HILL AVE CANNABIS

DehydraTECH Comparative Technologies

Powered by DehydraTECH™

Technology	Description	Metabolism/Biodelivery	Absoprtion*/Onset	Dosing Precision/Repeatability	Organoleptics	Clinical Data	Patented
DehydraTECH™	S.E.D.D.S. - Self Emulsifying Drug Delivery System enveloping the cannabidiol in an LCT making use of the body's natural lipid transport system.	When ingested, via thoracic duct to the lymphatic system delivered directly to the peripheral tissue and blood stream. Employs most standard substrates/ingredients as a carrier.	No degradation of dose/potency. Measurably in the bloodstream within 2 minutes. Blood brain barrier absorption plus 1,137% compared to MCT formulations. Skin penetration plus 225% increase in CBD permeability compared to the highest performing commercial penetration enhancer formulation; 1,900% increase in permeability compared to a control formulation devoid of DehydraTECH or any commercial penetration enhancers.	Dosing is precise and repeatable. Absorption is independent of diet regardless of form factor.	Odorless, tasteless. Potent flavor/odor masking does not require additional flavor enhancers and sweeteners.	Yes, both animal studies and human clinical trials	Yes. 22+ international patents
Nanoemulsion	Creation of nano-sized emulsions of varying sizes for improving delivery of active ingredients or inclusion in other delivery processes.	Via liver metabolism. Employs MCT oils or poly sorbitol as a transport mechanism.	Onset in 30 minutes is possible depending on form factor. Absorption limited by diet and gastro-intestinal metabolism. 75% to 85% degradation of dose/potency.	Imprecise once in the stomach: molecules re-combinate and randomly resize. Smaller nano sizes can collect in the liver. Absorption dependent on fat in the diet. As some tout, there is no evidence of absorption via the esophageal tract during ingestion.	Requires odor/flavor masking via sweeteners and flavor enhancers or strict use of isolate in combination.	Anecdotal	No. It is a generic process.
Liposomal	Spherical-shaped vesicle composed of one or more phospholipid bilayers, which closely resembles the structure of cell membranes. Encapsulates hydrophilic or lipophilic drugs.	Very highly effective for intravenous drug introduction. Ingestibles are via liver metabolism. Employs MCT oils as transport. Lipid layers are usually proprietary and complex.	Onset in 30 minutes possible. The bilayers separate in the intestine defeating the efficacy of the delivery system through the gastrointestinal tract. Absorption limited by diet and gastro-intestinal metabolism. 75% to 85% degradation of dose/potency.	Dosing is precise with variable results after liver degradation and dependent on diet.	Requires odor/flavor masking via sweeteners and flavor enhancers or strict use of isolate in combination.	Anecdotal	Yes. Few: dependent on company/application.
Lyotropic	Liposphere assembly (self assembling micelle) with permeation enhancers involving formation of small nanostructures (<50nM) with a water core so that lipophilic drug molecules can be suspended for transport into the body.	Via liver metabolism.	Requires penetration enhancers. Onset in 30 minutes is possible depending on form factor. Absorption limited by diet and gastro-intestinal metabolism. 75% to 85% degradation of dose/potency.	Dosing is precise with variable results after liver degradation and dependent on diet.	Requires odor/flavor masking via sweeteners and flavor enhancers or strict use of isolate in combination.	Limited/anecdotal	Yes. Few: dependent on company/application.
Micelle	Encapsulation of the molecule within micelle-like structures. Like liposomes, micelle can deliver both water soluble and fat soluble nutrients.	Via liver metabolism	Onset time not evidenced.. Absorption limited by diet and gastro-intestinal metabolism. Limited form factors. 75% to 85% degradation of dose/potency.	Imprecise. Micelle structures vary, can be complex, and need to be synthesized to approximate the body's naturally created micelles.	Requires odor/flavor masking via sweeteners and flavor enhancers or strict use of isolate in combination.	Anecdotal	Yes. Few: dependent on company/application.
MCT	Common carrier for tinctures/soft gels, and nano formulas	Via liver metabolism.	75% to 85% degradation from liver. Onset in 30 minutes is possible depending on form factor.	Imprecise. Tinctures lose up to 80% sublingual absorption efficacy due to swallowing the mixture.	Requires odor/flavor masking via sweeteners and flavor enhancers or strict use of isolate in combination.	Anecdotal and evidenced via Lexaria clinical trials/studies.	No. It is a generic process.
"**Powderized**"	Usually a proprietary process that combines the CBD molecule with a soluble powdered substrate limited to one or two and introduced as a separate, additional ingredient.	Via liver metabolism	Onset in 30 minutes is possible depending on form factor. Limited absorption as many are not fully water miscible. 75% to 85% degradation from liver.	Imprecise in the body. Dissolvable and not fully water miscible.	Requires odor/flavor masking via sweeteners and flavor enhancers or strict use of isolate in combination.	Anecdotal	No. It is a generic process.
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*__NOTE__: Regardless of the structure, no format is absorbed through the intestinal walls - it must go through the entire gastro-intestinal track. If there is absorption through the intestinal wall there is a serious health issue. Only DehydraTECH™ avoids this danger by avoiding first-pass liver metabolism.