EN

ANNEX

Identifi-cation number of the additive	Name of the additive	Composition, chemical formula, description, analytical method	Species or category of animal	Maxi-mum age	Minimum content	Maximum content	Other provisions	End of period of authorisa-tion
					mg/kg of complete feed with a moisture content of 12%			
Category: Sensory additives. Functional group: Flavouring compounds								
2b92457	L-cysteine	**Additive composition:** L-cysteine Solid form **Characterisation of the active substance:** L-cysteine Purity: minimum 98 % on a dry matter basis Produced by electrochemical reduction of L-cystine (produced with *Escherichia coli* DSM 34232) IUPAC name: (2R)-2-amino-3-sulfanylpropanoic acid Chemical formula: $C_3H_7NO_2S$ CAS number: 52-90-4 FLAVIS number: 17.033 **Analytical methods[1]:**	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 conditions and the stability to heat treatment shall be indicated. 3. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance per kg of complete feedingstuff with a moisture content of 12% : 25mg .' 4. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the label of the premixture where the use level on the label of the premixture would result in exceeding the content referred to in point 3.	*[10 years from the date of entry into force of this Regulation. To be completed by the Service responsible for the publication]*

[1] Details of the analytical methods are available at the following address of the Reference Laboratory: https://joint-research-centre.ec.europa.eu/eurl-fa-eurl-feed-additives/eurl-fa-authorisation/eurl-fa-evaluation-reports_en

Identifi-cation number of the additive	Name of the additive	Composition, chemical formula, description, analytical method	Species or category of animal	Maxi-mum age	Minimum content	Maximum content	Other provisions	End of period of authorisa-tion
					mg/kg of complete feed with a moisture content of 12%			
Category: Sensory additives. Functional group: Flavouring compounds								
		For the identification of L-cysteine monohydrochloride in the feed additive: − Food Chemical Codex "L-cysteine monohydrochloride monograph" For the determination of cysteine in the feed additive: − Ion-exchange chromatography coupled with post-column derivatisation and optical detection (IEC-VIS/FLD) For the determination of cysteine in premixtures: − Ion-exchange chromatography coupled with post-column derivatisation and optical detection (IEC-VIS) − Commission Regulation (EC) No 152/2009						

Identification number of the additive	Name of the 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/kg of complete feed with a moisture content of 12%			
Category: Sensory additives. Functional group: Flavouring compounds								
2b17032	L-cysteine hydrochloride	**Additive composition:** L-cysteine hydrochloride Solid form **Characterisation of the active substance:** L-cysteine hydrochloride Purity: minimum 98,5 % on a dry matter basis Produced by electrochemical reduction of L-cystine (produced with *Escherichia coli* DSM 34232) IUPAC name: (2R)-2-amino-3-sulfanylpropanoic acid; hydrochloride Chemical formula: $C_3H_8ClNO_2S$ CAS number: 52-89-1 FLAVIS number: 17.032 **Analytical methods[2]:** For the identification of L-cysteine monohydrochloride in the feed additive: − Food Chemical Codex "L-cysteine monohydrochloride monograph"	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 conditions and the stability to heat treatment shall be indicated. 3. On the label of the additive the following shall be indicated: 'Recommended maximum content of the active substance per kg of complete feedingstuff with a moisture content of 12%: 25 mg.' 4. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the label of the premixture where the use level on the label of the premixture would result in exceeding the content referred to in point 3. 5. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks resulting from their use. Where those risks cannot be eliminated by such procedures and	*[10 years from the date of entry into force of this Regulation. To be completed by the Service responsible for the publication]*

[2] Details of the analytical methods are available at the following address of the Reference Laboratory: https://joint-research-centre.ec.europa.eu/eurl-fa-eurl-feed-additives/eurl-fa-authorisation/eurl-fa-evaluation-reports_en

Identifi-cation number of the additive	Name of the additive	Composition, chemical formula, description, analytical method	Species or categor y of animal	Maxi-mum age	Minimu m content	Maximu m content	Other provisions	End of period of authorisa-tion
					mg/kg of complete feed with a moisture content of 12%			
Category: Sensory additives. Functional group: Flavouring compounds								
		For the determination of cysteine in the feed additive: − Ion-exchange chromatography coupled with post-column derivatisation and optical detection (IEC-VIS/FLD) For the determination of cysteine in premixtures: − Ion-exchange chromatography coupled with post-column derivatisation and optical detection (IEC-VIS) − Commission Regulation (EC) No 152/2009					measures, the additive and premixtures shall be used with personal skin, eye and breathing protective equipment. ,	

Identifi-cation number of the additive	Name of the additive	Composition, chemical formula, description, analytical method	Species or categor y of animal	Maxi-mum age	Minimu m content	Maximu m content	Other provisions	End of period of authorisa-tion
					mg/kg of complete feed with a moisture content of 12%			
Category: Sensory additives. Functional group: Flavouring compounds								
2b920i	L-cysteine hydrochloride monohydrate	**Additive composition:** L-cysteine hydrochloride monohydrate Solid form **Characterisation of the active substance:** L-cysteine hydrochloride monohydrate Purity: minimum 98 ,5 % on a dry matter basis Produced by electrochemical reduction of L-Cystine (produced with *Escherichia coli* DSM 34232). IUPAC name: (2R)-2-amino-3-sulfanylpropanoic acid; hydrate; hydrochloride; Chemical formula: $C_3H_8ClNO_2S*H_2O$ CAS number: 7048-04-6 FLAVIS number: 17.032 **Analytical methods[3]:** For the identification of L-cysteine monohydrochloride in the feed additive: − Food Chemical Codex “L-cysteine	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 conditions and the stability to heat treatment shall be indicated. 3. On the label of the additive the following shall be indicated: ‘Recommended maximum content of the active substance per kg of complete feedingstuff with a moisture content of 12%: 25 mg.’ 4. The functional group, the identification number, the name and the added amount of the active substance shall be indicated on the label of the premixture where the use level on the label of the premixture would result in exceeding the content referred to in point 3. 5. For users of the additive and premixtures, feed business operators shall establish operational procedures and organisational measures to address potential risks resulting from	*[10 years from the date of entry into force of this Regulation. To be completed by the Service responsible for the publication]*

[3] Details of the analytical methods are available at the following address of the Reference Laboratory: https://joint-research-centre.ec.europa.eu/eurl-fa-eurl-feed-additives/eurl-fa-authorisation/eurl-fa-evaluation-reports_en

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					mg/kg of complete feed with a moisture content of 12%			
Category: Sensory additives. Functional group: Flavouring compounds								
		monohydrochloride monograph” For the determination of cysteine in the feed additive: − Ion-exchange chromatography coupled with post-column derivatisation and optical detection (IEC-VIS/FLD) For the determination of cysteine in premixtures: − Ion-exchange chromatography coupled with post-column derivatisation and optical detection (IEC-VIS) − Commission Regulation (EC) No 152/2009					their use. Where those risks cannot be eliminated by such procedures and measures, the additive and premixtures shall be used with personal skin, eye and breathing protective equipment.	