

**Product: Alpha-lipoic Acid**

**INCI:** 1,2-dithiolane-3-pentanoic acid. ("thioctic acid")

**Ph:** n/a

**Derived from:** mainly derived from dietary sources (spinach, liver, brewer's yeast)

**Physical form:** light yellow (does contain Sulfur) granules/powder

**Solubility:** Soluble in both water and oil [lipid] aka "Universal Anti-oxidant"!

**Melting Point:** 140 f

**Specific Gravity:** not available

**MSDS and/or CoA:**

**Properties/Attributes:**

- Potent anti-oxidant
- It inhibits cross-linking which is the formation of chemical bridges between proteins or other large molecules.
- Anti-inflammatory
- Adverse reactions to lipoic acid are less common than to such agents as Retin A, vitamin C or glycolic acid

**How does it work?**

"What makes ALA unique among anti-oxidants is that it is soluble in both water and lipids. This means it will work on both water and fat-soluble free radicals. ALA can penetrate skin cells easily through the lipid rich cell membrane and continue to be effective once inside the cell due to its water solubility." [Dr. Farris]  
This process provides protection within the lipid cell membrane.

The vulnerable cell will release a "nuclear factor kappa-B" known to be a Pro-inflammatory. This "kappa-B" then enters the nucleus of the cell where it will attach to the DNA molecule. The molecule of DNA will then change this "kappa-B" into protein which in turn releases itself into the cell causing damage and/or cell death. This is where ALA with its ability to penetrate the cell membrane will go into effect by protecting the cell from this process of cell degradation!

There are no Clinical studies to be certain of the actual effectiveness of this ingredient.  
This is a test/try/result/feed back active ingredient.

**Applications:** topical application

**Formula/Recipe:** .2% up to 1% [some sites are recommending up to 5% strength]

The easiest method of application when making your own formula would be to add this to an existing cream.

For example:

2 ounces of base cream 60 grams

.2% would be .12 gram [approx 1/8th of 1/5 tsp]

1% strength would be .6 gram [approx 1/10th tsp]

**Facts for fun:** NV Perricone sells an Alpha-lipoic face firming lotion. 2 oz / \$100