

FEFANA HARMONISED CLP-GHS FOR FEED ADDITIVES**

Last update: 30/06/2016

Additive / Name in EC Regulation	Identification number	Chemical formula	Chemical name (IUPAC)	CAS number	EC number	Index number	Basis for classification (options: Annex VI CLP, REACH registration, self-classification, ...)	CLASSIFICATION			LABELLING			Annex VI notes	Link to self classification
								Hazard Class and Category Code(s)	Hazard Statement Code(s)	Hazard Statement Code(s)	Supplementary Hazard Statement Code(s)	Pictograms, Signal word code	Specific Concentration limits, M-Factors		
ORGANIC ACIDS AND THEIR SALTS															
Acetic acid	E 260	C2H4O2	Acetic acid	64-19-7	200-580-7	607-002-00-6	Annex VI CLP	Flam. Liq. 3 Skin Corr. 1A Eye Dam. 1	H226 H314 H318	H226 H314		GHS02 GHS05 Dgr	Skin Corr. 1A; H314: C ≥ 90% Skin Corr. 1B; H314: 25% ≤ C < 90% Eye Irrit. 2; H319: 10% ≤ C < 25% Skin Irrit. 2; H315: 10% ≤ C < 25%	B	
Ammonium formate	E 295	CHO2·NH4	Ammonium formate	540-69-2	208-753-9		Self-classification (notes 1-2-3)	See link to Self-classification							http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/95047
Ammonium propionate	1k284	C3H5O2NH4	Ammonium propionate	17496-08-1	241-503-7		Self-classification (notes 1-2-3)	See link to Self-classification							http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/53059
Benzoic acid	E 210	C7H6O2	Benzoic acid	65-85-0	200-618-2	607-708-00-8	Annex VI CLP	Skin Irrit. 2 Eye Dam. 1 STOT RE 1	H315 H318 H372 (lungs) (inhalation)	H315 H318 H372 (lungs) (inhalation)		GHS05 GHS08 Dgr			
Calcium acetate	E 263	C4H6CaO4	Calcium diacetate	62-54-4	200-540-9		REACH registration joint submission.								
Calcium formate	E 238	C2H2O4·Ca	Calcium diformate	544-17-2	208-863-7		REACH registration joint submission.	Eye Dam. 1	H318	H318		GHS05 Dgr			
Calcium lactate		C6H10O6Ca	Calcium (s)-2-hydroxypropionate	28305-25-1	248-953-3		REACH registration joint submission.	Not Classified							
Calcium propionate	E 282	C6H10O4Ca	Calcium dipropionate	4075-81-4	223-795-8		REACH registration joint submission.	Eye Dam. 1	H318	H318		GHS05 Dgr			
Citric acid anhydrous	E 330	C6H8O7	2-hydroxypropane-1,2,3-tricarboxylic acid	77-92-9	201-069-1		Self-classification (notes 1-2-3)	Eye Irrit. 2	H319	H319		GHS07 Wng			http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/119370
Citric acid anhydrous	E 330	C6H8O7	2-hydroxypropane-1,2,3-tricarboxylic acid	77-92-9	201-069-1		REACH registration joint submission	Not Classified							
Formic acid	E 236	CH2O2	Formic acid	64-18-6	200-579-1	607-001-00-0	REACH registration joint submission.	Acute Tox. 3 Skin Corr. 1A Eye Dam. 1 Flam. Liq. 3 Acute Tox. 4	H331 H314 H318 H226 H302	H331 H314 H318 H226 H302	EUH071	GHS06 GHS05 GHS02 Dgr	Skin Corr. 1A; H314: C ≥ 90% Skin Corr. 1B; H314: 10% ≤ C < 90% Skin Irrit. 2; H319: 2% ≤ C < 10% Eye Irrit. 2; H319: 2% ≤ C < 10%		
Fumaric acid	1a297	C4H4O4	But-2-enedioic acid	110-17-8	203-743-0	607-146-00-X	Annex VI CLP	Eye Irrit. 2	H319	H319		GHS07 Wng			
Lactic acid	E 270	C3H6O3	L(+)-lactic acid	79-33-4	201-196-2		REACH registration joint submission.	Skin Irrit. 2 Eye Dam. 1	H315 H318	H315 H318		GHS05 Dgr	Skin Irrit. 2; H319: C ≥ 3% Skin Irrit. 2; H315: C ≥ 10% Eye Irrit. 2; H319: 1% ≤ C < 3%		
(DL)Malic acid	E 296	C4H6O5	Malic acid	617-48-1 / 6915-15-7	210-514-9		REACH registration joint submission	Eye Irrit. 2	H319	H319		GHS07 Wng			
Orthophosphoric acid	1a338	H3O4P	Phosphoric acid	7664-38-2	231-633-2	015-011-00-6	Annex VI CLP	Skin Corr. 1B	H314	H314		GHS05 Dgr	Skin Corr. 1B; H314: C ≥ 25% Eye Irrit. 2; H319: 10% ≤ C < 25% Skin Irrit. 2; H315: 10% ≤ C < 25%	B	
Potassium citrate	E 332	C6H8O7·3K	Tripotassium citrate	866-84-2	212-755-5		REACH registration joint submission	Not classified							
Potassium diformate	1a237a	C2H3O4·K	Potassium formate(1-2)-potassium hydrogen diformate	20642-05-1	243-934-6		Self-classification (notes 1-2-3)	Eye Irrit. 2	H319	H319		GHS07 Wng			http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/39084
Potassium sorbate	E 202	C6H5O2K	potassium hexa-2,4-dienoate	24634-61-5	246-376-1		REACH registration joint submission.	Skin Irrit. 2 Eye Irrit. 2	H315 H319	H315 H319		GHS07 Wng			
Propionic acid	E 280	C3H6O2	Propionic acid	79-09-4	201-176-3	607-089-00-0	Annex VI CLP	Flam.Liq 3 Skin Corr. 1B Eye Dam. 1 STOT SE 3	H226 H314 H318 H335	H226 H314 H335		GHS02 GHS05 GHS07 Dgr	Skin Corr. 1B; H314: C ≥ 25% Skin Irrit. 2; H319: 10% ≤ C < 25% Eye Irrit. 2; H319: 10% ≤ C < 25% STOT SE 3; H335: C ≥ 10%	B	

Sodium benzoate	E 4d 5	C7H6O2Na	Sodium benzoate	532-32-1	208-534-8	-	REACH registration joint submission.	Eye Irrit. 2	H319	H319			GH507 Wng
Sodium citrate anhydrous	E 331	C6H8O7.3Na	Trisodium citrate	68-04-2	200-675-3	-	REACH registration joint submission.	Not classified					
Sodium ethyl 4-hydroxybenzoate	E 215	C9H10O3.Na	Sodium 4-ethoxycarbonylphenoxide	35285-68-8	252-487-6	-	REACH registration joint submission.	Eye Irrit. 2	H319	H319			GH507 Wng
Sodium formate	E 237	CHO2.Na	Sodium formate	141-53-7	205-488-0		REACH registration joint submission.						
Sodium malate	E 350(i)	C4H6O5.2Na	Disodium malate	676-46-0	211-627-6	-	Classified according to C&L inventory.	Skin Irrit. 2 Eye Irrit. 2 STOT SE3	H315 H319 H335	H315 H319 H335			GH507 Wng
Sodium propionate	E 281	C3H5O2Na	Sodium propionate	137-40-6	205-290-4		No harmonized classification (notes 1-2-3)						
Sodium diacetate	E 262	NaC4H7O4	Sodium Hydrogen diacetate	126-96-5	204-814-9		REACH registration joint submission.	Eye Dam. 1	H318	H318			GH505 Dgr
Sorbic acid	E 200	C6H8O2	Hexa-2,4-dienoic acid	110-44-1	203-768-7	-	REACH registration joint submission.	Skin Irrit. 2 Eye Irrit. 2 STOT SE 3	H315 H319 H335	H315 H319 H335			GH507 Wng

VITAMINS													
ascorbyl-monophosphate calcium (AMC)			ascorbyl-monophosphate calcium (AMC)	425-180-1			Self-classification (notes 1-2-3)	Not classified					
ascorbyl-monophosphate sodium (AMS)			ascorbyl-monophosphate sodium (AMS)	66170-10-3	425-180-1		Not hazardous according CLP						
Betaine anhydrous	3a920/3a921	CSH11NO2	Trimethylammonioacetate	107-43-7	203-490-6		REACH registration joint submission.	Not classified					
Betaine hydrochloride	3a925	CSH12NO2.Cl	(Trimethylammonio)acetate hydrochloride	590-46-5	209-683-1		Classified according to C&L inventory.	Eye Irrit. 2	H319	H319			
Biotin	3a880	C10H16N2O3S	5-(2-oxohexahydro-1H-thieno[3,4-d]imidazol-4-yl)pentanoic acid	58-85-5	200-399-3		Classified according to C&L inventory.	Not classified					
25-hydroxycholecalciferol	3a670a	C 27H 44O 2.H 2O	25-hydroxycholecalciferol / 25-hydroxy-pre-cholecalciferol	63283-36-3			Several studies (DSM); STOT RE based on read-across with vitamin D3	Acute toxicity oral 4 Hazardous to aquatic environment – chronic toxicity 4 STOT repeated 1	H302 H413 H372	H302 H413 H372		GHS08 GHS07 Danger	
calcium L-ascorbate	1b302	C12H14O12Ca · 2H2O	calcium L-ascorbate	5743-28-2			Not hazardous according CLP						
Choline and its salts	3a890	CSH14NO.Cl	choline chloride (CCL)	67-48-1	200-655-4		Not hazardous according CLP						
Folic acid	3a316	C19H19N7O6	Folic acid	59-30-3	200-419-0		Not hazardous according CLP	Several studies (DSM)					
Inositol		C6H12O6	Inositol	6917-35-7	230-024-9		Not hazardous according CLP						
L-ascorbic acid	3a300		L-ascorbic acid	50-81-7	200-066-2		Not hazardous according CLP	Several studies (DSM)					
L-Carnitine	3a910 3a911		L-carnitine / L-carnitine-L-tartrate (CT)		459-550-9		Not hazardous according CLP						
menadiene nicotinamide bisulphite (MNB)	3a711	C11H9O5S·C6H7N2O	Menadiene nicotinamide bisulphite	73581-79-0	277-543-7		Annex VI CLP	Skin irritant 2 Eye irritant 2 Hazardous to aquatic environment – acute 1 Hazardous to aquatic environment – chronic 1	H315 H319 H400 H 410	H315 H319 H 410		GHS07 GHS09 Warning	
menadiene sodium bisulphite (MSB)	3a710	C11H9NaO5S·3H2O	Menadiene sodium bisulphite	6147-37-1	204-987-0		Read-across with menadiene nicotinamide bisulphite (MNB) / several studies (DSM) / experience (H335)	Skin irritant 2 Eye irritant 2 STOT SE 3 Hazardous to aquatic environment – acute 1 Hazardous to aquatic environment – chronic 1	H315 H319 H335 H400 H 410	H315 H319 H335 H 410		GHS07 GHS09 Warning	
Niacin	3a314 3a315	C6H5NO2	nicotinic acid (NA) / nicotinic acid amide (NAA)	59-67-6 98-92-0	200-441-0 202-713-4		REACH registration joint submission.	Eye Irr. Cat 2	H319	H319		GHS07 Wng	
Omega-3 and Omega-6 (essential fatty acids)							Not hazardous according CLP						
Pantothenic acid	3a841 3a842	C9H19NO4	calcium-D-pantothenate (Calpan) D-pantethenol (D-Pan)	81-13-0 137-08-6	201-327-3 205-278-9		Not hazardous according CLP REACH registration joint submission for Dexpanthenol (CAS no. 81-13-0)						
Retinol acetate	3a672a	C22H32O2	Retinol acetate	127-47-9	204-844-2		Several studies (DSM); H315 based on human experience	Skin Irr. Cat 2 Repr. Cat 1B Aquatic Chronic Cat 4	H315 H360D H413	H315 H360D H413		GHS08 GHS07 Danger	
Retinol palmitate	3a672b	C36H60O2	Retinol palmitate	79-81-2	201-228-5		REACH registration joint submission / study data	Repr. Cat 1B Aquatic Chronic Cat 4	H360D H413	H360D H413		GHS08 Danger	
sodium L-ascorbate	1b301	C6H7O6Na	sodium L-ascorbate	134-03-2	205-126-1		Not hazardous according CLP						
Taurine	3a370	C2H7NO3S	Taurine 2-AMINO-ETHANE-SULFONIC ACID 2-AMINO-ETHANESULFONIC ACID 2-Aminoethanesulfonic Acid 2-Aminoethansulfonsäure 2-azaniumylethanesulfonate	107-35-7	203-483-8			Skin Irrit 2; Eye Irrit. 2; STOT SE3	H315 H319 H335	H315 H319 H335		Warning	
Vitamin A	3a672a		Retinol	11103-57-4	234-328-2		Read-across with REACH data for all-trans-Retinol (CAS no. 68-26-8)	Skin Sens. Cat 1 Eye Irr. Cat 2 Repr. Cat 1B Aquatic Chronic Cat 4	H317 H319 H360D H413	H317 H319 H360D H413		GHS08 GHS07 Danger	
Retinol and its Esters	E 672	C20H30O	[2E,4E,6E,8E]-3,7-dimethyl-9-(2,6,6-trimethylcyclohexen-1-yl)nona-2,4,6,8-tetraen-1-ol	68-26-8	200-683-7		REACH data for all-trans-Retinol (CAS no. 68-26-8)	Skin Sens. Cat 1 Eye Irr. Cat 2 Repr. Cat 1B Aquatic Chronic Cat 4	H317 H319 H360D H413	H317 H319 H360D H413		GHS08 GHS07 Danger	

<http://echa.europa.eu/en/information-on-chemicals/cl-inventory-database/-/discli/details/5279>

Vitamin B1 - Thiamine and its Salts	3a820 3a821	C12H17N4O5.ClH.Cl	thiamine hydrochloride / thiamine mononitrate / 2-[(4-amino-2-methylimidin-5-yl)methyl]-5-(2-hydroxyethyl)-4-methyl-1,3-thiazol-3-ium chloride hydrochloride	67-03-8 532-43-4	200-641-8 208-537-4		Not hazardous according CLP Basis for not classifying as irritant: animal tests done in 1981 with thiamine nitrate							
Vitamin B12		C63H88CoN14O14P	cyanocobalamin / 5'-desoxy-adenosyl-cobalamin (5'-d-AC)	68-19-9	200-680-0		Not hazardous according CLP Basis for not classifying as irritant: no eye irritation in animal test (cited in external SDS); most notifiers do not classify in C&L inventory (ECHA, 2016-05-26)							
Vitamin B2 - Riboflavin and its Esters	E 101 E 101 a	C17H20N4O6	riboflavin / riboflavin-5'-phosphate ester monosodium salt (R-5'-P)	83-88-5 130-40-5	201-507-1 204-988-6		Not hazardous according CLP Basis: data from DSM internal and external studies with riboflavin; few studies with Riboflavin 5'-Phosphate Sodium							
Vitamin B6 - Pyridoxine and its Salt	3a831	C8H11NO3.ClH	pyridoxine hydrochloride	58-56-0	200-386-2		Several studies (DSM); REACH dossier intended to be submitted by 2018.	Eye Damage Cat 1	H318	H318			GHS05 Danger	
Vitamin C - L-Ascorbic Acid, its Esters and Salts / Salts of Ascorbyl Phosphates	3a300 3a311 3a312	C22H38O7	Ascorbyl palmitate (Vitamin C)	137-66-6	205-305-4		Classification is based on available studies. REACH dossier intended to be submitted by 2018.	Eye Irr. Cat 2 Aquatic Chronic Cat 3	H319 H412	H319 H412			GHS07 Warning	
Vitamin D3 - Colecalciferol	E 761 3a670	C27H44O	colecalfiferol / pre-colecalfiferol	67-97-0	200-673-2	603-180-00-4	Annex VI CLP; classification has been changed due to test data (DSM studies)	Acute Tox. 2 Acute Tox. 3 Acute Tox. 2 STOT repeated 1 Aquatic Chronic Cat 4	H300 H311 H330 H372 H413	H300 + H330 H311 H372 H413			GHS06 GHS08 Dgr	
Vitamin E	3a700		all-rac-alpha tocopheryl acetate (all-rac-α TA) / RRR-alpha tocopheryl acetate (RRR-α TA) RRR-alpha tocopherol (RRR-α T)				Not hazardous according CLP							
Vitamin K - Menadione and its salts	3a710 3a711	C11H8O2	Menadione 1,4-Dihydro-1,4-dioxo-2-methylnaphthalene-2-Methyl-1,4-naphthoquinone 2-Methyl-1,4-naphthochinon 2-Methylnaphthalene-1,4-dione	58-27-5	200-372-6			Acute Tox. 4 Skin Irrit 2 Eye Irrit 2; Muta 2; Repr 2; acute 1; STOT RE 3	Aquatic H302 H315 H319 H341; H361; H400; H335	H302 H315 H319 H341; H361; H400; H335			GHS07 GHS09 WRN	

CAROTENOIDS														
Astaxanthin	E 161j	C40H52O4 3,3'-dihydroxy-4,4'-diketo-beta-carotene	beta,beta-carotene-4,4'-dione	7542-45-2	231-424-6		Self-classification (notes 1-2-3) several studies (DSM) with Astaxanthin and Astaxanthin dimethylsuccinate	Not Classified						http://echa.europa.eu/ja/information-on-chemicals/cl-inventory-database/z/details/104554
Astaxanthin dimethylsuccinate	E 2a(ii) 165	C50H64O10 3,3'-bis(4-methoxy-1,4-dioxobutoxy)-beta-beta-carotene-4,4'-dione	3,3'-bis(4-methoxy-1,4-dioxobutoxy)-beta-beta-carotene-4,4'-dione	578006-46-9			Self-classification (notes 1-2-3) several studies (DSM) with Astaxanthin and Astaxanthin dimethylsuccinate	Not Classified						
Canthaxanthin	E 161g	C40H52O2 beta-carotene-4,4'-dione	beta,beta-carotene-4,4'-dione Canthaxanthin	514-78-3	208-187-2		Several studies available (DSM), ecotox studies may be challenged	Aquatic Chronic 3	H412	H412		None		
Capsanthin	E 160c	C40H56O3	3,3'-dihydroxy-beta,kappa-caroten-6'-one	465-42-9	207-364-1		Not classified as dangerous		None	None		None		
Ethyl ester of beta-apo-8'-carotenoid acid	E 161b	C32H44O2	ethyl 2,6,11,15-tetramethyl-17-(2,6,6-trimethylcyclohex-1-en-1-yl)heptadeca-2,4,6,8,10,12,14,16-octaenoate	1109-11-1	214-173-7		Several studies available (DSM)	Aquatic chronic 4	H413	H413		None		
Lutein	E 161b	C40H56O2	4,5-didehydro-5,6-dihydro-beta,beta-carotene-3,3'-diol β,c-Carotene-3,3'-diol	127-40-2	204-840-0		Several studies available, including skin and eye irritation, but no ecotox study (DSM)	Aquatic chronic 4	H413	H413		None		
Zeaxanthin	E 161h	C40H56O2	[3R,3'R]-beta,beta-Carotene-3,3'-diol	144-68-3	205-636-4		Several studies available (DSM)	Aquatic Chronic 4	H413	H413		None		
<p>* Note: at today the harmonised FEFANA lists comprises Organic Acids and its Salts, Carotenoids, and Vitamins. For further information see FEFANA website at: http://fefana.org/clp-ghs.html</p> <p>† Vitamins and other substances intended for animal feeding are placed on the market as a preparation and therefore depending on the content of the preparation and the concentration of the active substance into that preparation, the classification of the related feed additive may vary. The FEFANA table is purely indicative and based on the available knowledge for actives substances - as it is already declared for VIT A compounds: classification refers to the active substance and not to formulations. Formulated products containing e.g. antioxidants may have a different classification.</p>														
1 - No harmonized classification under CLP not listed in Annex VI of Regulation 1272/2008.														
2 - No classification available according to REACH registration joint submission.														
3 - Not classified according to C&L inventory.														