIBOFLAVIN	Seed	2.0	3.0	-0.20090831129253928	USDA's Ag Handbook 8 and sequelae)