

# Patent application title: CHABAZITE AND CLINOPTILOLITE IN OXYGEN ABSORBERS

Publication date: 2013-09-05

Patent application number: 20130231398

## Abstract Excerpts:

This invention relates generally to an oxygen absorber and more particularly, to oxygen absorbers including iron and one or more oxygen and water absorbing feldspars such as **Chabazite and Clinoptilolite**.

The known commercial oxygen absorbers generally comprise iron, salt and some water in order to activate the iron. Other ingredients also may be utilized and are known for use in oxygen absorption such as **activated carbon** and special polymers that are activated by ultraviolet radiation.

The present invention has numerous advantages over prior products. The invention provides a lower-cost oxygen absorber. The invention is desirable in that significant hydrogen is not given off during oxygen absorption. **Further, the invention oxygen absorber is lower in cost and safe for both food and pharmaceutical products.**

The **zeolites** and activated iron particles are generally combined with **activated carbon** which apparently serves to act as a catalyst to aid in the generation of electrolyte material utilizing the zeolite as well as increasing the oxygen absorbent capacity of the composition. It is been found that the reaction to absorb oxygen is slower without the **carbon** present. Any suitable activated carbon may be utilized in the invention. Activated carbon is suitable in this invention both to hold water and to absorb odors from the packaged food products. A **coconut shell activated carbon is preferred** for its activity in catalyzing the oxygen absorption. The activated carbon also is capable of absorbing some oxygen.

Any natural or artificial zeolite or mixture of zeolites which provides the desired oxygen absorption is suitable for the invention. Zeolites that have the ability to absorb water in an amount of greater than 50% of their weight are preferred. It is further preferred that they have a significant halogen content of sodium and/or potassium. Typical of suitable zeolites are Erionite, Mordenite, and Philipsite. **Preferred for the invention are Chabazite and Clinoptilolite or mixtures of these materials** because these materials absorb greater than 50% by weight water and contain soluble halogens, particularly chloride.

## Example 3

[0046] c) Chabazite 124.2 pounds 50 mesh;

[0047] d) Clinoptilolite 124.2 pounds 50 mesh; and

[0048] e) Activated carbon 248 pounds 50 mesh coconut shell;