Heavy Metals: Lead, Cadmium, Arsenic

Overview:

The biological implications of long-term exposure and of ingesting heavy metals is well-established and ranges from acute heavy metal poisoning to long-term reproductive implications (increased risk of miscarriage and brain development abnormalities). Common heavy metal exposure typically occurs from ingesting lead and arsenic.

Hemp (Cannabis) is a natural phytoremediator, this means heavy metals (lead, arsenic, cadmium) that may be present in growing medium, soil, are accumulated into the plant tissue, remaining within the plant after harvest. While phytoremediation is a cost-effective approach to soil decontamination, the plant material must be thought of as contaminated and final use should be carefully considered.

Cannabinoid based concentrates, derived from hemp and marijuana, are typically extracted with polar solvents that also extract heavy metals. If not properly post-processed the resulting cannabinoid concentrate can contain alarming levels of heavy metals. These concentrates are then used directly in topicals, tinctures, and smokable vape cartridges.

Staggering amounts of hemp-based concentrate products have emerged without substantial and third-party certified safety testing. This lack of full disclosure and of objective, impartial self-regulation regarding consumer safety has caused a new health risk for cannabinoid consumers

Imperial Data:

Prior to extraction, NeXtraction screens raw hemp material through a third-party, certified laboratory for cannabinoid potency and the presence of microbials, mycotoxins, heavy metals and pesticides. A result of this pre-screening, NeXtraction has demonstrated that its WET™ process is able to completely eliminate the presence of cadmium, lead and arsenic from its acidic cannabinoid concentrate.

Testing: Heavy metal testing was completed by a third-party, certificated, Washington State cannabis laboratory.

Results:

	Incoming Biomass	Waste Biomass	WET™ Cannabinoid Ingredient	Washington State Legal Threshold
Arsenic	0	1.20 ug/5g	0	(WRL 10ug/5g)
Lead	2.27 ug/5g	2.70 ug/5g	0	(WRL 6 ug/5g)
Cadmium	1.03 ug/5g	1.03 ug/5g	0	(WRL 4.1 ug/5g)