IDEA
International Dialogue for the Evaluation of Allergens

IDEA Hydroperoxides Task Force

Summary report from the meeting of June 15, 2015

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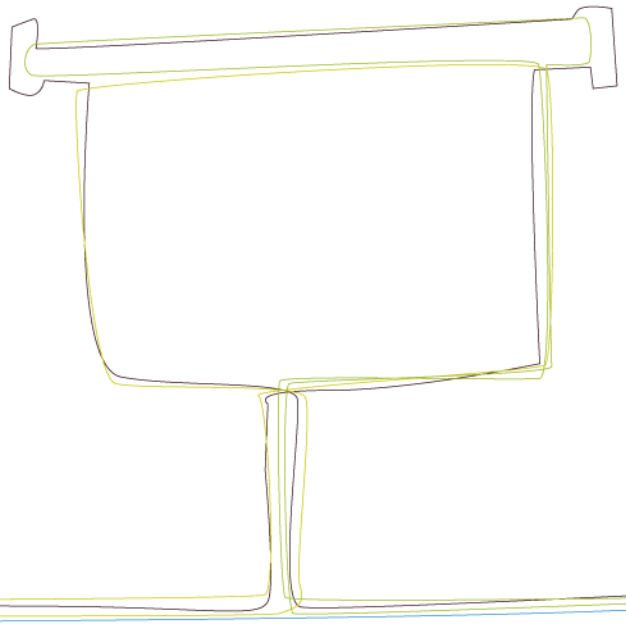

Purpose

- The purpose of the Task Force is to provide analytical data in support of interpretation of Patch Test reactions to materials containing the hydroperoxides of Limonene and Linalool.
- To achieve this, the ultimate objective is to provide methodology to enable the confirmation and quantitative measurement for Limonene and Linalool hydroperoxides in complex mixtures (including final consumer products) at 5000ppm and within agreed accuracy ranges; and to provide methodology for qualitative analysis (confirmatory purposes) at 500ppm.
- An intermediate objective is to provide methodology to achieve the above performance in Fragrance Raw Materials and Fragrance Oils respectively.

Ringtest

- Four synthetic references of hydroperoxides
- Two quantitative levels which corresponded to elicitation and induction levels (200-400, 1000-2500 ppm)
- Three matrixes with different complexity levels (solvent (methyl pivalate), essential oil (orange oil) and formulated fragrance oil (Lily)
- There were 10 different analytical methods including their variants and 6 participating labs
- Blind coded samples

Achievements

- Supply and delivery of commercial standards has successfully been established
- All participating labs provided correct identification in spiked samples
- Most analytical results reveal the right order of magnitude

Challenges

- Matrix effects due to interfering compounds
- Unexpected reactions involving the target compounds
- Instability of hydroperoxides in certain matrixes

Challenges

		1-OOH-Lim	2-OOH-Lim	Linalool
Raw material				
Fragrance oil				
Consumer products	Hydroalcoholic products			
	Deodorants			
	Creams/Lotions			
Patch test material				

Premature

Next steps

- Data reproducibility: reanalyze frozen samples
- Thorough analysis of ring test data
- Search for mistery compound:
  - Protic/non protic solvent
- NMR monitoring of a mixture of Lin-OOH and Lim-OOH in orange oil.
- At a later stage, to decide on methods and run again the test to obtain data from different labs using the same technique.
- Compare the stability of hydroperoxides in oils and diluted products.

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Thank you for your attention