PUREODINE™ PROCESSED MOLECULAR (I_2) IODINE

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OVERVIEW

Pureodine™ processed Molecular iodine, a 'Stabilized' Diiodine-Molecular Iodine (I_2) Glycerite, is not your typical 'nascent' type of iodine that other companies offer. It's different! For one, at 20 years, it's the first and original alcohol-free 'glycerite' of molecular iodine developed for supplemental use. Yes! The FIRST and ORIGINAL!

Summarizing its development – the Pureodine™ process (now in its 8th generation) is different and goes beyond the other methods for making this form of iodine. Pureodine™ processed Molecular Iodine is an alcohol-free glycerite of diiodine-molecular (I_2) iodine. It's the original and the first of its kind in the dietary supplements industry. That means we have been doing alcohol-free glycerin-based molecular (I_2) iodine longer than anyone else and are more experienced in this kind of iodine chemistry, evidenced by:

- Pureodine™ processed molecular iodine is the first in the industry to utilize a totally alcohol-free approach to using glycerin instead of alcohol (or gases) in the making of this diiodine form of iodine for dietary supplement use.
- The Pureodine™ process is now in its 8th generation and includes specialized equipment (some customized), highly technical implements, and proprietary process refinements.
- Lab-grade, manufacturer-standardized methodology and protocols.
- The Pureodine™ process includes an advanced, groundbreaking proprietary technology exclusive to the manufacturer of Pureodine™ processed molecular iodine that's not used by anyone else. That technology is the IHMVAS™ (**I**ntegrated **H**ydro **M**olecular **V**ortex **A**gitation **S**ystem) accelerator, which increases the solution's *effective dielectric response*, imparts *transformative qualities,* and enhances *glycerin-protective solvent-caging* stability to the finished Pureodine™ processed molecular iodine (I_2) product.

• The enhancement of the protective solvent caging property (i.e., a micro-encapsulating-like protective effect) by the IHMVAS™ accelerator to the Pureodine™ process is similar in effect to the TincTract® process's enhancing glycerin's protective caging properties in the Multi-Dynamic processed herbal glycerite concentrates, even though they are two process technologies unique to each product type.
• While both the Pureodine™ process and Multi-Dynamic process for making LHI™'s unique liquid herbal product offerings utilize glycerin, they utilize different equipment, implements, protocols, and raw component ingredients from each other, but possess the same enhanced protective caging of their respective solvent-based constituents.

Both are patentable developments, but have been kept as proprietary trade secrets. This has resulted in an innovative, revolutionary, and unique molecular iodine glycerite for tissue iodine-loading protocols and daily iodine supplementation. Its quality, astounding stability, gentleness, and milder flavor are unmatched by any others for this type of iodine product.

The exclusive manufacturer of Pureodine™ made products was the first and original diiodine-molecular iodine (I_2) supplement-producing company in the industry to stop using the incorrect and chemically obsolete term 'nascent' in favor of the chemically accurate term and description of 'Molecular.' In the "DETAILED REVIEW OF THE SUBJECT" section below, we explain the reason for doing this. This is another example of our high-quality standards, which also apply to aligning with current scientific nomenclature and descriptions, and to being truthful and accurate in describing our products to resellers and consumers who purchase and use them.

Pureodine™ made Molecular Iodine is a 'Standardized' Lab-Grade product produced in an FDA-registered & audited facility/operation that is also NSF GMP certified, subjected to 3rd Party lab analysis & tests, and is KOSHER certified, HALAL certified, Vegan certified, and Made in the USA.

A DETAILED REVIEW OF THE SUBJECT

It's a lengthy, informative read, so grab a cup of coffee or tea and kick back for a learning adventure in iodine chemistry for the layperson and the technically inclined, plus the many aspects of iodine and health.

Regarding the two main chemically different forms of 'consumable' iodine/iodide supplement products, one is the conjoined reduced mineral salt triiodide (I_3^-), such as potassium iodide (KI) and sodium iodide (NaI), hereafter referred to as triiodide and/or I_3^-, and the other is a single

element-based diiodine-molecular iodine (I_2), such as Pureodine™ made Molecular Iodine, hereafter referred to as molecular iodine and/or I_2.

OF SPECIAL NOTE: There is not a single 'comparative' scientific study or clinical trial regarding the two main different supplement-based consumable forms of iodine/iodides and the differing states of those forms of iodine/iodides resulting from their manufacturing processes and ingredients used in their making.

That's right! NOT a single head-to-head comparative scientific study or clinical trial regarding the two forms of consumable iodine/iodides. Yet the scientific and medical communities make arbitrary declarations, stances, and posturing about an assumed commonality between these two forms of iodine/iodides, based solely on supposition-driven logic and anecdotal thinking that would normally be unacceptable in fact-based science and medicine.

Regarding the use of the word 'Nascent.' It is incorrect, misleading, and highly unscientific to use the word nascent to describe molecular iodine (I_2) supplement products. The concept of 'nascent state' in chemistry is outdated and considered obsolete, especially for molecular iodine, as a stable solution, of which an iodine solution in a 'nascent' state would not be. Today, the term is only 'conceptually' used in chemistry, and then only in specific highly chemically reactive states or reactions. Therefore, the name 'nascent' iodine is a misrepresentation and inaccurate description of the actual nature and form of molecular iodine solutions, especially when the classical definition of the term 'nascent' is considered.

The term 'nascent,' as popularly and incorrectly used to describe molecular iodine (I_2) products, has been used since 1931; it comes from a psychic's notion, not a scientific one, and has become deeply embedded in the natural health products market psyche as a result. The fact is, calling molecular iodine (I_2) products 'nascent' is incorrect and unscientific.

This form of iodine is not a 'nascent' product in any sense of the word. If it were, such iodine products would not be safe, especially for consumption. While diiodine-molecular iodine is the I_2 form of iodine, in 'conceptual' chemistry a nascent form of iodine would be I^o (not I_2), chemically called 'atomic' iodine, which is an unbound, free-ion form of iodine, the most unstable, reactive, and caustic form of iodine there is. Pure 'free' I^o is highly toxic, corrosive, and reactive with both inorganic and organic matter. Correct nomenclature and understanding those terms matter in science in general, chemistry specifically, and in dietary supplements and consumable products.

For instance, "nascent," in common parlance, is defined as 'forming,' 'coming into being,' 'emerging,' and 'evolving,' usually coming from and into a 'free' state, which are all, from a conceptual chemistry and nomenclature perspective, deemed highly unstable and reactionary states. In English, these terms describing nascent reach back into the 17th century, so it's a well-defined term. In chemistry, the word 'nascent' is no longer used in such an out-of-context fashion, but has been supplanted by terms that are more contextually specific to an actual chemical action, reaction, or state, and is only used as a conceptual premise within the context of actual reaction-based chemistry.

Where molecular iodine (I_2) products are concerned, 'nascent' implies that it is the monoatomic (atomic) I^o form of iodine in a free, unbound state that is contained in what are actually molecular iodine (I_2) products. A monoatomic (atomic) iodine, chemically and biochemically speaking, is a 'free' I^o iodine in fluid systems that, by itself (meaning, not organified or bound to), would be, on contact, toxic, highly corrosive, and a reactive form of iodine, of which molecular iodine (I_2) products are not. To be sure, biochemically speaking, the monoatomic (I^o) form of iodine does not come into being in the body until the thyroid, for a brief micro-fraction of a moment, converts I^- into monoatomic I^o ion and then immediately organifies (e.g., binds to proteins) it into the form of iodine that is then trapped in the iodine receptors of the thyroid and tissues throughout the body. But as pure free, monatomic (I^o) iodine in a supplement-based solution, free-roaming in the gut and fluid systems of the body, is not the case, and if so, would have disastrous results.

These are all fundamental facts regarding iodine chemistry and biochemistry of the body, and yet the purveyors of so-called, and inaccurately termed 'nascent' iodine products continue to refer to their products as being 'atomic' (i.e., monoatomic) iodine (I^o), not realizing, or ignoring the chemistry, that by the use of the terms 'nascent,' ‘monatomic,’ or ‘atomic,’ they are actually implying their particular iodine products are toxic, highly reactive, and corrosive to tissues. Kind of like the proverbial "Shooting themselves in the foot!"

The fact is, companies making and selling their differing takes on so-called nascent-labeled iodine for supplement use do not know what they are talking about and are conveying to the public, considering their products do not contain I^o (i.e., 'atomic' iodine) in its unorganified free state, which would possess defined nascent kinds of instability, corrosiveness, and reactivity, but instead such of their products in fact contain molecular iodine as I_2, that is not I^o, which means it is NOT nascent. Molecular iodine (I_2) in solution (called ‘elemental’ iodine in an anhydrous state) is more stable than I^o (i.e., atomic iodine). The science and nomenclature of chemistry clearly designate the kind of iodine that is present in products that are incorrectly called nascent as being the molecular (I_2) form of iodine, which is radically different from pure free monoatomic (atomic) I^o iodine, of which, as described earlier, I^o, chemically speaking, possesses the unstable and reactive chemical characteristics of 'nascent.'

Wholesalers, retailers, and consumers should demand that molecular iodine products be properly named as ‘Molecular’ iodine, and avoid selling or buying products listed as being ‘nascent’ iodine.

For decades, the makers of other molecular (I_2) iodine products have claimed their product contains monoatomic (i.e., 'atomic') iodine (i.e., I^o), with some even referring to their products as 'Atomic' iodine, which, again, from a chemistry perspective, is absurd, inaccurate, misleading, and untrue. Such iodine products are not, and never were, nascent or containing iodine in the pure free I^o monoatomic state. Again, we are referencing fundamental iodine chemistry here.

With this knowledge and understanding, the exclusive manufacturer of Pureodine™ made molecular (I_2) iodine no longer lists 'nascent' on its own retail brand product labels and in print and media, but lists its iodine product as being a ‘Molecular’ iodine.

Closing on this point, the Pureodine™ processed iodine is NOT a corrosive and reactive 'nascent' monatomic (atomic) I^o form of iodine, as, again, chemically speaking, the name 'nascent' implies and actually describes. Pureodine™ processed molecular iodine is more accurately described as a *Standardized Stabilized Diiodine-Molecular (I_2) Iodine Glycerite*. It is called what it is, and not what it is not.

Iodine is incredibly important for the body, and make no mistake: iodine deficiency, especially subclinical Iodine Deficiency Disorders (IDD) in populations worldwide, including North America, is real and not just a 'popular belief' thing, but is verified and recognized by the United States National Institutes of Health (NIH), Centers for Disease Control (CDC), American Medical Association (AMA), and the World Health Organization (WHO), regardless of what the government, agenda-driven doctors, and media-at-large would juxtapose around, gaslight, or have you iodophobically believe.

Iodine is an *essential* mineral for human health and needs, meaning the human body does not make its own iodine but must ingest it through diet and/or supplementation.

In evolutionary biology, many evolutionary biologists consider iodine the mineral element that anchors all other minerals in the biological processes of evolution for multicellular higher forms of life, hence being called the *Anchor Mineral*, which also implies it is the anchor antioxidant of all antioxidants in evolutionary biology. Iodine has the lowest mass-to-weight ratio of the essential mineral elements required by the body, which is one reason it is only needed in trace amounts compared to other essential minerals. Nevertheless, even at trace levels, populations still show iodine-related deficiencies.

Evolutionarily speaking, iodine is considered the core anchoring antioxidant that enabled the leap to higher forms of life. Antioxidant activity is fundamental to the survival, adaptation, and evolution of aerobic-driven life and plays a crucial role in the evolution of complex organisms and higher life forms. Iodine, with its antioxidant-anchoring properties and effects, was essential to the evolutionary development of warm-blooded species and their thyroid glands. In fact, iodine is considered central to mammalian hemispherical brain development and humans' greater degree of functional lateralization and anatomical asymmetry. This evolutionary development became unique to humans and would not have happened without iodine.

While other mineral elements are important and essential, Iodine is the most essential mineral element to healthy DNA sequencing and resultant cellular integrity (the epicenter of chromosomal activity), being another example of iodine's essential role in evolutionary biology and its role in preventing chromosomal anomalies and mutagenic activity, from the start of in-utero meiosis through fetal development and childhood on through adulthood.

Iodine anchors thyroid activity and, in turn, all metabolic activity throughout the body. Consider: no metabolic activity, no life! Cardiovascular health, blood sugar, and immunity are just three of the many body systems that depend on a healthy thyroid and adequate iodine intake, uptake, and utilization throughout the body, all driven by metabolic activity.

The eminent American endocrine physician, Broda O. Barnes, MD, who specialized in thyroid medicine, proved over a decades-long career that adequate supplemental iodine intake, as a part of his successful regimens, consistently reversed or substantially lessened diabetes and certain heart diseases in his patients.

Now, add the ubiquitous presence of bromides in foods, beverages, and commonly used cooking oils, over-chlorination and fluoride in municipal water supplies, and fluoride-containing medicines, along with ever-increasing background radiation, which all challenge thyroid and systemic tissue iodine uptake and utilization, and the various conditions that result therefrom become even more apparent and of greater concern.

Did you know that bromide is an iodine mimicker and displacer, and an aggressive endocrine disruptor? It displaces iodine and gets trapped in tissue iodine receptors as an iodine mimicker, causing all kinds of undiagnosed, misdiagnosed, and mysterious problems, as well as thyroid hormone imbalances. Many of the conditions caused by bromide mimicking are insidiously subclinical and go undiagnosed. Many practitioners consider bromide dominance in Americans to be endemic in the population at large, and the cause of many misdiagnosed and undiagnosed conditions. Some have posited that bromide dominance and its loading effects on the body are an insidious hidden factor behind rising population-wide cases of dementia and Alzheimer's. Only adequate daily iodine intake, coupled with substantially reduced intake of bromide-laden foods, beverages, and cooking oils, can reverse bromide loading and re-saturate the thyroid and extrathyroidal tissue iodine receptors of the body with iodine, and keep iodine trapped in the iodine receptors of the thyroid and tissues of the body.

Because the immune system is embedded in every body system, including the body's metabolic system, it relies on proper metabolic function to stay strong and work optimally. Iodine can be incredibly useful in boosting the immune system while also building it.

Then there are long-term human- and naturally caused radioactive events that have caused and continue to exacerbate thyroid function, chromosomal integrity, and immunity, such as human-caused radioisotope-laden, high-carbon-output industries and, for instance, naturally caused volcanic activity. But, for North Americans, perhaps the most insidious and ubiquitous presence of active and residual background radiation came from the human-caused atmospheric, ground-level, and subterranean nuclear bomb testing that took place, over 4 decades, without compunction, at the Nevada test site from 1951 to 1992, and is still affecting the environment and communities and their surrounding areas.

Those years of careless, paranoia-driven, unfettered testing resulted in decades of continuous barrages of sand-grain-sized radioactive particles falling to the ground within a couple hundred miles of the test site, and smaller, but as dangerous and insidious radioactive particles, able to travel the atmospheric jet streams, falling and contaminating the whole of the United States and parts of Canada. Those radioactive particles that fell to the ground, and are everywhere, have a half-life of up to 10,000 years. And no, it's no small amount we're talking about here. The ‘official’ count of 928 tests over four decades resulted in a massive compounding concentration of radioactive fallout and soil contamination.

Those radioactive fallout radioisotope particles are in all soils of America and continue to be taken up and absorbed into fodder crops for livestock, agriculturally grown foods, and groundwater, all of which make their way into foods and potable water supplies. The effects are ubiquitous, insidious, continuing, and ever-present, often of a stochastic nature – with effects not showing up for decades after exposure. Geiger testing of the ground within a couple of hundred miles of the testing site still shows disturbingly high levels of surface radioactivity, with substantially higher population growth and density, or increased recreational use, on many of those sites. Radioactivity alters DNA sequencing and, hence, chromosomal integrity, which can lead to cancers and numerous other aberrations of chromosome-controlled activities.

More insidious yet, the government keeps upping the threshold safety level for radiation uptake in livestock fodder, foods, and water, and exposure and concentration in livestock and humans, which in every case is much higher now than when safe threshold determinations were first done coming onto seven decades ago, intended to give a false impression that somehow there's nothing to worry about regarding radioisotope incursion upon and into the body, even though there is a steady uptick of cancers, heart diseases, ever-increasing autoimmune conditions, and lessened immune integrity of populations.

Now, add the Soviet-era Chornobyl, Ukraine nuclear disaster, a human-caused event, and Fukushima Daiichi nuclear disaster, a natural-caused event, that continues to contaminate the Pacific Ocean and surrounding seas at continuing unchecked rates, and the compounding effects of active and background radiation on thyroids, chromosomal integrity, and immunity become undeniable. Nevada testing aftereffects, and the Chornobyl and Fukushima disasters, separately and together, are ongoing and compounding problems that won't go away for thousands of years.

So, how does one deal with all the active and background radiation humanity is being subjected to at rising, compounding levels? The answer is – the only effective counter-deterrent measure to reducing or preventing the effects of ubiquitous active and background radiation is sustained and adequate intake of non-radiation-contaminated iodine-rich foods, which are getting harder to find, or better yet, adequate daily supplemental intake of an appropriate form of iodine, such as XODINE™ Molecular Iodine, for instance.

An important consideration few people, including many health practitioners, are aware of is that different forms of iodines/iodides are NOT the same and are treated differently, in a nuanced way, in the body relative to their effect on biological systems. Current science orthodoxy 'assumes,' via suppositional logic, that all forms of iodine act the same on biological systems (specifically the gut enzymes and digestive juices, etc.), even though this aspect has been well studied, scientifically researched & elucidated, without seriously considering or even studying the differing states they may be in and how biological systems can affect the differing forms of iodine separately from each other, especially when considering the Wolff-Chaikoff (W-C) Effect potentials between the two forms of iodine/iodides that play into determining safe daily intake values for each form separate of each other, and hence, a need to redo the RDA/DV regarding iodine, as well as ascertaining any other observed differences between the two that comparative studies and clinical trials might uncover.

Ignoring the distinctive differences between the two primary forms of consumable iodines/iodides is a prime example of scientific arrogance run amok, and some might say a cognative dissonance-driven sort of arrogance, given that beyond general digestive tract and blood absorption studies and data for iodides, that have been solely focused on reduced mineral salt conjoined triiodide of iodine (I_3^-), specifically KI (Potassium Iodide), as previously pointed out, NO actual comparative clinical trials comparing the two different forms of iodines/iodides has, by the scientific community's own admission, been performed. Yet they continue to make and hold to their imperiously imposed supposition-driven assumptions and dogmatic stances, even though no actual comparative clinical trials validate their positions.

In other words, convenient suppositions and assumptions, though seeming rationally valid at a pseudo-authoritative and highly superficial level, not actual comparative scientific studies or clinical trials, have ruled the iodine narrative, even up to now!

This was a surprising revelation for L. Carl Robinson, a visionary and the lead developer of the totally alcohol-free Pureodine™ molecular iodine (I_2) making process, and was the primary reason he set about to do a deeper dive study of what he called 'the Iodine Conundrum,' wherein he also learned how inaccurate the so-called nascent iodine makers were in their own description and assertions regarding their products, which led to his envisioning and conceiving a more rational solution to developing a better 'Fit-For-Use' daily dietary iodine supplement, and provide a more chemically accurate description for this form of iodine and the differences between the two main forms of consumable iodine/iodides available.

LHI (Liquid Herbs International™) offers the amazing Pureodine™ processed molecular iodine supplement described as a unique and 'original' *Standardized Stabilized Diiodine-Molecular Iodine (I_2) Glycerite*. This means no other mineral, as is seen with conjoined reduced mineral salt triiodides (I_3^-), such as potassium, sodium, etc., is used to make the Pureodine™ processed molecular iodine. Only the mineral element of iodine, as 'elemental' (I_2) iodine (in its raw anhydrous crystalline form), also referred to as a 'diiodine,' and the solvent glycerin are used in making the unique stabilized solvent-dissolved molecular iodine (I_2) product utilizing the innovative Pureodine™ process, hence its being classified as a single-element-based mineral product. It is also the first of its kind in the industry and the original totally alcohol-free *glycerite* of diiodine-molecular iodine (I_2) supplement in the marketplace.

The chemical process of turning the raw anhydrous elemental iodine (I_2) into our 'Standardized' glycerite of stabilized diiodine-molecular iodine (I_2) is done through the **Pureodine™ process, with the IHMVAS accelerator** elevating finished product quality, that includes increasing the solution's effective dielectric response and enhancing the stability of glycerin's protective caging property, and done without alcohol or the addition of other conjoining mineral elements such as potassium, sodium, etc. As a Pureodine™-made stabilized diiodine-based molecular iodine (I_2), the iodine solution is remarkably stable due to the solution's increased dielectric response and enhanced 'protective solvent caging' of the I_2 molecules. As previously described, we use the term 'molecular' because it more accurately describes the state of the Pureodine™ processed form of stabilized molecular iodine than the term 'nascent' does.

Pureodine™ Processed Stabilized Molecular Iodine (I_2) is an alcohol- and gas-free supplement you can use to help introduce a gentler and more systemically transitional kind of iodine into your body. Pureodine™ made molecular iodine's stabilized I_2 is one of the most biochemically acceptable forms of dietary iodine supplement for easy and effective iodization of the bloodstream, thyroid, and all extrathyroidal tissues of the body.

As previously stated, Pureodine™ made iodine was the first and original totally alcohol-free glycerite of stabilized 'Standardized' diiodine-molecular iodine (I_2) of its kind in the industry and was introduced into the marketplace, used for iodine loading protocols and dietary supplement use, and has remained unique and original to the manufacturer of Pureodine™ made molecular iodine, and at the forefront ever since. The manufacturer of the Pureodine™ process has provided high-quality, natural-based, 100% alcohol-free liquid supplements to customers for over 40 years, and they have the knowledge and expertise to help you realize the power that natural herbal and mineral supplements can have in biological systems.

What follows is how iodine can affect metabolism and the immune system, and how the Pureodine™ made stabilized molecular iodine (I_2) comes into play. For a lay reader or the technically inclined, this is one of the most chemistry-accurate overview descriptions and pieces of information yet presented on single-element-based solution chemistry of stabilized molecular iodine (I_2) and its nuanced activity and effects in the body. Read on ...

Metabolism and Immune System – Overview of Iodine Chemistry & Biology



The immune system is the most 'systemic' system there is, as it is not a singular site (like the digestive or kidney/urinary systems) or singular biological system (like the digestive juices or lymphatic fluids). Some might say it is the most inter-systemic and complex of all body systems.

The immune system is embedded in all body systems and is vital for warding off harmful bacteria, viruses, and invasive pollutants, and for dealing with cellular and endogenous by-products that may become destructive to the body. It helps prevent the flu when others around us are coughing. Your immune system depends on the body's thyroid-driven metabolic systems for the energy and biological factors to fight off illness and dispose of dead cells and neutralized toxins. The immune system also includes DNA sequencing activity to maintain cellular integrity and keep mutagenic activity in check, which depends on the thyroid and thyroid hormones, and hence, iodine. Without the proper minerals, including iodine, adequate fuel and enzymes, and plenty of water and oxygen intake, the body cannot muster a stable, reliable defense against illness, foreign invasion, mutagenic activity, or the effects of rapid-onset aging.

Hormones produced by the thyroid and throughout the body regulate metabolism. Iodine is the thyroid's physiological and biochemical 'cornerstone' that is essential to creating these hormones and their utilization, and without proper amounts of the right form of iodine in the thyroid, specifically as in vivo biogenically adapted and *stabilized* I^o (i.e., *organified* monoatomic iodide), 'trapped' in the cellular colloid and iodine receptors of the thyroid and extrathyroidal cells throughout the body, the entire body is negatively affected, including the immune system. However, this stable endogenously organified monoatomic (I^o) form of iodine forms within the thyroid, not outside of it, as this I^o form of iodine, if found in an unorganified 'free state' outside the stable and organified environment of the iodine receptors of the thyroid and cells of the body, would be toxic and destructive to tissues.

Recent scientific studies show that iodine-related activity goes beyond the thyroid gland. Though the thyroid represents the lion's share of iodine-related activity in the body, it is also present, to one degree or another, in every cell and system throughout the body. It is here that molecular iodine, as I_2, in a carrier-bound transport form that happens in the digestive tract, is involved in extrathyroidal sites of the body, where it is in turn configured to an appropriate form to be trapped in the iodine receptors of extrathyroidal cells of the body. This chemical conversion pathway-membrane diffusion-based uptake of carrier-bound I_2 from the digestive tract into the bloodstream and transport to extrathyroidal sites is described in the following quoted review of a research abstract from the NIH (National Institutes of Health) National Library of Medicine.

Title of Study Review: '*Molecular Iodine Has Extrathyroidal Effects as an Antioxidant, Differentiator, and Immunomodulator*': "*Most investigations of iodine metabolism in humans and animals have focused on its role in thyroid function. However, considerable evidence indicates that iodine could also be implicated in the physiopathology of other organs. We review the literature that shows that molecular iodine (I_2) exerts multiple and complex actions on the organs that capture it, not including its effects as part of thyroid hormones. This chemical form of iodine is internalized by a facilitated diffusion system that is evolutionary conserved, and its effects appear to be mediated by a variety of mechanisms and pathways. As an oxidized component, it directly neutralizes free radicals, induces the expression of type II antioxidant enzymes, or inactivates proinflammatory pathways. In neoplastic cells, I_2 generates iodolipids with nuclear actions that include the activation of apoptotic pathways and the inhibition of markers related to stem cell maintenance, chemoresistance, and survival. Recently, I_2 has been postulated as an immune modulator that depending on the cellular context, can function as an inhibitor or activator of immune responses. We propose that the intake of molecular iodine is increased in adults to at least 1 mg/day in specific pathologies to obtain the potential extrathyroid benefits described in this review.*" (Ref: Int J Mol Sci. 2021 Jan 27;22(3):1228.)

Wow! Pureodine™ processed Molecular Iodine, being a stabilized diiodine-molecular iodine (I_2) glycerite, is the exact I_2 form of iodine the above study review abstract recommends for increasing daily molecular iodine (I_2) intake to at least 1 mg/day! Note that the review abstract does not mention or indicate conjoined reduced mineral salt triiodides (I_3^-) such as KI (Potassium Iodide) or NaI (Sodium Iodide), but I_2, as mono-element-based diiodine-molecular iodine!

In summarizing the research, the researchers state that iodine-related actions take place not only in the thyroid but also in extrathyroidal sites (i.e., non-thyroid sites), via iodine as I_2. that in this instance is organically bound I_2, and is extrathyroidally trapped, where it becomes an oxidative component (i.e., antioxidant) that directly neutralizes free radicals and triggers type II antioxidant enzymes, suppresses inflammatory pathways, enhances healthy stem cell activity and cellular chemoresistance and survival, and is an up-or-down regulating immune modulator, meaning it possesses amphoteric properties. More beneficial ancillary actions may exist beyond those listed here, along with benefits yet to be ascertained. One of the most immediate things to be ascertained from these findings, as a collective grouping, is, as the writer of this presentation has previously noted, iodine's essential role in DNA sequencing and the control of mutagenic cellular activity, which requires most, if not all, of the above considerations to happen.

That's what the carrier/organic-bound I_2 form of iodine results in throughout the extrathyroidal tissues of the body, but only when there is an adequate iodine reserve trapped in the thyroid colloid and extrathyroidal tissues throughout the body, which can only happen with adequate and sustained daily intake of iodine, which is generally not the case, which is why the afore referenced research reviewers proposed substantially increasing the intake of diiodine-molecular iodine (I_2), that can only be done via iodine-rich foods, conjoined mineral salt triiodides (I_3^-), and more preferably, single-element-based diiodine-molecular iodine (I_2) (such as Pureodine™ made molecular iodine), which is the form of iodine specifically referred to in the above quoted study review, for specific extrathyroidal pathologies to at least 1mg/day, which is many times more than the current US governments paltry and absurdly low RDA/DV listing for daily iodine intake. Note that the recommendation stated at LEAST 1 mg/day. Even so, with the rampant presence of subclinical IDDs in the population, this increase in daily iodine intake also merits consideration for non-pathological tissue iodine loading and daily supplementation to at least the levels recommended in the above-quoted study review.

In the digestive tract, Pureodine™ processed molecular iodine, being a diiodine-molecular iodine (I_2) configuration, is subjected to digestive juices and enzymatic activity that collapses and dissociates the I_2 into its two constituent I˜ parts, that are also carrier-bound and absorbed from the gut epithelium into the bloodstream, via the sodium–iodide symporter (NIS), and as previously shown, some of the I_2 from the consumed stabilized diiodine-molecular iodine (I_2) remains intact, and is also carrier-bound via other non-NSA chemical conversion pathways-membrane diffusion and absorbed into the bloodstream, where both the I_2 and dissociated mono iodides (i.e., two I˜) are transported to appropriate thyroid and/or extrathyroidal tissues throughout the body. Hey! We're talking fundamental iodine-related biochemistry here.

All consumed iodine/iodides, regardless of source or form, whether from foods, conjoined mineral salt triiodides, or diiodine-molecular iodines, once consumed and in the digestive tract, go through a highly sequential cascading series of digestive juice and enzymatically-driven states, that concludes with absorption into the bloodstream and transport to the thyroid of I˜ or extrathyroidal sites of I_2, where in the thyroid I˜ is turned into the biogenic-adapted monoatomic form of organified I^o that the thyroid sequesters and utilizes, and the molecular iodine (I_2) is extrathyroudal converted and utilized by the other cells and tissues of the body.

In the instance of I⁻, if the thyroid doesn't absorb, convert to I°, and biogenically organify the I°, and then trap it in the thyroid's iodine receptors, it has to work harder to produce even less than needed thyroid hormones, and it can cause swelling and inflammation that leads to myxedema, a goiter, and eventual stoppage of thyroid hormone production altogether.

For instance, myxedema, a swelling/puffiness of the skin and underlying tissues giving a waxy consistency to the skin, with a swollen/puffy neck/throat, is typical in people with underactive thyroids, with the condition generally associated with hypothyroidism, which typically includes weight gain, mental dullness, emotional imbalances, random energy dumps, and sensitivity to cold. It is a common condition that many health practitioners believe is largely driven by bromide-loading (which displaces iodine from the body's tissues) from commercially processed foods (especially flours and baked goods), carbonated beverages, the most commonly used cooking oils, and conventional agricultural and horticultural practices. It is considered a significant subclinical Iodine Deficiency Disorder (IDD). However, if myxedema progresses to a more serious state, it can result in goiters and serious immune and health problems.

The science clearly shows that a gross deficiency of iodine at the thyroid's iodine receptors is a major cause of myxedema, early-onset and advanced hypothyroidism, and goiters. Goiters are a swollen thyroid gland condition and may represent a full-on clinical IDD. Goiters can manifest in either a hypothyroid or hyperthyroid condition. Goiters (along with bulging eyeballs) represent the most serious outward manifestations of a full-on clinically based hypothyroid or hyperthyroid condition and require medical interventions. Of note, a hyperthyroid condition is rare and, from a population-wide perspective, occurs far less often than hypothyroid states and conditions.

It is often believed that vitamin C and vitamin D are the primary 'go-to' for a healthy and strong immune system. While these, along with balanced levels of other vitamins and minerals, are important and should not be ignored, many see iodine as the anchoring, most foundational nutrient for a strong, healthy immune system. Many problems that appear to be vitamin C deficiency-related, for example, may instead indicate an iodine deficiency, especially if a vitamin C regimen is minimal or doesn't resolve a condition it is recommended for. Many unresolved conditions utilizing other nutritional supplements are often resolved when a Pureodine™ made molecular iodine (I_2) glycerite is used, either by itself or in combination with those other nutritional supplements, especially selenium, which is essential to iodine utilization in the body due to selenium being involved in systemic enzyme production, especially enzymes involved in iodine-related activity in the thyroid and throughout the body.

As described earlier, iodine supports the immune system and helps maintain DNA integrity. Iodine helps keep cells healthy and normal, and when at adequate tissue iodine saturation levels, helps keep the body free of toxins – yes, free of toxins! An iodine-rich internal environment cannot support harmful microbes that make us sick, and these microorganisms cannot adapt to an iodine-enriched tissue environment.

Take Candida fungi, for instance. In the digestive tract, it is one of the most difficult conditions to overcome and remove once it has taken hold. High milligram doses of molecular iodine (I_2) solution, well beyond 3 to 4 mg/day, have been recommended as a non-drug approach to treating

candidiasis. However, be aware that if higher milligram dosing of iodine is done, regardless of the form of iodine supplement used, it will likely trigger an acute W-C Effect (i.e., Wolff-Chaikoff Effect – addressed later) as a side effect of the sudden high milligram dosing protocol (also called 'shock' dosing), but will pass once the high milligram dosing ceases and daily dosing is taken back to 3 to 4 mg/day or less. From an integrative perspective, like many things in health care, affecting an outcome with a protocol can carry a side effect. However, planned-for, quickly resolved side effects are sometimes part of an integrative healing approach.

And, not to be forgotten, an iodine-enriched tissular environment also provides for healthy neural activity and brain synapses, and contributes to judicious cognition, rational behavior, and emotional balance.

The amazing part is that, compared to other mineral and vitamin intake, the amount of our Pureodine™ processed molecular iodine intake is extremely small. On a normal basis, only 6 drops a day! (3 to 4 drops for children.) is recommended. Yet it provides more than the absurdly low government's Recommended Daily Allowance (RDA)/Daily Value (DV) listing for iodine, while appearing still low enough to generally not trigger a W-C Effect in the body, which, when compared to the huge benefits resulting therefrom, makes the Pureodine™ made molecular iodine one of the most astounding value propositions of all nutrient supplements there is. A one-ounce bottle of Pureodine™ processed molecular iodine will last a person 3 months!

Iodine is found naturally all over the world in some soils, deep earth venues, in the oceans, and the atmosphere – especially over the oceans, where the oceanic/atmospheric 'Iodine Cycle' profoundly influences natural climate control and building/maintaining the ionosphere. The raw anhydrous crystalline elemental iodine used in the making of a stabilized Pureodine™ processed molecular iodine (I_2) glycerite is from deep earth sources that, unlike ocean-sourced iodine, have been protected for eons against atmospheric and surface contamination, radiation (background and incursive), and modern pollutants. It is USP-Grade re-sublimated elemental iodine, meaning it is subjected to multiple rounds of a sublimation-based purifying process, which purifies the raw elemental iodine to its pure anhydrous crystalline elemental iodine state.

While it may be remotely possible to get enough unimpeded iodine intake from diet alone, which is extremely rare, except maybe for a seaweed-rich diet, most people worldwide are susceptible, to one degree or another, to iodine deficiency due to a number of reasons. Recently, iodine deficiency has gained increased awareness, and so it is becoming more widely available as a nutritional dietary supplement. Historically, iodine, as potassium iodide, has commonly been added to table salt to provide an easy way to access iodine. It is estimated that around 70 percent of people worldwide have access to iodized table salt, though it may be their only source of iodine supplementation. However, the iodine in iodized salt liberates and dissipates over time due to it generally being in paperboard-based containers that expose the salt and potassium iodide to ambient air, and if left on shelves too long without use, which warehoused iodized table salt is often subjected to (especially where a high-temperature and/or high humidity environment is present), iodized salt loses most of its iodine to sublimation (i.e., liberating as a vapor due to ambient air exposure).

Until the early 1980s, America mandated that iodine be added not only to table salt, but also to all commercial grain-based bakery goods, with no bromides allowed. This was because throughout the 1800s and early 1900s, America's population experienced goiters at endemic levels across the nation, traced to severe iodine deficiency. After the mandate was lifted in the 1980s and iodine was no longer required in baked goods (or even table salt), bromides were almost immediately added to commercial flours and baked goods as 'bleaching aids,' and 'dough conditioners,' to the point that bromides, and their iodine-displacing and endocrine-disrupting effects, are ubiquitous in baking flours and commercial baked goods, as well as ubiquitous in carbonated beverages and many commonly used cooking oils.

Of further note is that since the goiter crisis of the 19th century/early 20th century, North America's commercial agricultural and food-growing soils have continued degrading, including becoming more and more iodine deficient in the ensuing decades due to soil-depleting agricultural practices and radiation-laden contamination of soils (that binds any traces of iodine left), meaning that the claim or belief that foods grown on North American soils possess enough iodine traces to satisfy daily dietary intake of iodine is simply not possible. Sadly, today, myxedema and goiters are rarely corrected with increased prophylactic iodine intake protocols followed by adequate ongoing daily iodine supplementation recommendations, but are dealt with by using various pharmaceuticals that may include synthetic thyroid hormones, thus bypassing the building of thyroid integrity altogether, or killing the thyroid and forcing a person to have to take synthetic thyroid hormones for the rest of their lives, which includes all the side effects and immune-weakening effects that accompany those drugs.

Bromide-loading overwhelms daily iodine intake and tissue iodine levels in the body, resulting in bromides displacing iodine at the tissue iodine receptor sites. This is a widespread issue affecting all of American society, especially since, unlike Canada, Great Britain, Australia, New Zealand, the European Union, Japan, Korea, and even China, America has not banned the use of added bromide/bromine in consumable products. And, in America, bromides are not required to be listed on ingredient labels. Those points alone are reason enough to substantially increase daily iodine intake with Pureodine™ made molecular iodine.

When one wades through the road-blocks of determining how much bromide is being consumed daily from bromide-laden commercial foods, carbonated beverages, and the many common cooking oils, and compares that ascertained average daily bromide intake amount against the paltry and absurdly low governments RDA/DV for iodine they should be consuming, but in all likelihood are not, it becomes quickly apparent that daily bromide intake by the average grocery shopping American for commercially baked goods, carbonated beverages, and the most widely used cooking oils, are bromide loading them and their families at a bromide DV (Daily Value) that far exceeds, by magnitudes, that for the RDA/DV for iodine. Hence, subclinical IDD (Iodine Deficiency Disorder) is insidious (i.e., not apparent and hidden) and ubiquitous (i.e., omnipresent) in the population, and a ticking time bomb regarding health problems.

Some claim to be 'allergic' to iodine because they cannot eat shellfish, which causes reactions. Well... an allergy is caused by a 'protein,' not a mineral. This is an indisputable fact! You can't be allergic to a mineral because a mineral isn't a protein; this includes iodine. The shellfish

contains a protein causing an allergy, not the iodine. There may be a 'chemical' sensitivity to iodine, which is extremely rare, but never an iodine allergy.

Aside from the limited availability in foods, iodine is also consumed as a dietary supplement. Many live in places where the soil does not have enough available iodine traces to make its way into the food chain, especially where bromine/bromide-containing agricultural chemicals are widely used on soils and on growing foods, which displace those iodine traces. This is now found across most of the planet's landmass, which makes iodine supplementation necessary, especially if the government's absurdly low RDA/DV for iodine is held to and not raised, which guarantees population-wide iodine deficiency that may cause subclinical IDD for many and full-on clinical IDD for others. Highly processed foods are also iodine-deficient because processing can cause the loss of any remaining traces of iodine.

Iodine supplements come in liquids, tablets, capsules, and, as mentioned before, iodized table salt (if it hasn't been warehoused for too long before it's on store shelves). In typical settings, the iodine is in the form of a conjoined reduced mineral salt triiodide (I_3^-), the most common being potassium iodide or variants thereof, and that kind of iodine may not be the best 'Fit-For-Use' iodine for daily dietary supplementation, as you will see in the next section

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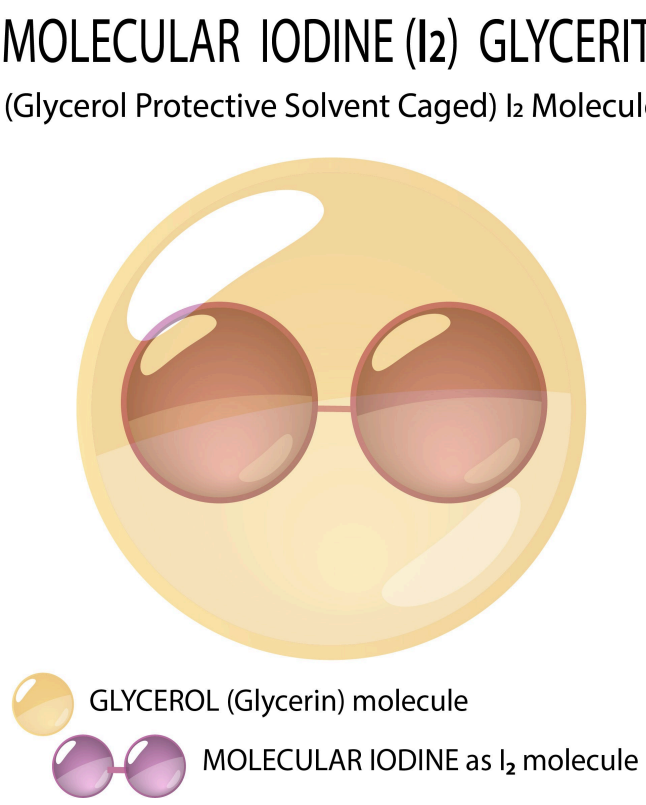
The Pureodine™ Process – An Industry First, and Marketplace Original



Pureodine™ Processed Glycerite of 'Stabilized' Molecular Iodine – A Diiodine (I_2) of Iodine

To be clear again, all incorrectly called ‘nascent’ iodine products on the market are not nascent per se, but are, chemically speaking, a 'Diiodine-molecular' (I_2) Iodine. In iodine chemistry, 'molecular' iodine is referred to as I_2, a diiodine of iodine. In its raw anhydrous crystalline I_2 state, it is commonly called ‘elemental’ iodine, but whether in an anhydrous or solvent state is still I_2; that in the Pureodine™ processed solvent state is a ‘stabilized’ I_2. Prior to the Pureodine™ manufacturer introducing its industry-first and 'original' 'glycerite' of molecular iodine dietary supplement product into the market, other companies’ diiodine-molecular iodine products were, and still are, made with alcohol, water, or might include gases, such as chlorine or ether, as part of their manufacturing processes. The Pureodine™ process does not use alcohol or gases. It uses glycerin as its dissolving, protective solvent caging, and stabilizing agent.

First developed in 2007, the proprietary Pureodine™ process for making Molecular Iodine results in a single-element-based diiodine of stabilized molecular iodine (I_2), combined with glycerol, in a transformed, improved dielectric, stability-enhanced, 'protective solvent caged' aggregate state. It's unique to the Pureodine™ process and a first and 'original' in the marketplace and the iodine tissue loading and dietary supplements industry.

After the Pureodine™ process manufacturer introduced its glycerite of stabilized diiodine-molecular iodine (I_2) into the market, others attempted to imitate that glycerite-based iodine approach, both as conjoined mineral salt triiodides (I_3^-) and other diiodine-molecular iodine (I_2) offerings. However, they are not made the same way nor possess the unique qualities that the Pureodine™ process, with its IHMVAS accelerator, imparts to its stabilized molecular iodine (I_2), such as being milder tasting, gentle on oral and gut tissues, more transitional breakdown and carrier-binding processes in the gut (which accounts for why it is gentler on the gut than conjoined reduced mineral salt triiodides), and sustained uptake into the bloodstream of both the I˜ constituent parts of the I_2 molecule, and intact I_2 molecule itself, requiring less per daily dose for anticipated benefits than other manufacturer's molecular iodine products.

A Pureodine™ made molecular iodine is made using deep-earth-sourced USP-Grade re-sublimated iodine in its anhydrous crystalline elemental (I_2) state, along with USP-Grade, Kosher and Halal certified, GMO-Free vegetable glycerol (glycerin), and is never conjoined, bound to, or in combination with any other mineral element like other conjoined mineral salt triiodides (I_3^-), such as potassium, sodium, etc.

For instance, Lugol’s solution of iodine, derived from raw iodine crystals, as anhydrous elemental iodine (I_2), is conjoined with potassium. And, Iosol™ iodine is conjoined with sodium, both resulting in a triiodide (I_3^-) of iodine. These manufactured chemically reduced conjoined mineral salt triiodides, and others like them, when entering the stomach, give up iodide, as I˜, that is quickly bound to NIS and transported into the blood stream, which may account for why conjoined mineral salt triiodides (I_3^-), such as KI (Potassium Iodide), is the preferred prophylactic, in sudden high 'shocking' doses, that in turn causes the Wolf-Chaikoff Effect (W-C Effect) and appear to also quickly staunch NIS binding/transport activity in the gut, thus suppressing thyroid iodine uptake of radio isotope bound iodine (and all other forms of iodine) in the event of a nuclear or radiation fallout crisis. Here is where conjoined mineral salt triiodide (I_3^-) is a definite 'Fit-for-Use' emergency protocol. In high milligram 'shocking' doses, a conjoined mineral salt triiodide (I_3^-) appears to more quickly initiate iodine NIS suppression and

the acute W-C Effect than a diiodine-molecular iodine (I_2) appears to result in.

On the other hand, a stabilized molecular iodine (I_2) does not collapse and dissociate into its constituent I˜ parts as quickly, or release the mono iodide of I˜ into the bloodstream via NIS transporter, as rapidly as conjoined mineral salt triiodides do. This is because a molecular iodine, as I_2, appears to be more stable in solution, including in the gut, especially when in a glycerite-based solution, and thus in the gut requires a more biologically-friendly transitional-sort of complex digestive juice and enzymatic process to collapse and dissociate the I_2 into its two constituent I˜ parts, with the I˜ becoming carrier-bound, via NIS (Sodium-Iodide Symporter), and then being transported into the bloodstream, and, a portion of the consumed I_2 remaining intact, that is then also carrier-bound and transported into the bloodstream to be transported to extrathyroidal cellular sites.

This manner of the gut's handling of molecular iodine (I_2) accounts for why this form of iodine is gentler on the digestive system and the body, more transitionally processed, and its slower uptake of the monoiodide (I˜) and molecular iodine (I_2) into the bloodstream, thus appearing to be gentler on thyroid and systemic extrathyroidal tissue uptake of iodine and appearing to not as readily trigger a Wolff-Chaikoff Effect that in turn suppresses thyroid and systemic extrathyroidal tissue iodine uptake.

The aforementioned phenomenon of the Wolff-Chaikoff (W-C) Effect hypothetically also appears to trigger the suppression of NIS (Sodium-Iodide Symporter) binding and transport of all iodine/iodides in the gut for a time if too much iodine is consumed and, upon breaking down to monoiodides (I˜), concentrates to a high or spiking level in the blood at any one time, especially if happening quickly in a short period of time, such as happens with 'shock dosing.'

The phenomenon of endo-regulating the intestines' I˜ forming activity is known as *Intestinal NIS Autoregulation*, which acts as an upstream mechanism within overall iodide homeostasis. This autoregulatory activity appears to occur in tandem with the W-C Effect, even hypothetically appearing to be triggered by the W-C Effect, or possibly the other way around. But at this point, the former appears to be the more plausible of the two possibilities. The point is that an Intestinal NIS Autoregulatory event appears to occur alongside a W-C Effect.

The primary purpose of the body entering the W-C Effect is to prevent runaway thyroid hormone synthesis in the face of monoiodide (I˜) overload, which in turn would cause dangerously high heart rates, potentially raising BPs, etc. This knowledge explains why utilizing conjoined mineral salt triiodide (I_3^-) as an emergency prophylactic, in sudden high milligram amounts per dose (called 'shocking'), with its sudden, high presence of monoiodide (I˜) in the bloodstream, triggers an acute W-C Effect, with accompanying autoregulatory suppression of NIS binding/transport of all iodine/iodides, especially radio-isotope-bound iodine in the event of a radiation nuclear event.

As previously stated, the W-C Effect appears to also trigger up-regulation of NIS binding and transport of iodine to thyroid and extrathyroidal tissues, which in turn deprives the thyroid of iodine conversion of I˜ to I°, thus contributing to the W-C Effect's staunching of the 'organification' process for iodide (as the 'organified' iodide is the kind used to make the thyroid hormones). Once the high blood-level saturation of iodine, as I˜, abates or stabilizes, or a period

of time passes, generally around 14 days or so, for the body to adjust and accommodate a sustained high iodine intake, the 'Escape Phenomenon' follows, which allows escaping from the W-C Effect and NIS I˜ binding and transport activity resuming, with normal iodine uptake and hormone synthesis, via escaping from the W-C Effect and down-regulation of the NIS, lowering intracellular iodide concentrations, bringing it back below the inhibitory threshold.

The W-C Effect and autoregulation braking of NIS I˜ binding/transport can happen with any form of iodine/iodide, because all forms of iodine/iodide provide mono iodide (I˜) to the NIS for binding and transport into the bloodstream, though a conjoined reduced mineral salt triiodide (I_3^-), due to its more rapid collapsing, dissociating, and releasing of mono iodide (I˜) to the NIS, appears to be more aggressive at triggering a W-C Effect than a molecular iodine (I_2) appears to do. This is due to the different states of the two forms of iodine and how they are dealt with in the digestive system and at the thyroid.

Even so, both forms of iodine/iodides can result in a W-C Effect and up-regulation of NIS activity if too much monoiodide (I˜) from either form of iodine/iodides is released, spiking too quickly or over-saturating the bloodstream at any one time, or potentially from over-concentrating from over-consuming due to the resultant monoiodide (I˜) compounding to too high levels within a short period of time.

Studies have shown that the W-C Effect, in rare but very thyroid-sensitive individuals, such as those with Hashimoto's, neonates, or certain preexisting thyroid diseases, can be triggered with as low as 1-2 mg/day of iodine intake, which is very rare. In some adults, it can (note: 'can,' not 'will') be triggered by as low as 3-5 mg/day of iodine, but typically occurs at 6-9 mg/day in the general population. The W-C Effect is consistently triggered in most adults at 10-20 mg/day. Strong W-C Effect suppression, used clinically in pre-thyroid surgery or thyrotoxic crisis, is at 30-40 mg/day. Definite and longer-sustained W-C inhibition (for radio-isotope incursions, for example) occurs at 100mg+/day until intake is lowered or a substantial period of time has elapsed, with continued high mg/day intake for the W-C Effect escape phenomenon to happen, with the excess being excreted via the kidney/urinary system.

Based on approximately 20 years of practitioner and consumer feedback, the recommended daily dose for the Pureodine™ processed molecular iodine glycerite has been set at 2-3 mg/day (1-2 mg/day for children over 2 years old), with a Pureodine™ white label product label listing 6 drops per day, which equals 2.66 mg/day. For a one-ounce dropper bottle, that equates to approximately 90 days for one person.

It's surprising that many doctors, practitioners, dietitians/nutritionists, and even many holistic-oriented practitioners miss, pass over, or ignore the proven and well-elucidated W-C Effect of Iodine, especially regarding monoiodide of I˜ acute blood iodine over-saturation loading effects and the autoregulation of the NIS, which are all well studied and elucidated.

Some have even maligned or denied the results of the W-C Effect because Wolff and Chaikoff originally did their studies on rats, and then applied the outcomes to human metabolism. They did so because thyroid physiology/biochemistry are the same for rats and humans. The maligners and deniers do so while conveniently ignoring that the Wolff-Chaikoff studies, outcomes, and

interpretations have been subjected to further rigorous follow-up studies, some on human subjects no less, to the original 1948 study and Wolff's re-review of the study in 1969.

Those follow-up studies include the 1988, 2001, and 2014 landmark studies that delved deeper into the detailed biochemistry of the subject matter, which applied solidly to human biochemistry and metabolism, and clearly verified and further elucidated the W-C Effect. Make no mistake! The W-C Effect is real, and is as it has been studied and elucidated for almost 80 years as of this writing. Those who say otherwise have typically done only a shallow or cursory study of the subject and base their views and opinions on an incomplete understanding of the facts, or blindly side with speculative and faulty assumptions of others, based on a sort of cognitive dissonance-driven, cafeteria-style pick-n-choose approach to the available information. Now add the additional knowledge regarding up- and down-autoregulation of the NIS regarding I˜, and the evidence becomes more convincing and compelling.

Given this information, it appears that a major difference between a conjoined reduced mineral salt triiodide, such as KI or NaI, versus a diiodine-molecular iodine, such as the Pureodine™ processed molecular iodine, is that there appears to be less W-C Effect and up-regulation of NIS binding/transport activity with a molecular iodine product. Again, this premise is based on what we know regarding digestive process effects on the ingested triiodide (I_3^-) form of iodine versus the diiodine-molecular (I_2) form of iodine, given the studied and known gut biochemistry of collapsing and dissociating of monoiodide (I˜) from both forms of consumable iodides for NIS binding/carrier and absorption into the bloodstream and potential triggering of the W-C Effect in the event too much I˜ spikes or loads up in the bloodstream and overstimulates thyroid activity.

The lead developer of the Pureodine™ process, L. Carl Robinson, became aware of this W-C Effect information and its ramifications for human biology through his studies of IDD (Iodine Deficiency Disorders), which led to a deep-dive search into what he called the 'Iodine Conundrum.'

As a result, he resolved to figure out the facts regarding the different forms of iodine, how they are dealt with in the body, and their effects in the body, and as a result of his findings, led a select team of specialists to develop an alcohol-free and gas-free solution to the problem by pursuing the development of an innovative and unique glycerite of diiodine-molecular iodine (I_2) supplement with transformative, improved dielectrics, enhanced protective solvent caging properties, all resulting in enhanced stability, done primarily for gentle, safe daily dietary supplement use at contextually relevant to current needs effective daily dosing levels.

What Carl and his select development team developed is revolutionary for this form of iodine supplement and differs from many similar diiodine-molecular iodine products on many levels. It was, after all, an industry and marketplace first.

The upshot being that a diiodine-molecular iodine (I_2) may possess a sort of better in vivo biological compatibility, stability, and more gentle transitional presentation of I˜ into the bloodstream, with a delayed secondary absorption and transport of I_2 into the bloodstream that works more in harmony with the biochemical and physiological iodine needs of the thyroid and extrathyroidal tissues throughout the body. The key point being 'better biological compatibility.'

This, of course, is a hypothetical premise borne out of known gut reactions to the two different forms of consumable iodine/iodides, and decades of empiric-based observation and feedback of Pureodine™ processed molecular iodine, since, as previously stated, no head-to-head, level playing field comparative scientific studies or clinical trials have ever been done between triiodide (I_3^-) of iodine and diiodine-molecular (I_2) iodine. None!

Even so, it has been observed in actual use of the two different forms of iodine/iodides that whereas the conjoined reduced mineral salt triiodides (i.e., KI and NaI) can have, as stated before, harsher and unsettling effects on the digestive system, especially in higher milligram doses, as practitioners and clinicians have noted, due to the rapid collapsing and dissociating of the conjoined mineral salt of iodides, which affect the digestive systems highly sensitive buffering systems, whereas, the diiodine-molecular iodine (I_2), especially the alcohol-free Pureodine™ made molecular iodine glycerite, due to its metered and transitory collapse and dissociation into its constituent parts, appears to be less impacting on the digestive system's sensitive buffering systems, and more gentle and digestive-friendly on the gut, thus indicating another noted and observed difference between the two different forms of iodine/iodide.

This latter point clearly indicates that conjoined reduced mineral salt triiodides as I_3^- (KI, NaI, etc.) may NOT be the best source of daily dietary iodine supplementation, especially for tissue iodine-loading protocols. Not a bad source, but not as good a source, given the Pureodine™ processed molecular iodine option. A conjoined mineral salt triiodide might even be considered 'Not-As-Fit-for-Use' for iodine tissue loading or effective daily dietary supplemental purposes, meaning, if both forms of iodine are available, the diiodine-molecular iodine (I_2), such as Pureodine™ made molecular iodine, would be the preferred choice.

As addressed earlier, the aforementioned hypothetical easier triggering of the W-C Effect with conjoined mineral salt triiodides, such as KI and NaI, is why the triiodide form of iodine, in super-high shocking doses, is such a good go-to prophylactic for staunching the uptake and effects of radio-isotope bound iodine and affected heavy metal incursions from a nuclear event and its radiation fallout, because conjoined mineral salt triiodides, especially when given in high 'shocking' doses, more radically, through its rapid blood saturation of mono element iodide (I^-) auto up-regulates and suppresses NIS binding/activity, which stops the thyroid and extrathyroidal tissues of the body from receiving and up-taking all forms of iodine, including radiation laden iodine, than a diiodine-molecular iodine (I_2) appears to be capable of doing to the same degree in this kind of an emergency situation.

Again, though hypothetical, this indicates another noted difference between the two forms of iodine/iodides, showing that each may be suited to a different 'Fit-for-Use' aspect. Nevertheless, given that no comparative studies have been performed regarding this premise, it is still a subjective hypothetical perspective, though given what we know, based on blood iodine uptake studies and interpretations of the digestive dynamics and biochemical aspects of the two different forms of iodine products, the stated premise appears more likely than not.

Pureodine™ processed molecular iodine, sold under the manufacturer's own brand, has been clinically and market-proven for two decades and is available through the Pureodine™ manufacturer's LHI (Liquid Herbs International™) sales department to third-party accounts as a

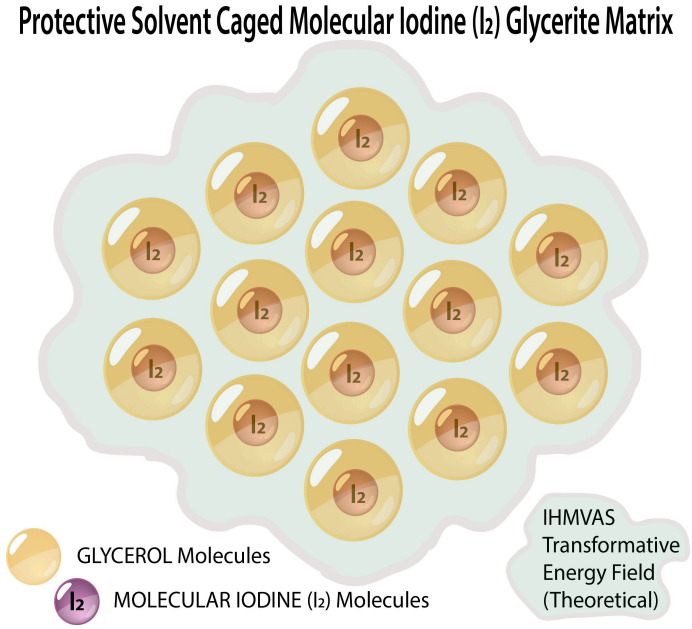
white label offering for third-party retail label branding. As previously stated, it is NOT a conjoined reduced mineral salt triiodide (I_3^-), but is a glycerite of standardized stabilized diiodine-molecular iodine (I_2), meaning the only mineral element present in the product is iodine, in a transformed, highly stable state.

One point that needs to be pointed out is that some makers of iodine supplements mix a finished diiodine-molecular iodine (I_2) with a conjoined mineral salt triiodide (I_3^-), such as potassium iodide or sodium iodide, and then turn around and claim their end product is still a diiodine-based molecular (i.e., nascent) iodine, which, chemically speaking, it is not.
The reason is, chemically speaking, this is not possible since when I_2, either as a finished 'molecular' iodine solution, or pure raw anhydrous 'elemental' iodine crystals, is mixed with a conjoined mineral salt triiodide, such as is done in strengthening the iodine percentage of Lugol's potassium iodide solution during its making, for instance, the added iodine, as I_2, chemically converts and combines with the conjoined minerals salt triiodide as $I_3^{\sim}$, thus fully becoming a conjoined mineral salt triiodide ($I_3^{\sim}$) product, due to I_2 becoming converted and part and whole of the $I_3^{\sim}$ molecule structure, and no longer is a diiodine-molecular iodine product. Therefore, such products are, in fact, still conjoined mineral salt triiodides ($I_3^{\sim}$), period! To claim otherwise is misinforming, misleading, and disingenuous.

The following illustration shows the unique protective caging effect on the iodine molecules that occurs with a Pureodine™-processed glycerite of diiodine-molecular iodine.

Note how the IHMVAS transformative energy field, unique to the Pureodine™ process, theoretically transforms the solution to enhance glycerin's protective solvent-caging properties and further stabilize molecular iodine in solution.

The Pureodine™ Process Enhanced Protective Solvent Cage Effect of Glycerin



L. Carl Robinson, MH, FH, TT, CCHt, RH(AHG), as lead developer, with a small team of co-developer specialists with backgrounds in nuclear science & electrics, and systems engineering theory, created the Pureodine™ technology. It's a proprietary, totally alcohol-free and gas-free 'transformative' stabilizing liquid iodine-making process that incorporates the proprietary IMVHAS (**I**ntegrated **H**ydro **M**olecular **V**ortex **A**gitation **S**ystem) accelerator technology to create the innovative and revolutionary high-quality protective solvent-caged stable glycerite of standardized diiodine-molecular iodine (I_2) supplements without alcohol, gases, or other conjoined minerals in a way never before done. No covalent bonding of the glycerin to the iodine is happening, so the integrity of the diiodine-molecular iodine (I_2) aspect remains intact, because the glycerin's Pureodine™ enhanced protective solvent caging effect upon the molecular iodine (I_2) does not change the bonds between the iodine molecules or the glycerin molecules, as they remain intact, and allows for the glycerin, enhanced by the Pureodine™ process, to act in a stabilizing protective 'shell' fashion, analogous to how a shell protects a crab.

This was an industry first for dietary supplement-based iodine products and the first and 'original' of its kind introduced into the marketplace. As mentioned at the beginning, the Pureodine™ process is a patentable development, but it was decided to keep it a proprietary trade secret.

As mentioned earlier, the IMVHAS accelerator technology imparts a theoretical 'transformative' energy field to the I_2-enriched glycerite solution and a stability-enhancing property to this supplemental iodine product. Now, orthodox medicine and segments of science continue to dismiss, and even malign this 'transformative' premise, even though chemistry fundamentals teach that when a solution of polarized (ionic) elements or a polarized solute compound, such as the Pureodine™ processed glycerite of molecular iodine (I_2) solution is subjected to an energy field, of any kind or source, that energy field has, to one degree or another, an energy capturing or 'transforming' effect, that may include improved dielectrics, on the subject, in this case, the molecular iodine (I_2) glycerite solution, being subjected to an energy field.

So, from a purely chemical, and by association, physics perspective, yes! A Pureodine™ processed diiodine-molecular iodine (I_2) solution IS also an energetically affected (i.e., transformed) product that would possess unique qualities apart from those of other iodine/iodide products. Hey! We're talking fundamental chemistry and basic molecular physics here!

As previously addressed, unlike other diiodine-molecular iodine products, Pureodine™-processed glycerite of diiodine-molecular iodine (I_2) solution also has unique stability, imparted by the Pureodine™ process, which enhances the protective solvent-caging property of glycerin around the iodine molecules (see above illustration). It's also believed to be why Pureodine™-processed iodine is so stable, gentle on tissues, and has a milder taste for this type of iodine product. The Pureodine™ process' effect on enhancing the protective solvent-caging property of glycerin, and its effect on the overall diiodine-molecular iodine product's enhanced stability, is absent in other diiodine-molecular iodines (whether alcohol-, gas-, or glycerin-based), or conjoined mineral salt triiodide products..

Over the years since the Pureodine™ process was developed for making molecular (I_2) iodine, others have tried to do their own glycerite versions of a molecular iodine, but haven't matched

the Pureodine™ process with its IMVHAS accelerator technology, or enhanced protective solvent caging stability, more pleasant taste, and gentler per-dose effectiveness and value of a Pureodine™ processed glycerite of diiodine-molecular iodine (I_2). This is because our Pureodine™ processed molecular iodine really is different from all others. Pureodine™ processed glycerite of molecular iodine is the industry standard for glycerite of molecular iodine products.

Recommended Dosing: To use Pureodine™ made diiodide-molecular iodine (I_2) glycerite, all it takes is a daily dose of six drops (3 to 4 drops for children), which equates to 2.66 mg of iodine per day for an adult, in a glass of purified or distilled water, and drink the water for a light-tasting, alcohol-free 'Fit-for-Use' daily iodine supplement that can help provide the iodine your body and immune system need. A one-ounce bottle of Pureodine™, made with molecular iodine, the first and 'original' alcohol-free glycerite of molecular iodine, will last a person 3 months when used according to the daily dose of six drops per day.