

## **Ingredient Rationale: ProHepatic®**

ProHepatic's ingredients provide multiple benefits for maintaining liver health.

**Silybin-Phosphatidylcholine Complex** – Milk Thistle has several components known as Silymarin. The most active is Silybin (aka silibinin). It protects against oxidative damage and helps maintain healthy liver function. Silybin is the most potent component of Silymarin. Its benefits in the liver are its antioxidant, and anti-fibrotic effects.

Silymarin and Silybin are not well absorbed. It is complexed with phosphatidylcholine (PPC) to greatly improve bioavailability. Silybin with PPC was absorbed in amounts at least six times higher than non-complexed Silybin or Silymarin, reaching the liver tissue quickly and appearing in the bile within two hours. The higher bioavailability reduces the amount needed, decreasing cost and tablet size.

PPC is an active nutrient with benefits for liver health because of its ability to replace cell membranes. Healthy cell membranes support healthy cells. PPC is hepatoprotective, supports the immune system and has antioxidant effects.

Veterinarians recommend using Silymarin or Silybin when an animal is ill or is exposed to toxins because it supports liver health. Silybin is also recommended when drugs that could be toxic to the liver are given to pets. It can help protect the liver. This includes chemotherapy drugs, heartworm treatment drugs (not heartworm preventatives) and long-term use of other drugs such as antibiotics and corticosteroids.

**Bioflavanol/Polyphenol** – Bioflavanol has a unique ability to scavenge free radicals, helping protect the liver. It has been shown in bioavailability tests to have the highest concentrations in the liver, duodenum and aorta. It is one of the strongest antioxidant discovered to date and preserves other antioxidants, including vitamin E and glutathione. It is standardized to 95%+ OPCs or oligomeric proanthocyanidins.

**Zinc** – Zinc is an essential trace element and is required for many homeostatic functions. It is important for liver health. Normal protein metabolism is a function of zinc metalloenzymes. Zinc is also important for cell membrane integrity. Adequate zinc is important for immune function and detoxification pathways. Zinc has antioxidant effects and zinc insufficiency increases susceptibility to glutathione deficiency. Glutathione is an important antioxidant found in every cell of the body.