

BIONOX - L

Liquid Antioxidant for Fats and Oils

BIONOX-L is a concentrated antioxidant specially developed for balanced feeds, premixes and ingredients susceptible to oxidation.

The process of oxidation and lipidic peroxidation is one in which unsaturated fatty acids suffer from hydrogen loss, forming a free radical molecule in place of unsaturation, a reaction that is catalyzed by trace minerals in the presence of oxygen. The free radical can rapidly convert to a peroxide fatty acid and consequently a hydroperoxide fatty acid. The addition of an antioxidant blocks the process of peroxidation by providing hydrogen to the newly formed free radical and consequently converting it back to a fatty acid.

The presence of peroxides in almost all vegetable and some animal cells promotes the oxidation of various substrates including phenols, aromatic amines and general liposoluble compounds such as vitamins.

Oxidation is responsible for the reduction in feed quality and the deterioration of valuable nutrients, a consequence associated with rancidity.

Some problems attributed directly to oxidation:

1. Destruction of vitamins.
2. Reduction in feed palatability which results in lower feed consumption.
3. Reduction in energy and protein content.
4. Formation of toxic compounds.

BIONOX-L is a synergistic mix of antioxidants that controls oxidation more efficiently in comparison to pure active ingredients when used independently. The chelating agents used in the formulation of **BIONOX-L** capture the free radicals and prevent auto-oxidation.

The carrier (refined vegetable oil) used in the manufacturing of **BIONOX-L** is specially formulated from natural and synthetic silicas that support the active ingredients, combined with a natural surfactant which permits a homogeneous mix in the finished feed and premix.

BIONOX-L is compatible with all ingredients can be utilized at a rate of 100 to 200 cubic centimeters per ton fat or oil, and 300 to 500 cc's per ton of ingredients that have a high susceptibility to oxidation.

It is recommended to mix **BIONOX-L** with 2 lts of vegetable oil or similar carrier prior to application to the final product being treated.

BIONOX-L contains the following ingredients:

B.H.T., Ethoxyquin, Phosphoric Acid, Citric Acid, TBHQ, and extra pure refined vegetable oil as a carrier.

Why use BIONOX-L ?

- It is an antioxidant with easy application.
- It is specially formulated for premixes and finished feeds.
- It is effective at low inclusion rates.
- It is stable at higher temperatures.
- It provides a potent synergistic reaction between BHT and Ethoxyquin.
- Its chelating agents associated with BHT permit total absorption of the free radicals.
- Its surfactant fraction facilitates dispersion of the chelating and antioxidant agents.
- Its carrier is specially formulated to guarantee excellent dispersion of the product throughout the feed and premix.
- Competitive cost.

PRESENTATION: Plastic containers of 22 liters each.

REFERENCES:

- AAFCO Official Publication, Section 18 (Chemical Preservatives).
- FDA 21 CFR 573.380 and 21 CFR 573.400
- AOAC Analysis Information, Section 7. 135
- Eastman Chemical Company, Technical Bulletins. Kingsport-Tennessee Fax: 615-229-2145.
- FDA Compliance Guide for Eastman Products Used as Food Additives.
- ZG-194 Storage Stability Tests for Evaluating Antioxidant Effectiveness in Fats, Oils, Fat-Containing Food and Food Packaging Materials.



Vitusa Corp.