COMMISSION IMPLEMENTING REGULATION (EU) 2017/56

of 14 December 2016

concerning the authorisation of lactic acid, 4-oxovaleric acid, succinic acid, fumaric acid, ethyl acetoacetate, ethyl lactate, butyl lactate, ethyl 4-oxovalerate, diethyl succinate, diethyl malonate, butyl-O-butyryllactate, hex-3-enyl lactate, hexyl lactate, butyro-1,4-lactone, decano-1,5-lactone, undecano-1,5-lactone, pentano-1,4-lactone, nonano-1,5-lactone, octano-1,5-lactone, heptano-1,4-lactone and hexano-1,4-lactone as feed additives for all animal species

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 1831/2003 of the European Parliament and of the Council of 22 September 2003 on additives for use in animal nutrition ([1]), and in particular Article 9(2) thereof,

Whereas:

(1) Regulation (EC) No 1831/2003 provides for the authorisation of additives for use in animal nutrition and for the grounds and procedures for granting such authorisation. Article 10 of that Regulation provides for the re-evaluation of additives authorised pursuant to Council Directive 70/524/EEC ([2]).

(2) Lactic acid, 4-oxovaleric acid, succinic acid, fumaric acid, ethyl acetoacetate, ethyl lactate, butyl lactate, ethyl 4-oxovalerate, diethyl succinate, diethyl malonate, butyl-O-butyryllactate, hex-3-enyl lactate, hexyl lactate, butyro-1,4-lactone, decano-1,5-lactone, undecano-1,5-lactone, pentano-1,4-lactone, nonano-1,5-lactone, octano-1,5-lactone, heptano-1,4-lactone and hexano-1,4-lactone ('the substances concerned') were authorised without a time limit in accordance with Directive 70/524/EEC as feed additives for all animal species. Those products were subsequently entered in the Register of feed additives as existing products, in accordance with Article 10(1) of Regulation (EC) No 1831/2003.

(3) In accordance with Article 10(2) of Regulation (EC) No 1831/2003 in conjunction with Article 7 thereof, an application was submitted for the re-evaluation of the substances concerned as feed additives for all animal species. The applicant requested those additives to be classified in the additive category 'sensory additives'. That application was accompanied by the particulars and documents required under Article 7(3) of Regulation (EC) No 1831/2003.

(4) The European Food Safety Authority ('the Authority') concluded in its opinion of 17 October 2012 ([3]) that, under the proposed conditions of use in feed the substances concerned do not have adverse effects on animal health, human health or the environment. The Authority further concluded that the function of the substances concerned in feed is similar to that on food. The Authority has already concluded that for food the substances concerned are efficacious, as it increases the food smell or palatability. Therefore, that conclusion can be extrapolated for feed. The Authority is not in a position to evaluate the use of the substances concerned in water for drinking. However, those substances can be used within compound feeds which are subsequently administered via water.

(5) Restrictions and conditions should be provided for to allow better control. Since safety reasons do not require the setting of a maximum content and, taking into account the re-evaluation performed by the Authority, recommended contents should be indicated on the label of the additive. Where such contents are exceeded, certain information should be indicated on the label of premixtures, compound feeds and feed materials.

(6) The Authority concluded that the substances concerned are considered as potentially hazardous to the respiratory tract skin, eyes and skin sensitisers. Consequently, appropriate protective measures should be taken. The Authority does not consider that there is a need for specific requirements of post-market monitoring. It also verified the report on the method of analysis of the feed additives in feed submitted by the Reference Laboratory set up by Regulation (EC) No 1831/2003.

([1]) OJ L 268, 18.10.2003, p. 29.
([2]) Council Directive 70/524/EEC of 23 November 1970 concerning additives in feedingstuffs (OJ L 270, 14.12.1970, p. 1).
([3]) *EFSA Journal* 2012;10(10):2928.

(7) The assessment of the substances concerned shows that the conditions for authorisation, as provided for in Article 5 of Regulation (EC) No 1831/2003, are satisfied.

(8) Since safety reasons do not require the immediate application of the modifications to the conditions of authorisation for the substances concerned, it is appropriate to allow a transitional period for interested parties to prepare themselves to meet the new requirements resulting from the authorisation.

(9) The measures provided for in this Regulation are in accordance with the opinion of the Standing Committee on Plants, Animals, Food and Feed,

HAS ADOPTED THIS REGULATION:

Article 1

Authorisation

The substances specified in the Annex, belonging to the additive category 'sensory additives' and to the functional group 'flavouring compounds', are authorised as feed additives in animal nutrition subject to the conditions laid down in that Annex.

Article 2

Transitional measures

1. The substances specified in the Annex and premixtures containing those substances, which are produced and labelled before 6 August 2017 in accordance with the rules applicable before 6 February 2017 may continue to be placed on the market and used until the existing stocks are exhausted.

2. Compound feed and feed materials containing the substances as specified in the Annex which are produced and labelled before 6 February 2018 in accordance with the rules applicable before 6 February 2017 may continue to be placed on the market and used until the existing stocks are exhausted if they are intended for food-producing animals.

3. Compound feed and feed materials containing the substances as specified in the Annex which are produced and labelled before 6 February 2019 in accordance with the rules applicable before 6 February 2017 may continue to be placed on the market and used until the existing stocks are exhausted if they are intended for non-food-producing animals.

Article 3

Entry into force

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 14 December 2016.

For the Commission
The President
Jean-Claude JUNCKER

ANNEX

Identification number of the additive	Name of the holder of authorisation	Additive	Composition, chemical formula, description, analytical method	Species or category of animal	Maximum age	Minimum content	Maximum content	Other provisions	End of period of authorisation
						mg of active substance/kg of complete feedingstuff with a moisture content of 12 %			
(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
Category: Sensory additives. Functional group: Flavouring compounds									
2b08004	—	Lactic acid	*Additive composition* Lactic acid *Characterisation of the active substance* Lactic acid Produced by chemical synthesis Purity: min. 95 % Chemical formula: $C_3H_6O_3$ CAS number 598-82-3 and 50-21-5 for DL-lactic acid 79-33-4 for L-lactic acid FLAVIS No 08.004 *Method of analysis* (1) For the determination of lactic acid in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b08023	—	4-Oxovaleric acid	*Additive composition* 4-Oxovaleric acid *Characterisation of the active substance* 4-Oxovaleric acid Produced by chemical synthesis Purity: min. 97 % Chemical formula: $C_5H_8O_3$ CAS number 123-76-2 FLAVIS No 08.023 *Method of analysis* (1) For the determination of 4-oxovaleric acid in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

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								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b08024	—	Succinic acid	*Additive composition* Succinic acid *Characterisation of the active substance* Succinic acid Produced by chemical synthesis Purity: min. 99 % Chemical formula: $C_4H_6O_4$ CAS number 110-15-6 FLAVIS No 08.024 *Method of analysis* (1) For the determination of succinic acid in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b08025	—	Fumaric acid	*Additive composition* Fumaric acid *Characterisation of the active substance* Fumaric acid Produced by chemical synthesis Purity: min. 99,5 % Chemical formula: $C_4H_4O_4$ CAS number 110-17-8 FLAVIS No 08.025 *Method of analysis* (1) For the determination of fumaric acid in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b09402	—	Ethyl acetoacetate	*Additive composition* Ethyl acetoacetate *Characterisation of the active substance* Ethyl acetoacetate Produced by chemical synthesis Purity: min. 97,5 % Chemical formula: $C_6H_{10}O_3$ CAS number 141-97-9 FLAVIS No 09.402 *Method of analysis* (1) For the determination of ethyl acetoacetate in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b09433	—	Ethyl lactate	*Additive composition* Ethyl lactate *Characterisation of the active substance* Ethyl lactate Produced by chemical synthesis Purity: min. 97 % Chemical formula: $C_5H_{10}O_3$ CAS number 97-64-3 FLAVIS No 09.433 *Method of analysis* (1) For the determination of ethyl lactate in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 125 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 125 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 125 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b09434	—	Butyl lactate	*Additive composition* Butyl lactate *Characterisation of the active substance* Butyl lactate Produced by chemical synthesis Purity: min. 95 % Chemical formula: $C_7H_{14}O_3$ CAS number 138-22-7 FLAVIS No 09.434 *Method of analysis* (1) For the determination of butyl lactate in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b09435	—	Ethyl 4-oxovalerate	*Additive composition* Ethyl 4-oxovalerate *Characterisation of the active substance* Ethyl 4-oxovalerate Produced by chemical synthesis Purity: min. 98 % Chemical formula: $C_7H_{12}O_3$ CAS number 539-88-8 FLAVIS No 09.435 *Method of analysis* (1) For the determination of ethyl 4-oxovalerate in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b09444	—	Diethyl succinate	*Additive composition* Diethyl succinate *Characterisation of the active substance* Diethyl succinate Produced by chemical synthesis Purity: min. 98 % Chemical formula: $C_8H_{14}O_4$ CAS number 123-25-1 FLAVIS No 09.444 *Method of analysis* (1) For the determination of diethyl succinate in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

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								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b09490	—	Diethyl malonate	*Additive composition* Diethyl malonate *Characterisation of the active substance* Diethyl malonate Produced by chemical synthesis Purity: min. 97 % Chemical formula: $C_7H_{12}O_4$ CAS number 105-53-3 FLAVIS No 09.490 *Method of analysis* (1) For the determination of diethyl malonate in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

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								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b09491	—	Butyl-O-butyryllactate	*Additive composition* Butyl-O-butyryllactate *Characterisation of the active substance* Butyl-O-butyryllactate Produced by chemical synthesis Purity: min. 95 % Chemical formula: $C_{11}H_{20}O_4$ CAS number 7492-70-8 FLAVIS No 09.491 *Method of analysis* ([1]) For the determination of butyl-O-butyryllactate in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

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								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b09545	—	Hex-3-enyl lactate	*Additive composition* Hex-3-enyl lactate *Characterisation of the active substance* Hex-3-enyl lactate Produced by chemical synthesis Purity: min. 96 % Chemical formula: $C_9H_{16}O_3$ CAS number 61931-81-5 FLAVIS No 09.545 *Method of analysis* (1) For the determination of hex-3-enyl lactate in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

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								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b09580	—	Hexyl lactate	*Additive composition* Hexyl lactate *Characterisation of the active substance* Hexyl lactate Produced by chemical synthesis Purity: min. 95 % Chemical formula: $C_9H_{18}O_3$ CAS number 20279-51-0 FLAVIS No 09.580 *Method of analysis* (1) For the determination of hexyl lactate in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b10006	—	Butyro-1,4-lactone	*Additive composition* Butyro-1,4-lactone *Characterisation of the active substance* Butyro-1,4-lactone Produced by chemical synthesis Purity: min. 98 % Chemical formula: $C_4H_6O_2$ CAS number 96-48-0 FLAVIS No 10.006 *Method of analysis* (1) For the determination of butyro-1,4-lactone in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

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								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b10007	—	Decano-1,5-lactone	*Additive composition* Decano-1,5-lactone *Characterisation of the active substance* Decano-1,5-lactone Produced by chemical synthesis Purity: min. 98 % Chemical formula: $C_{10}H_{18}O_2$ CAS number 705-86-2 FLAVIS No 10.007 *Method of analysis* (1) For the determination of decano-1,5-lactone in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b10011	—	Undecano-1,5-lactone	*Additive composition* Undecano-1,5-lactone *Characterisation of the active substance* Undecano-1,5-lactone Produced by chemical synthesis Purity: min. 98 % Chemical formula: $C_{11}H_{20}O_2$ CAS number 710-04-3 FLAVIS No 10.011 *Method of analysis* ([1]) For the determination of undecano-1,5-lactone in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg' 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b10013	—	Pentano-1,4-lactone	*Additive composition* Pentano-1,4-lactone *Characterisation of the active substance* Pentano-1,4-lactone Produced by chemical synthesis Purity: min. 95 % Chemical formula: $C_5H_8O_2$ CAS number 108-29-2 FLAVIS No 10.013 *Method of analysis* ([1]) For the determination of pentano-1,4-lactone in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b10014	—	Nonano-1,5-lactone	*Additive composition* Nonano-1,5-lactone *Characterisation of the active substance* Nonano-1,5-lactone Produced by chemical synthesis Purity: min. 98 % Chemical formula: $C_9H_{16}O_2$ CAS number 3301-94-8 FLAVIS No 10.014 *Method of analysis* (1) For the determination of nonano-1,5-lactone in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg' 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b10015	—	Octano-1,5-lactone	*Additive composition* Octano-1,5-lactone *Characterisation of the active substance* Octano-1,5-lactone Produced by chemical synthesis Purity: min. 98 % Chemical formula: $C_8H_{14}O_2$ CAS number 698-76-0 FLAVIS No 10.015 *Method of analysis* (1) For the determination of octano-1,5-lactone in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b10020	—	Heptano-1,4-lactone	*Additive composition* Heptano-1,4-lactone *Characterisation of the active substance* Heptano-1,4-lactone Produced by chemical synthesis Purity: min. 98 % Chemical formula: $C_7H_{12}O_2$ CAS number 105-21-5 FLAVIS No 10.020 *Method of analysis* ([1]) For the determination of heptano-1,4-lactone in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	
2b10021	—	Hexano-1,4-lactone	*Additive composition* Hexano-1,4-lactone *Characterisation of the active substance* Hexano-1,4-lactone Produced by chemical synthesis Purity: min. 98 % Chemical formula: $C_6H_{10}O_2$ CAS number 695-06-7 FLAVIS No 10.021 *Method of analysis* (1) For the determination of hexano-1,4-lactone in the feed additive and in feed flavouring premixtures. Gas chromatography mass spectrometry with retention time locking GC-MS-RTL.	All animal species	—	—	—	1. The additive shall be incorporated into the feed in the form of a premixture. 2. In the directions for use of the additive and premixtures, the storage and stability conditions shall be indicated. 3. The recommended maximum content of the active substance shall be: 5 mg/kg of complete feedingstuff with a moisture content of 12 %. 4. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance of complete feedingstuff with a moisture content of 12 %: 5 mg/kg'. 5. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the labelling of the premixtures, feed materials and compound feedingstuffs, if the following content of the active substance in complete feedingstuff with a moisture content of 12 % is exceeded: 5 mg/kg.	6 February 2027

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)
								6. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks by dermal contact or eyes contact. Where those risks cannot be eliminated or reduced to a minimum by such procedures and measures, the additive and premixtures shall be used with personal protective equipment, including safety glasses and gloves.	

(1) Details of the analytical methods are available at the following address of the Reference Laboratory: https://ec.europa.eu/jrc/en/eurl/feed-additives/evaluation-reports