Flavouring substance 4-methyl-2-phenylpent-2-enal

Published by AGRINFO on 10 Sep 2024; Revised 31 Jan 2025

EU bans the flavouring 4-methyl-2-phenylpent-2-enal

Commission Regulation (EU) 2025/147 of 29 January 2025 amending Annex I to Regulation (EC) No 1334/2008 as regards the removal of the flavouring substance 4-Methyl-2-phenylpent-2-enal (FL No 05.100) from the Union list

Update

The European Union has removed 4-methyl-2-phenylpent-2-enal from the list of substances that may be used in the EU to flavour foods.

What is changing?

The European Commission has removed 4-methyl-2-phenylpent-2-enal (FL No. 05.100) from the list of flavouring substances that are authorised to be used in foods in the EU (listed in Regulation 1334/2008, Annex I).

Why?

The European Food Safety Authority has reviewed the flavouring substance 4-methyl-2-phenylpent-2-enal and concluded that safety concerns regarding its genotoxicity (the ability of a substance to damage the genetic information within a cell) cannot be ruled out (EFSA 2022). The use of the substance was already restricted under Regulation 2024/238 (see New restrictions on the use of certain flavouring substances). As no data was submitted to support continued use of the flavouring, it is now being prohibited.

Timeline

From **19 February 2025** food containing 4-methyl-2-phenylpent-2-enal will no longer be able to enter the EU market.

Foods containing 4-methyl-2-phenylpent-2-enal imported into the EU before 19 February 2025 may continue to be marketed until their use-by date if the importer can demonstrate that the products were in transit to the EU before 19 February 2025.

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Recommended Actions

Companies that export food products containing 4-methyl-2-phenylpent-2-enal as a flavouring can look for alternative EU-compliant substances in the Food Flavourings Database.

Background

Regulation 1334/2008 prohibits adding certain undesirable natural substances to food. It also lays down maximum levels for some substances that are naturally present in flavourings, but that may raise concerns for human health. The Regulation defines different types of flavourings, and lists the substances for which evaluation and approval is required.

The Union list of flavouring substances approved for use in and on foods (Regulation 872/2012) was adopted in 2012.

Commission Regulation (EU) 2024/238 introduced restrictions on the use of 2-phenyl-2-butenal, 5-methyl-2-phenyl-2-hexenal, and 4-methyl-2-phenyl-2-pentenal (see New restrictions on the use of certain flavouring substances).

When EFSA evaluates flavouring substances, it allocates them a unique identification number called an FL-number. FL comes from “FLAVIS”, the EU’s flavouring information system. The FL-number is not used for labelling purposes.

Resources

EFSA (2022) Scientific opinion on Flavouring group evaluation 216 revision 2 (FGE.216Rev2): consideration of the genotoxicity potential of α,β■unsaturated 2■phenyl■2■alkenals from subgroup 3.3 of FGE.19. EFSA Journal, 20(8): 7420.

Regulation 2024/238 as regards the introduction of restrictions on the use of certain flavouring substances

Regulation 1334/2008 on flavourings and certain food ingredients with flavouring properties for use in and on foods

Regulation 872/2012 adopting the list of flavouring substances provided for by Regulation 2232/96

Food Flavouring Database

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Sources

Commission Regulation (EU) 2025/147 as regards the removal of the flavouring substance 4-Methyl-2-phenylpent-2-enal (FL No 05.100) from the Union list

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