

FOOD EMULSIFIERS

GIRALEC SRN
S Standardised
R Refined
N Neutral



GIRALEC SRN

Standardised, Refined and Neutral SUNFLOWER Lecithin

INTRODUCTION

One of the main commercial source of lecithin is the soya oil due to the high content in phospholipids. But the introduction of genetically modified agricultural products and the later refusal from the food market in many countries have promoted the development of other commercial sources of phospholipids from other vegetable oils.

Nowadays, it is possible to obtain lecithin from sunflower oil from different countries. The quality of this lecithin is strictly dependent of the amount of impurities of the oil from which the lecithin will be extracted and the conditions of the whole process to obtain the lecithin. Such crude lecithins must be standardized to fulfill the requirements of the food market and, in general, all commercial sunflower lecithins have a similar composition in phospholipids,

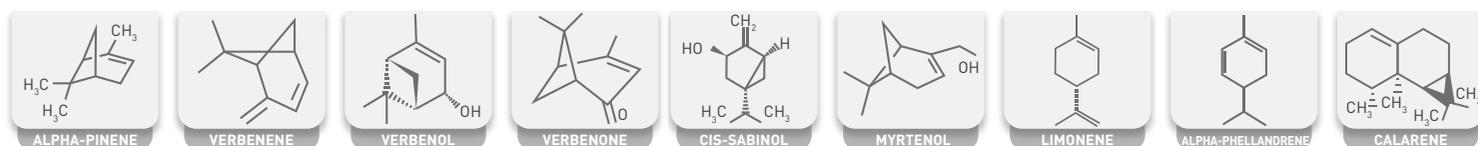
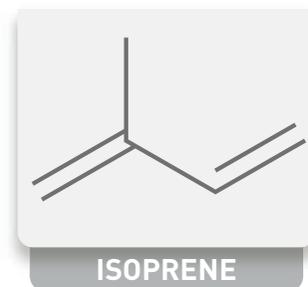
a minimum content of acetone insolubles (60%), a maximum content of impurities (0,3% toluene insolubles) and a maximum content of residual humidity (1%) among other typical physic-chemical analysis. However, the taste and odor of sunflower lecithin is detected by the market as "different" to the familiar and accustomed soybean flavor. Moreover, depending of the origin of the sunflower lecithin and the process made by the crusher, differences between batches of standardized sunflower lecithins can also be detected. Furthermore, this flavor from sunflower lecithin is described many times as a "strong" smell and bitter or sour taste.

Flavor - Volatile Organic Compounds - Terpenes

An aroma compound or flavor is a chemical compound, sufficiently volatile, that has a smell or odor and affects both the sense of taste and smell.

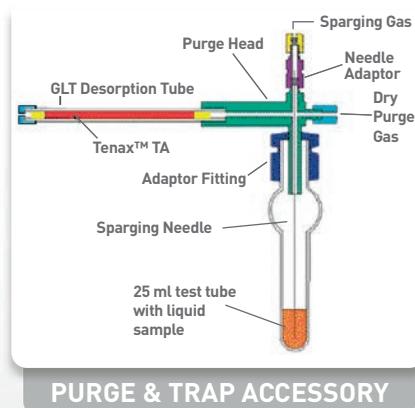
Plants contain natural aroma compounds that can be classified by its structure, as alcohols, acids, aldehydes, ketones, esters and linear and cyclic terpenes.

Terpenes are derived from units of isoprene (C_5H_8). The basic molecular formulae of terpenes are multiples of that, $(C_5H_8)_n$ where n is the number of linked isoprene units. The isoprene units may be linked together "head to tail" to form linear chains or they may be arranged to form rings.



The content of these compounds in crude sunflower lecithin as well as other components like acids, aldehydes and ketones, can vary a lot depending of the origin of the lecithin, the climate, the process used to obtain the lecithin (other off-flavours can be created for example in the drying of the lecithin), storage conditions, etc.

These compounds can be analyzed by a purge and trap sample preparation and coupled HRGC/MS system (High Resolution Gas Chromatography – Mass Spectrometry).



Lasenor pioneered the introduction of sunflower lecithin in the food market. Our first moves date back to year 2000. Working with premium customers around the world, and in different application fields, we have realized that the market demands a step forward on the quality offer.

Nowadays, sunflower lecithin is being produced with the same standardization process that has been used for decades in soya lecithin. However, from Lasenor we believe that sunflower lecithin needs a deeper refining process, able to create a more neutral, more stable and safer product.

The outcome is the development of a mechanical processing technology that converts the raw material – real sunflower phospholipids – into high quality lecithin in both physico-chemical and organoleptical terms.

The main advantage of this processing technology is the reduction of Volatile Organic Compounds (VOC's) contained in the raw lecithin, and specially the decrease in terpenes' concentration, as these components can potentially have an impact on the organoleptical characteristics of some final confectionary products.

The final outcome is **GIRALEC SRN**, a new sunflower lecithin that meets many of the market needs:

- NON GMO warranty
- No presence in the list of allergenic foods regulated by the EC
- Transparency due to its low level of impurities (Toluene Insolubles < 0,1 %)
- Neutral or reduced smell and taste

A COMMENT ABOUT THE COLOUR...

Due to the characteristics of sunflower as a crop, the only way to produce a low colour lecithin is through an intensive bleaching process.

GIRALEC SRN is manufactured to fulfill:

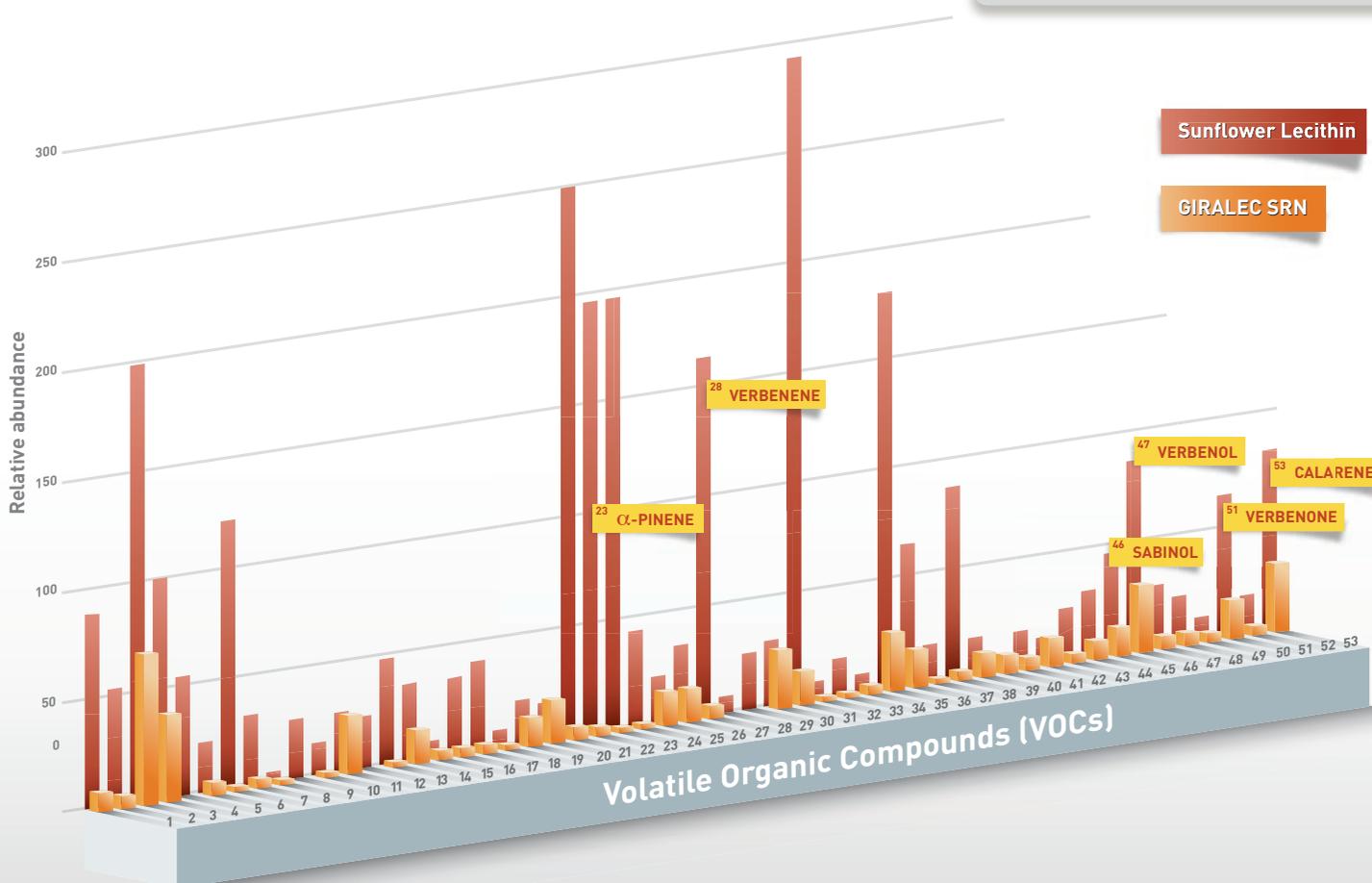
Gardner (10% dilution) < 13

which keeps the balance between the colour and the volatile components created in a bleaching process. This is Lasenor's recommended solution.

For customers where low color is a must, we can also offer **GIRALEC PREMIUM**, which meets the colour specification:

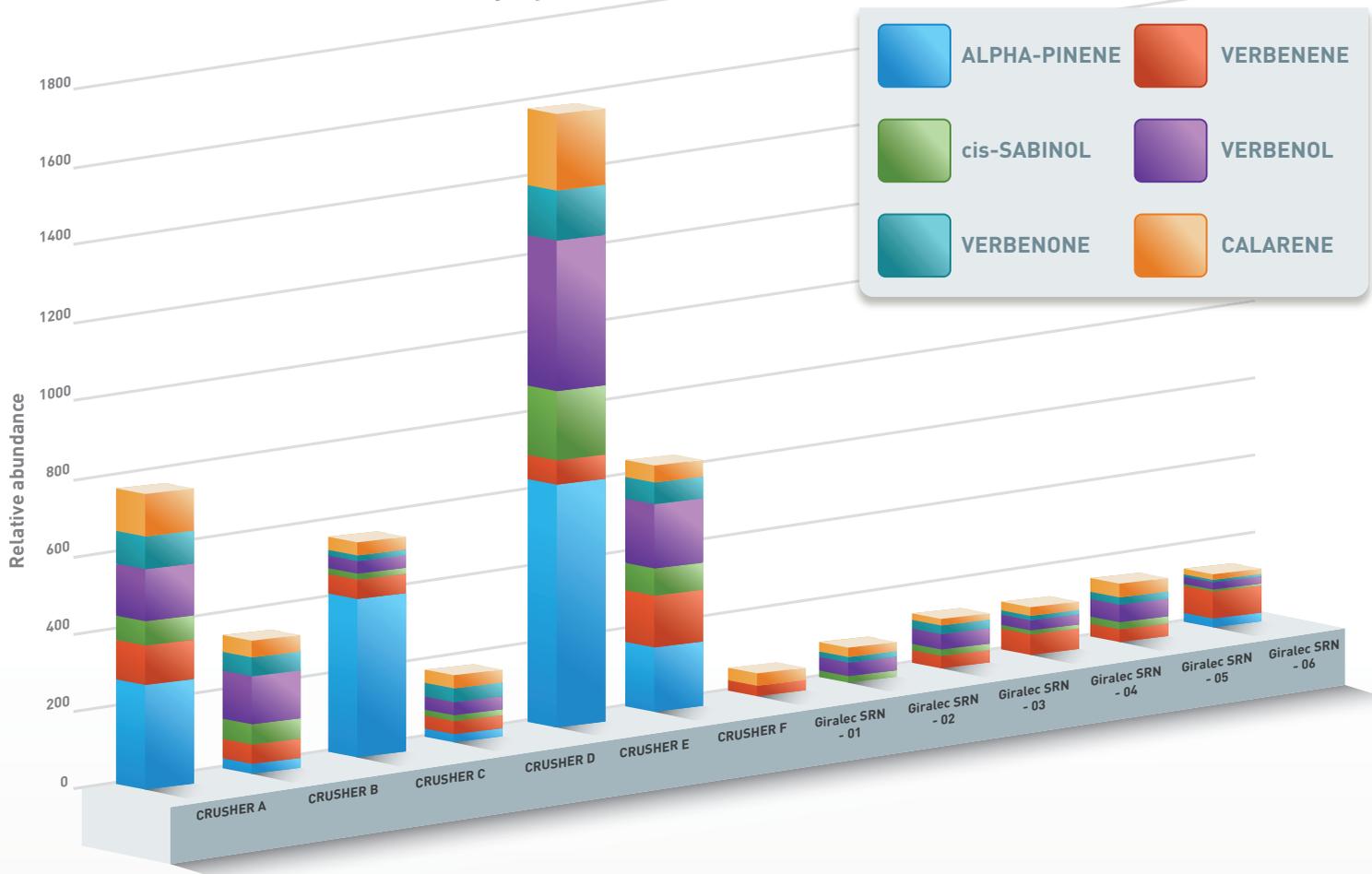
Gardner (10% dilution) < 10

but there is no bypass: this color is only achievable after an intensive bleaching process.



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Volatile organic compounds (VOCs)
Terpenes



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Quality System:

