

How do antioxidants work?

The **product lines** designed by Oxiris such as the **lonol 175**, **lonol Pet Food** and **Naturol** are carefully developed mixtures formulated with synthetic and natural antioxidants which are suitable for human and animal consumption.

These mixtures are formulated using sunflower oil as carrier which facilitates their incorporation in the feed and allows the antioxidants to be in contact with the lipids.

The use of mixtures of **antioxidants** as protective agents against food and feed oxidation has several advantages such as:

- Improving the efficiency of each antioxidant taking advantage of the **synergistic effects** that occur between them.
- Deactivating multiple **oxidizing agents**.

Primary antioxidants

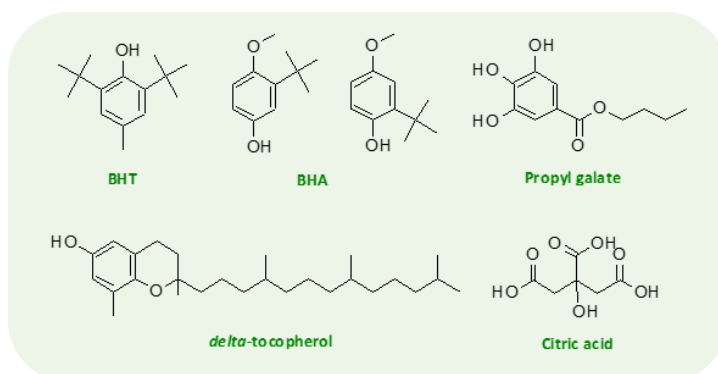
Primary antioxidants such as **BHT**, **BHA**, **propyl gallate** and **tocopherol** are additives able to inhibit lipidic oxidation. These processes start due to the presence of oxidizing agents such as free radicals, molecular oxygen and ultraviolet radiation. As a result of the interaction between the oxidizing agents and the lipids, new and highly reactive radical species are formed, which are responsible for the negative effects on food and health.

The protective activity of these antioxidants is characterized by their ability to transfer hydrogen atoms to the radicals present in the medium and transform them into stable species.

Synergistic antioxidants

Synergistic antioxidants such as **ascorbic acid** and **citric acid** act in other ways:

- Regenerating the primary antioxidant to increase its lifespan.
- Capturing the metallic ions which catalyse the oxidation.
- Removing molecular oxygen to prevent food degradation.
- Providing an acidic medium that improve the performance of other antioxidants.



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