

Proprietary Glycerin-Based Processing Technologies

(Multi-Dynamic (aka TincTract®), Pureodine™, and BTC™ Vibrational Technologies)

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Multi-Dynamic Process (aka TincTract® Process): Liquid Herbs International™ (LHI), the private label/bulk ingredient sales department of Cedar Bear Naturales®, Multi-Dynamic Process for botanical extractions is a technology-driven, serialized, multi-step, multi-dynamic glycerin-based liquid herbal manufacturing endeavor. It was first conceived, modeled, and developed in 1982 and has undergone numerous generational advances, enhancements, and refinements, culminating in the current 12th generation. Those generational advances have included upgrades to equipment (many of which are customized and/or repurposed), implements, processes and procedures, and additional technological advances.

First, understand that this kind of liquid processing of botanicals had never been done before in herbalism or commercial herbal product manufacturing. In fact, the Multi-Dynamic process was the first time glycerin became a seriously considered and used solvent in place of alcohol as the preferred extractive solvent/medium for extracting botanicals.

This reason for this shift from alcohol to glycerin as the preferred solvent was driven by both processing and chemistry considerations. The processing aspect concerned alcohol's limited versatility as an extractive solvent. It is highly volatile, with a low volatility index, meaning it will vaporize and ignite at a much lower temperature than glycerin, making it unsuitable for the tiered multi-dynamic steps of the Multi-Dynamic process. Glycerin, by contrast, is more stable and versatile as an extractive solvent because its higher volatility index means it vaporizes/dissociates at a substantially higher temperature than alcohol, making it a more efficient extractive solvent when a dynamic aspect of processing is involved. The key to using glycerin versus alcohol lies in how glycerin is used and handled, which makes it a superior solvent for broader-spectrum extractive purposes than alcohol.

Not choosing to work with alcohol, because of its processing limitations, was also underscored by other chemistry-related issues. Alcohol possesses intrinsic effects on many constituents and biological actives, many of which are derived from botanicals. They include denaturing, inert-rendering, and oxidative-driving effects. A fundamental principle of chemistry is that if an alteration or change of something takes place, then the outcome relative to that something's activity or inclusion in a process will concurrently change. In other words, certain botanical constituents that have been subjected to the denaturing, inert-rendering, or oxidative-driving effects of alcohol will have their sought-after actions, in this instance, therapeutic or nutritive potential and/or effects, altered, diminished, or stanching altogether. This fundamental principle of chemistry also applies to biochemistry. This was a major reason for dispensing with

alcohol in developing the Multi-Dynamic process and using glycerin instead, which has no denaturing, inert-rendering, or oxidative-driving effects on botanical constituents.

The Multi-Dynamic process is private label/bulk ingredient name for the TincTract® process. TincTract® is a contraction of the words TINcture and exTRACT because it combines the best of both approaches into a single process, without the downsides of either.

To better understand the uniqueness of the Multi-Dynamic process and what differentiates it from other liquid herbal processes, whether alcohol- or glycerin-based, it is best described as a serialized, multi-step, multi-dynamic process, as this term captures its essence.

The serialized aspect involves a sequential extraction process in which the botanical material is exposed to different unsaturated layers of a solvent in a specifically defined order, with each successive stage building upon and capturing constituents left by the preceding stage. It is not a 'saturate-based' approach, which is the opposite of a serialized concept. One of the main advantages of a serialized approach is that less raw botanical material is used while achieving matching or greater broad-spectrum extractive potential and accompanying synergies than may be seen with a saturate-based approach. This aspect of using less raw botanical material means the Multi-Dynamic process is more eco-friendly, carbon-neutral, and zero-waste-oriented than typical saturate-based processes may be.

The multi-step aspect is one in which the liquid-based extract of a Multi-Dynamic process occurs through multiple defined stages, with each step performing a specific function in the overall Multi-Dynamic process. Due to this multi-step aspect, a Multi-Dynamic process is not held to a single tincture/macerate/percolate tincturing process, or a singular cooking approach, but involves multiple steps that incorporate specific inputs to obtain specific outcomes.

The multi-dynamic aspect is one in which multiple extraction-dynamic gradients are utilized sequentially to progressively enhance extraction dynamics, yielding a broader spectrum of botanical constituents than is achieved by a cold/passive process alone or a cooking process alone. Put another way, multi-dynamic is about progressively increasing the extractive dynamics of the Multi-Dynamic process to gain greater extractive potential to obtain a broader spectrum of constituents from an extracted botanical.

Having all three of these aspects of the Multi-Dynamic process, serialized, multi-step, and multi-dynamic, combined into one processing technology substantially increases the extraction potential for obtaining a broader spectrum of constituents from a botanical than would be seen with other extractive methodologies.

Another generational-based technological advance to the Multi-Dynamic process was the inclusion of a **Molecular Energy Induction Modulating Harmonizer** (MEIMH™) for amplifying naturally occurring dielectric synergies of the solution mix for enhancing extraction potentials

and increasing product stability, evidenced by the stronger, more concentrated, potent, and increased stability of Multi-Dynamic processed liquid herbal products than of earlier generation Multi-Dynamic processed preparations that started at an effective dosing of one teaspoonful per dose, and is now, at a 12th generation iteration, is at an effective dose of 1/4 teaspoon per dose (1/8 teaspoon for children). Like the Multi-Dynamic process itself, the MWIMH™ is a patentable technology, but we decided to keep it proprietary.

The Multi-Dynamic process is also rooted in alchemic principles and practices, a four-fold, element-based alchemic metaphorical model, to be exact. This fourfold, element-based model formed the basis for modeling the Multi-Dynamic process, contributing to its serialized, multi-step, and multi-dynamic aspects.

And no, the Multi-Dynamic process is not based on, or a variation of, a Spagyric process, which is a threefold element-based, alcohol-based passive tincturing methodology, that ashes its herbal marc (i.e., the spent raw material waste), thereby negatively contributing to the atmospheric carbon footprint, which the Multi-Dynamic process does not do as it sends its spent raw material waste to a gardens farm to be composted that in turn positively adds to the soil's carbon bank. The Multi-Dynamic process was conceived, modeled, and developed well before the conceptualizer and developer learned of Spagyric herbal tincture making.

The Multi-Dynamic (aka TincTract®) process was first conceived, modeled, and developed by L. Carl Robinson, MH, FH, TT, CCHt, RH(AHG), a clinical & formulary herbalist and CAM practitioner of 50+ years. It came into being 45 years ago, in 1982, and is the first of its kind of liquid herbal product-making approach and its resultant products in the industry, and hence, the most well-proven with its generational advances and refinements. This unique and original processing technology has become the industry standard against which all other glycerin-based processes and their products are compared, and the Multi-Dynamic process remains the front-runner, offering the highest-quality, potent, efficacious, and good-tasting herbal glycerite concentrates available.

Pureodine™ Process: The Pureodine™ process is another technology-driven process for making a unique and original glycerite of mono-element-based diiodine-molecular (I₂) iodine, commonly but incorrectly referred to as 'nascent' iodine.

LHI sales offers this product as a white-label finished 1 oz/30 ml actinic amber-colored dropper bottle containing .9% iodine (by weight) for nutritional supplement use.

The Pureodine™ process is an industry first for a glycerite of mono-element-based molecular iodine (I₂). It had never been done before, and in fact, many detractors in the 'nascent' iodine industry, that are primarily alcohol-based products, claimed that what the Pureodine™ process

was doing with glycerin as the solvent was not possible to do, even claiming that glycerin and elemental iodine are not compatible, which from a well-studied chemistry perspective, reaching back to the 1930s/40s, is not true, but in fact, iodine and glycerin have a well-established chemical affinity for each other. The lead developer of the Pureodine™ process was already well aware of this latter aspect, as it was a determining factor in using glycerin as the solvent for making a Pureodine™-processed molecular iodine product.

In addition to efficiently dissolving the USP-grade anhydrous elemental iodine crystals in the glycerin solution, the developers aimed to create a gentler, more gastric-compatible, and more stable product than other similar iodine supplements on the market. This required using highly specialized lab equipment, some customized and repurposed, along with highly focused, sensitive processing protocols to bring the Pureodine™ process to fruition.

A small development team, led by L. Carl Robinson, MH, FH, TT, CCHt, RH(AHG), who had already developed the Multi-Dynamic (aka TincTract®) process and understood fluid chemistry-based extractions, with two other team members, one of whom possessed systems engineering theoretical insights, and the other with a background in Navy nuclear & electrical technologies, together developed the Pureodine™ process for making stabilized molecular iodine solutions.

In 2007, the Pureodine™ process came to fruition. Since then, the Pureodine™ process has undergone generational enhancements and refinements and is now in its 8th generation.

A generational Pureodine™ process enhancement involved developing and including an **Integrated Hydrodynamic Molecular Vortex Agitation System (IHMVAS™)** accelerator into the process, which transforms the solution's solvate state and stabilizes the finished solution. The earlier generations of the Pureodine™ process established the uniqueness and originality of its molecular iodine products. The later-generation inclusion of the IHMVAS™ accelerator in the Pureodine™ process substantially enhances the dissolution and solvate combining of elemental iodine with glycerin, and increases dielectric potentials and stability of the finished molecular iodine product, establishing it as the industry's standard for totally alcohol-free glycerite of molecular iodine.

That transformative effect spoken of is not one of structural transformation (aka chemical modification) of the elemental/molecular (I₂) iodine itself. Rather, it is about strengthening the protective solvent caging effect of glycerin on the molecular (I₂) iodine, dynamically modulating the intermolecular hydrogen-bonding and molecular organization of the glycerin solvent, and increasing dielectric potentials of the solvate, which enhances molecular-level mixing, shearing, and dissolving of the solution's components into a more homogeneous state, and enhances the solution's solute (elemental iodine) and solvent (glycerin) interaction and stability.

Said enhanced stability is due to a more homogeneous state of the solvate solute, which, from a stability perspective, theoretically results in greater reduction of iodine's vapor pressure (i.e., proclivity to becoming an outward-expanding escaping gas, which is an intrinsic attribute of elemental/molecular (I_2) iodine), thus reducing molecular liberation of the molecular (I_2) iodine from the finished solution, hence, increased stability of the solvate solute of molecular iodine.

The Pureodine™ process and inclusion of its Integrated Hydrodynamic Molecular Vortex Agitation System (IHMVAS™) accelerator for making a glycerite of molecular iodine (I_2) are industry- and marketplace-firsts for a glycerin-based liquid molecular iodine. It's original and exclusive to the manufacturer of Pureodine™ made molecular iodine. The Pureodine™ process and its IHMVAS™ accelerator are also patentable, but we decided to keep these developments as proprietary technologies.

BTC™ (Biologically Targeted Coherent) Technology: The BTC™ is a vibration-based technology that utilizes a homeopathic-type dynamizing approach to create unique glycerite energetic blanks that hold highly complex vibrational energy signatures, and a proprietary vibrational imprinting/programming technology to imprint complex vibrational formula signatures into the BTC™ energetic blanks.

The BTC™ technology was developed by L. Carl Robinson, MH, FH, TT, CCHt, RH(AHG), a clinical & formulary herbalist and CAM practitioner, whose phytotherapy degree program also taught homeopathic principles & practices as they related to botanicals specifically. After developing the Multi-Dynamic (aka TincTract®) process, Carl later turned to developing a completely alcohol-free approach to flower essences and vibrational remedies, largely based on his hypothesis that plants have vibrational aspects that exhibit as subtle quaternary constituents in botanicals. With this insight as a basis, he went on to first develop a fortified glycerin-based energetic blank containing a specially prepared, laser-activated, stabilized complex trace-mineral matrix in an enhanced glycerin and multi-stage-purified, and catalytically conditioned water. By 'blank,' it means a solution that contains no energy imprint or signature – it's a blank!

From there, he furthered the BTC™ vibrational technology by developing a proprietary approach to vibrationally imprinting the BTC™ energetic blanks with highly complex formulas of flower essences and/or vibrational signatures. Both the development of a totally alcohol-free, highly stable, glycerin-based imprintable solution and the imprinting of complex formulas of flower essences and/or vibrational signatures were marketplace firsts that had never before been done in the industry. Today the totally alcohol-free approach to making flower essence and vibrational glycerite products is widely imitated in the industry, but they still don't have the premium qualities and astounding stability of the original proprietary BTC™ technology.

As for what is happening with vibrational energy technologies, the jury is still out on what it is or isn't. One thing is clear: from an evidentiary, observational basis, something IS happening with vibrational technologies. Homeopathy, part of the vibrational family, has a plethora of 'provings' regarding its remedies that the US FDA now recognizes as its own class of OTC remedies. Even so, the supposed reasons for how homeopathy and its cousin vibrational technologies work remain hypothetical. While provings and/or evidentiary observations exist for using such remedies, postulates as to how these remedies work are hypothetical, not scientific per se.' In the realm of vibrational energy-based products and devices, scalar energy theory, Orgone energy theory, Tesla resonance theory, and others are postulated as explanations of how the energetic aspect of vibrational techniques works. Fact is, in the classical sense, none of it is scientific – it's all hypothetical and suppositional all the same. However, the fact that something is not scientifically proven in the classical sense, from an evidentiary observational perspective, should not be discounted outright, but it should not also take the arbitrary stance that somehow it's 'scientific' because it appears to work, albeit typically on a highly subjective level, which itself means it is not objectively scientific, but still plausible all the same, and therefore to be considered a usable option.

The history of proving the BTC™ energetic blanks, as stable imprintable solutions, happened when an international sales representative for a unique bio-vibrational electronic diagnostic device that was, at the time, cleared as an experimental homeopathic-based device in Europe, Australia, and Canada, and later cleared as a non-medical experimental device in the United States, had by then sold hundreds of units throughout Europe, Australia, and North America. This sales rep heard from one of the device's owners about the BTC™ energetic blanks and flew in from Eastern Europe to meet personally with the manufacturer of the BTC™ energetic blanks.

A large test order was placed for the BTC™ energetic blanks, which the sales rep then distributed to various client-customers for proof testing, using the bio-vibrational electronic diagnostic devices that also doubled as programmable homeopathic/dynamizing imprinters for the BTC™ energetic blanks. These testers had previously used straight water and/or alcohol-containing unimprinted solutions and found that the biggest shortcomings of their imprinted solutions were that the imprint-holding duration and stability were less than desired, and that the imprinted signature was very susceptible to being knocked out by a number of factors, both physical and environmental.

The initial feedback from Australia and Europe, and later from Canada and the United States, was exceptionally positive. Device operators found the imprinted energetic blanks astoundingly stable against both physical and environmental factors, and when they increased the complexity of their homeopathically based formulas, they found more consistent results at certain levels than they had previously experienced with alcohol- and/or water-containing

solutions. For a time, the manufacturer of the BTC™ energetic blanks sold thousands of units worldwide.

In other words, the BTC™ energetic blanks and their ability to be imprinted with exceptionally complex flower essence and/or vibrational signatures, along with the stability of the unique solution, had, in homeopathic nomenclature, been proven! By proven, it is meant to imply that the ability to hold a highly complex vibrational imprint and to possess stability previously unseen with alcohol- and/or water-containing solutions occurred when BTC™ energetic blanks were used to imprint flower essence and/or vibrational formula-based signatures.

Since BTC™ technology was developed, and with its proprietary energetic blank technology and proprietary imprinting of complex flower essence and/or vibrational formula signatures, numerous private-label accounts/customers have procured and marketed these products under their own brand. Private label BTC™ vibrational products for uses such as weight control, energy boosting, and crisis/stress control are among the many successful applications for which these vibrational products are made. While others have imitated the totally alcohol-free, glycerin-based approach to making flower essences and/or vibrational products, they lack the added uniqueness and quality boost that BTC™ technology offers.

In closing, one innovative approach is using BTC™ vibrational technology as an ancillary vibrational addition to Multi-Dynamic-processed liquid herbal products, either with the Multi-Dynamic-made liquid herbs as the primary emphasis or with the BTC™ vibrational signature products as the primary emphasis. The possibilities are endless.