

DR SHADE'S



# LIVER SAUCE®

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**Liver Sauce®** is a premier liver and detoxification support formula. Our nanoformulated blend features four potent bitters to aid bile fluidity and flow, along with powerful liver and detoxification support from milk thistle, R-lipoic acid (RLA), diindolylmethane (DIM), quercetin, and luteolin.

## EDUCATION

### BILE FLOW IS CRITICAL TO HEALTH

The liver plays a vital role in clearing the body of harmful toxins acquired externally from the environment and generated internally through metabolism and the gut microbiota.<sup>1</sup> It converts toxins into water-soluble compounds via several distinct phases<sup>2,3</sup> and produces a fluid, bile, that is released into the gut and ushers toxins out of the body via the stool. Bile flow is also critical for proper digestion,<sup>4</sup> an intact gut lining, healthy small intestine flora, and normal cholesterol and blood sugar levels.<sup>5,6,7,8</sup>



## Supplement Facts

Serving Size: 5 mL (1 tsp.)  
Servings Per Container: 20

|  | Amount<br>Per Serving | % Daily<br>Value |
|--|-----------------------|------------------|
| Sodium   | 15mg                  | <1%              |
| Lipoic Acid<br>(from Sodium R-Lipoate)   | 48mg                  | **               |
| <b>Proprietary Blend:</b>  | 750mg                 | **               |
| Liquid extracts of Dandelion root, Gentian root, Solidago gigantea aerial parts, Myrrh (Oleo-gum-resin), and Essential Oil of Sweet Orange |                       |                  |
| <b>Proprietary Blend:</b>  | 60mg                  | **               |
| Diindolylmethane, Milk Thistle Seed Extract (80% Silymarin), Quercetin, and Luteolin Extract   |                       |                  |

**\*\*Daily Value not established**

**Other Ingredients:** Ethanol, glycerin, water, tocopherols, highly purified phospholipids, medium chain triglycerides, acacia gum, natural mixed tocopherols.

Bile salts are antimicrobial, can denature bacterial endotoxins, and modify lipids.<sup>9,10</sup> Stagnant bile flow impedes the flow of toxins out of the liver into the gallbladder and digestive tract for excretion.<sup>11</sup> This includes endotoxin produced by gram-negative bacteria, a highly inflammatory bacterial byproduct that downregulates critical pumps (called phase III transporters) that transport toxins out of our cells.<sup>12,13</sup> Poor bile flow can contribute to gastrointestinal dysbiosis and small intestinal bacteria overgrowth (SIBO).<sup>14,4</sup> An inflamed and "leaky" gut then lets bacterial and other toxins slip into the bloodstream, triggering a systemic inflammatory response.<sup>15</sup> That inflammatory response impairs liver and gallbladder function and further inhibits bile flow, contributing to cholestasis.<sup>16</sup>

### BITTER HERBS STIMULATE BILE FLOW

Bitters are herbs that support digestion, 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.<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 flavanolignan 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>

**Quicksilver Delivery Systems®** improves 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 mucous membranes, enhance lymphatic circulation of nutrients, and support cellular delivery.

TS210024

References available at [quicksilverscientific.com/liversaucereferences](https://quicksilverscientific.com/liversaucereferences)

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WARNING: NOT FOR USE BY INDIVIDUALS UNDER THE AGE OF 18 YEARS. DO NOT USE IF PREGNANT, BREAST-FEEDING, OR PLANNING TO BECOME PREGNANT. KEEP OUT OF REACH OF CHILDREN. Consult a healthcare professional before use if you have any medical condition or are taking any other supplements or medications. Do not exceed recommended dosage. See [www.quicksilverscientific.com](https://www.quicksilverscientific.com) for additional safety information.

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