

**ANNEX**

Identi- fication 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 authorisa- tion
					mg/kg of complete feed with 12 % moisture content			
Category: nutritional additives. Functional group: amino acids, their salts and analogues								
3c413	L-threonine	<b>Additive composition</b> L-threonine  Solid form  <b>Characterisation of the active substance</b> L-threonine ≥ 98 % (on a dry matter basis) produced with <i>Escherichia coli</i> CCTCC M 2024477  IUPAC name: (2S,3R)-2-amino-3- hydroxybutanoic acid  Chemical formula: C <sub>4</sub> H <sub>9</sub> NO <sub>3</sub>  CAS number: 72-19-5  <b>Analytical method<sup>1</sup></b> For the identification of L-threonine in the feed additive:  – Food Chemical Codex "L-threonine monograph"	All animal species	-	-	-	<div>1. In the directions for use of the additive and premixtures, the storage conditions and the stability to heat treatment and in water for drinking shall be indicated.</div> <div>2. The additive may be used via water for drinking.</div> <div>3. Feed business operators shall ensure that L-threonine is rumen protected, when fed to ruminants.</div> <div>4. The moisture content shall be indicated on the label of the additive.</div> <div>5. The labelling of the additive and premixtures shall indicate the following: ‘The supplementation with L- threonine, in particular via water for drinking, shall take into</div>	[10 years from the date of entry into force of this Regulation. To be completed by the OP.]

<sup>1</sup> 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](https://joint-research-centre.ec.europa.eu/eurl-fa-eurl-feed-additives/eurl-fa-authorisation/eurl-fa-evaluation-reports_en).

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Category: nutritional additives. Functional group: amino acids, their salts and analogues								
		<p>For the determination of threonine in the feed additive:</p> <p>– Ion-exchange chromatography coupled to post-column derivatisation and optical detection (IEC-VIS/FLD) – EN ISO 17180</p> <p>For the determination of threonine in premixtures:</p> <p>– Ion-exchange chromatography coupled to post-column derivatisation and optical detection (IEC-VIS/FLD) – EN ISO 17180 or</p> <p>– Ion-exchange chromatography coupled to post-column derivatisation and optical detection (IEC-VIS) – Commission Regulation (EC) No 152/2009</p> <p>For the determination of threonine in compound feed:</p> <p>– Ion-exchange chromatography coupled to post-column derivatisation and optical</p>					<p>account all essential and conditionally essential amino acids in order to avoid nutritional imbalances.’</p> <p>6. The endotoxin content of the additive and its dusting potential shall ensure a maximal endotoxin exposure of 1 600 IU endotoxins/m<sup>3</sup> air<sup>2</sup>.</p> <p>7. For the 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 measures, the additive and premixtures shall be used with personal skin, eye and breathing protective equipment.</p>	

<sup>2</sup> Exposure calculated based on the endotoxin level and the dusting potential of the additive according to the method used by EFSA (EFSA Journal 2018;16(10):5458); analytical method: European Pharmacopoeia 2.6.14. (bacterial endotoxins).

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		detection (IEC-VIS) – Commission Regulation (EC) No 152/2009  For the determination of threonine in water for drinking:  – Ion-exchange chromatography coupled to post-column derivatisation and optical detection (IEC-VIS or IEC-VIS/FLD)						