



## DR. SHADE'S LIVER SAUCE®



Supplement Facts		
Serv. Size: 5.0 mL (1 tsp.)	Amount	%Daily
Serv. Per Container: 20	Per Serving	Value
Sodium	15mg	<2%
R-Alpha Lipoic Acid	60mg	**
Proprietary Blend	750mg	**
Liquid extracts of Dandelion root, Gentian root, Solidago virgaurea aerial parts, Myrrh Oleo-gum-resin, and Essential Oil of Sweet Orange		
Proprietary Blend	60mg	**
of Dimindolymethane, Milk Thistle Seed Extract (80% Silymarin), Quercetin, and Luteolin Extract		
Phospholipids (from purified sunflower seed)	180mg	**

\*\* Daily Value (DV) not established  
% DV based on a 2000 calorie diet

**Other Ingredients:** Ethanol, Glycerin, Water, Vitamin E (as Tocopherol and Natural Mixed Tocopherols), Medium-Chain Triglycerides, and Acacia Gum

**Liver Sauce®** is a premier liver formula that supports all phases of detoxification and elimination.<sup>1,2,3</sup> The proprietary formula features a potent bitters blend to promote bile flow<sup>4,5</sup> and activate the entire digestive process<sup>6</sup>, along with powerful liver and detoxification support from milk thistle, R-lipoic acid (RLA), diindolylmethane (DIM), quercetin, and luteolin. These activating and detoxifying phytonutrients promote the elimination of toxins while delivering antioxidant, immune and anti-inflammatory protection.<sup>7,8</sup>

The key to this formula is its two-phase approach: stimulate bile flow and support the ensuing detoxification.

### BILE FLOW IS CRITICAL TO HEALTH

Bile flow is critical to proper digestion, an intact gut lining, healthy small intestine flora, and normal cholesterol and blood sugar levels.<sup>9,10,11,12</sup> Bile salts are antimicrobial, can denature bacterial endotoxins, and modify lipids.<sup>13,14</sup> Stagnant bile flow impedes the flow of toxins out of the liver into the gallbladder and digestive tract for excretion.<sup>15</sup> This includes endotoxins produced by gram-negative flora, which is highly inflammatory and downregulates critical pumps (called phase III transporters) that transport toxins out of our cells.<sup>16,17</sup> Poor bile flow can contribute to gastrointestinal dysbiosis and small intestinal bacteria overgrowth (SIBO).<sup>18,19</sup> An inflamed and “leaky” gut then lets bacterial and other toxins slip into the bloodstream, triggering a systemic inflammatory response.<sup>20</sup> That inflammatory response impairs liver and gallbladder function and further inhibits bile flow, contributing to cholestasis.<sup>21</sup>

### BITTER HERBS STIMULATE BILE FLOW

Bitters support digestion, help regulate blood sugar and activate the immune response.<sup>22,23,24,25</sup> The four bitters in this formula include dandelion, gentian, goldenrod and myrrh, all to enhance elimination through the liver, gallbladder, digestive tract and kidneys. Each also offers protective antioxidant benefits. Gentian (*Gentiana lutea*) is one of the strongest herbal bitters and a liver protective agent that can increase levels of glutathione and superoxide dismutase.<sup>26,27</sup> Dandelion (*Taraxacum officinale*) activates bile production<sup>28</sup>, has hepatoprotective effects<sup>29</sup> and can increase antioxidant activity in the liver.<sup>30</sup> Goldenrod (*Solidago*) promotes urination and elimination of toxins through the kidneys.<sup>31</sup> Flavonoids from solidago help activate GSH-S-transferase, a critical enzyme in phase II detoxification, which also brings relief to the liver.<sup>32</sup> Myrrh (*Commiphora myrrha*) is cherished for its antimicrobial effect.<sup>33,34</sup> It is also anti-inflammatory, antioxidant, and a cholesterol lowering agent.<sup>35,36,37</sup>

### SPECIALIZED PHYTONUTRIENTS PROTECT AND SUPPORT LIVER DETOX

When bile flow is enhanced and liver detoxification is stimulated, support for all three phases of detoxification is important.

Milk thistle (*Silybum marianum*) is a premier liver-support herb that is anti-cholestatic<sup>38</sup>, antioxidant, anti-inflammatory, and hepatoprotective.<sup>39,40</sup> Its most active constituent is silymarin, along with the flavonolignan silybin, also known as silibinin. It can prevent estrogen-induced decrease in bile-salt dependent bile flow.<sup>41</sup> Silibinin and silymarin, R-lipoic acid, quercetin, and DIM (3,3'-Diindolylmethane) induce the critical Nrf2 pathway.<sup>42,43,44</sup> Nrf2 is our internal, master antioxidant switch, which turns on the production of glutathione and numerous detoxifying enzymes. DIM, in combination with quercetin and luteolin, balance inflammation.<sup>45,46</sup> Quercetin supports intestinal barrier function, reducing permeability.<sup>11</sup>

### APPLICATIONS & BENEFITS:

- Stimulates bile flow<sup>26, 27, 31</sup>
- Supports liver function<sup>36,37,39,40,42</sup>
- Assists detoxification<sup>31,36</sup>
- Anti-Inflammatory<sup>39</sup>
- Balances gut flora<sup>18,19</sup>
- Sequesters endotoxins<sup>17,20</sup>
- Anti-microbial<sup>36,37</sup>
- High cholesterol<sup>9,10,11,12</sup>

## UTILIZES PURE, NANOSCALE LIPOSOMES FOR FAST, COMPLETE UPTAKE

The liposomes in this formula contain pure phosphatidylcholine, a lipid that is the primary building block of all cell membranes, including brain cells.<sup>47</sup> Lipids are the liquid gold of the brain: about 60% of brain tissue is composed of fats that keep cell walls flexible and fluid, yet structurally sound.<sup>48</sup>

Uptake and absorption of herbs can vary and be limited by breakdown in the digestive tract. Liposomal delivery systems protect molecules from breakdown while enabling more rapid uptake. Liposomal formulations improve absorption of many molecules in the gastrointestinal tract, avoiding hepatic first-pass metabolism and resulting in higher bioavailability.<sup>49</sup>

**Quicksilver Delivery Systems®** brings the power of intravenous therapy into convenient oral delivery.

Our Quicksilver Delivery Systems® improve upon liposomal and emulsification technology with smaller, more stable particles made from the highest-grade ingredients available. In addition to exceptional absorption rates, these tiny liposomal and nanoemulsified particles increase diffusion across mucus membranes, enhance lymphatic circulation of nutrients and support cellular delivery.<sup>60,61</sup>

THIS INFORMATION IS FOR THE USE OF LICENSED HEALTHCARE PRACTITIONERS ONLY AND IS INTENDED TO USE AS A BASIS FOR DETERMINING WHETHER OR NOT TO RECOMMEND THESE PRODUCTS TO THEIR PATIENTS. THIS MEDICAL AND SCIENTIFIC INFORMATION IS NOT FOR USE BY CONSUMERS. THE DIETARY SUPPLEMENTS OFFERED BY QUICKSILVER SCIENTIFIC ARE NOT INTENDED FOR USE BY CONSUMERS AS A MEANS TO CURE, TREAT, PREVENT, DIAGNOSE, OR MITIGATE ANY DISEASE OR MEDICAL CONDITION.

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