

Laboratory Analysis of Kratom Products for Heavy Metals

FDA conducted laboratory testing of 30 different kratom products from a variety of sources to determine if they contain heavy metals. The analysis found significant levels of lead and nickel at concentrations that exceed safe exposure for oral daily drug intake.

Based on reported kratom usage patterns, heavy kratom users may be exposed to levels of lead and nickel many times greater than the safe daily exposure, as referenced in Appendix 2 of the [Q3D Elemental Impurities Guidance for Industry](#) ([/node/381421](#)). Feedback

Based on these test results, the typical long-term kratom user could potentially develop heavy metal poisoning, which could include nervous system or kidney damage, anemia, high blood pressure, and/or increased risk of certain cancers.

The following table highlights FDA's laboratory data:

Product	Source	Nickel* (ng/g)	Lead* (ng/g)
Red Tea	soapkorner.com (/node/376465)	Sub 1: 1070 Sub 2: 1110	Sub 1: 477 Sub 2: 478
Raw Organics	4aceswholesale.com (/safety/recalls-market-withdrawals-safety-alerts/triangle-pharmaturals-recalls-kratom-products-due-potential-salmonella-contamination)	3800	615
Red Maeng Da	4aceswholesale.com (/safety/recalls-market-withdrawals-safety-alerts/triangle-pharmaturals-recalls-kratom-products-due-potential-salmonella-contamination)	8670	398

Red Maeng Da	<u>phytoextractum.com (/node/376465)</u>	1780	904
White Maeng Da	<u>phytoextractum.com (/node/376465)</u>	2030	402
Red Maeng Da	<u>krakenkratom.com (/node/376465)</u>	2210	382
White Maeng Da	<u>krakenkratom.com (/node/376465)</u>	1830	**485
Red Borneo	<u>krakenkratom.com (/node/376465)</u>	1570	574
Red Maeng Da	<u>buykratombulkusa.com (/inspections-compliance-enforcement-and-criminal-investigations/warning-letters/revibe-inc-553137-05182018)</u>	3830	305
White Maeng Da	<u>buykratombulkusa.com (/inspections-compliance-enforcement-and-criminal-investigations/warning-letters/revibe-inc-553137-05182018)</u>	2570	332
Red Borneo	<u>buykratombulkusa.com (/inspections-compliance-enforcement-and-criminal-investigations/warning-letters/revibe-inc-553137-05182018)</u>	3166	333
TomTea Private Reserve Maeng Da	Mood & Mind LLC	9020	847
Maeng Da Red/Green Blend	Mood & Mind LLC	3020	530
5-strain sample pack (Containing Red Borneo, Red Maeng Da, Green Maeng Da,	<u>Gaia Ethnobotanicals (/safety/recalls-market-withdrawals-safety-alerts/gaia-ethnobotanical-llc-voluntarily-recalls-kratom-products-due-potential-salmonella-contamination)</u>	Sub 1: 4700 Sub 2: 5100 Sub 3: 4400 Sub 4: 4700	Sub 1: 584 Sub 2: 460 Sub 3: 790 Sub 4: 550

White Borneo, and White Maeng Da)		Sub 5: 2890	Sub 5: 2700
Krave Botanicals – Maeng Da	Ashlynn Marketing Group Inc (/node/376465).([!--\$wcmUrl('link','UCM597265')--]).	2260	320
Krave Botanicals – Gold	Ashlynn Marketing Group Inc (/node/376465).([!--\$wcmUrl('link','UCM597265')--]).	10000	510
Red Hot Hippo Maeng Da Red	Happy Hippo LLC	1990	770
RockStar Hippo Maeng Da White	Happy Hippo LLC	2680	1400
Sunshine Hippo Maeng Da Gold	Happy Hippo LLC	1360	406
White Maeng Da	Beaufort Kratom LLC	2390	490
Red Maeng Da	Beaufort Kratom LLC	4400	1010
White Maeng Da Liquid	Front Range Kratom (/inspections-compliance-enforcement-and-criminal-investigations/warning-letters/front-range-kratom-552391-05182018).	690 200 ng/g	Not detected above 200 ng/g
Red Maeng Da Liquid	Front Range Kratom (/inspections-compliance-enforcement-and-criminal-investigations/warning-letters/front-range-kratom-552391-05182018).	576 200 ng/g	Not detected above 200 ng/g

Red Bali	<u>Front Range Kratom (/inspections-compliance-enforcement-and-criminal-investigations/warning-letters/front-range-kratom-552391-05182018)</u>	10700	352
Maeng Da	<u>Kratom Spot (/inspections-compliance-enforcement-and-criminal-investigations/warning-letters/kratom-spot-552370-05182018)</u>	20100	438
Red Vein Sumatra	<u>Kratom Spot (/inspections-compliance-enforcement-and-criminal-investigations/warning-letters/kratom-spot-552370-05182018)</u>	Sub 1: 22600 Sub 2: 29000	Sub 1: 687 Sub 2: 777
White Vein Kratom	Sunstone Organics LLC	3680	307
Red Vein Kratom	Sunstone Organics LLC	3220	424
Green Vein Kratom	Sunstone Organics LLC	5720	252
Maeng Da Kratom	Sunstone Organics LLC	1060	1200

* Calculated as average amount from 3 tests of same product unless otherwise noted

**n=2, semi-quantitative

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