

Customer Communication Sheet

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Allergenic Potential of NaProLup Products

This document represents a short briefing without claiming to be a scientific publication including all aspects of allergenic potential of lupins and derived products. But it would like to draw a clear picture of the present state of knowledge and thus to give support to persons who have pragmatically to handle allergenic potential of foods in reality, especially those who have to develop food recipes and are responsible for proper labelling of the final consumer product.

(1) General Remarks

It is an almost reliable fact that there is no natural or processed food in the world which does not include some allergenic potential to a certain (smaller or larger) group of consumers. It is, at the same time, a senseless strategy for food producers to search for ingredients **without any** allergenic potential.

With respect to allergenicity there are exactly two alternatives for the development of food products, namely

(a) **to develop special food products for consumers with a known sensitivity against certain food constituents** and thus to avoid ingredients including components with an allergenic potential according to the addressed niche market. At the time being this strategy might be restricted - according to market size - to milk free, gluten free, soy and peanut free products, each individually or in combination with each other,

(b) not to take notice of special consumer sensitivities (and this applies to more than 95 % of the consumer food market) but **to label all ingredients with a proven or even with a supposed allergenic potential** as precisely as possible. As a guideline, we recommend to use the ALBA LIST for correct decision making.

(2) Sensitivity against Lupins - a widespread phenomenon?

The answer is NO with respect to "widespread".

At the time being no reliable studies are available which have been conducted on the allergenic potential of lupins. All scientific/theoretical discussions always refer to a relatively small number of case reports of observed sensitivities.

Since roughly 20 years a significant amount of lupin based ingredients are on the European market.

Recently established market figures speak in terms of some 15,000 tons per year of lupin based ingredients resulting in approximately 500,000 tons per year of consumer food products containing lupin constituents.

This means that the number of reported sensitivities against lupins (case reports) is extremely small compared to the number of consumed food portions containing lupin. From this we conclude that sensitivity against lupins is not widespread and allergic reactions are restricted on a relatively small group of consumers.

(3) Allergenic Potential of Lupins

Although the number of reported cases of sensitivities against lupins is small, a certain probability of under-reporting of allergy cases cannot totally be excluded. Furthermore, most, though not all, allergic reactions have been reported for peanut sensitive persons. One controlled study in peanut allergic patients suggests a clinically relevant cross-reactivity rate of about 30 %.

Clinical reactions range from mild reactions to systemic anaphylaxis, this means that allergic reaction of an individual person could be severe and even life threatening! This means that proper labelling of lupin based ingredients is of outstanding importance.

There are several scientific results which lead to the conclusion that at least one important allergen is located in the gamma conglutin fraction of lupin protein which is a substantial part of lupin flour but significantly reduced in extracted lupin protein preparations.

Finally, there is no clear sign available that allergenic potential could be reduced or even destroyed through cooking or heating of lupins.

(4) Labelling Recommendation

We recommend to use the term

**"lupin flour" for the flour type NaProLup products and
"lupin protein" for the protein type NaProLup products**

for proper description in the ingredients list and, at the same time, in order to name the origin of the ingredient which will be helpful for consumers with potential sensitivity against lupin constituents.

Please note that "lupins and products thereof" are listed in the ALBA list but were not included into the final list of European Directive 2003/89/EC.