

Annex IV

Substances in the NICEATM LLNA Database for which an Initial Dose of 10% or Greater Elicited a Negative Result but a Subsequent Higher Dose Elicited a Positive Response

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Substance Name	CASRN	Vehicle	rLLNA ¹	Trad. LLNA ¹	EC3 ²	1 Conc. (%)	1 SI	2 Conc. (%)	2 SI	3 Conc. (%)	3 SI	4 Conc. (%)	4 SI	5 Conc. (%)	5 SI	Data Source
1-(2',5'-Dimethylphenyl)butane-1,3-dione	56290-55-2	ACE	+	+	12.5	10	2.30	20	5.10	40	9.50					Gerberick et al. (2005)
1,1-Dimethylethyl 3-[[[(3s)-2,3,4,5-tetrahydro-1-[2-[(1-methylethyl)phenylamino]-2-oxoethyl]-2,4-dioxo-5-phenyl-1h-1,5-benzodiazepin-3-yl]amino]carbonyl]amino]-benzoate	305366-94-3	DMF	+	+	37.5	10	2.10	25	2.20	50	3.80					Glaxo SmithKline, Submitted by M.J. Olson
1-Chlorooctadecane	3386-33-2	AOO	+	+	16.3	10	1.70	25	4.80	50	7.30					Gerberick et al. (2005)
1-Chlorotetradecane	2425-54-9	AOO	+	+	20.2	10	1.10	25	3.90	50	6.30					Gerberick et al. (2005)
1-Iodoheptadecane	544-77-4	AOO	+	+	19.1	10	1.60	25	3.90	50	6.40					Gerberick et al. (2005)
1-Iodononane	4282-42-2	AOO	+	+	24.2	10	1.30	25	3.10	50	4.60					Gerberick et al. (2005)
1-Iodotetradecane	19218-94-1	AOO	+	+	13.8	10	1.70	25	6.90	50	9.70					Gerberick et al. (2005)
1-Phenyl-2-methylbutane-1,3-dione	6668-24-2	ACE	+	+	29.1	10	1.70	20	2.00	40	4.20					Gerberick et al. (2005)
1-Phenyl-octane-1,3-dione	55846-68-1	ACE	+	+	10.5	10	2.80	20	6.60	40	8.70					Gerberick et al. (2005)
2-(4-tert-Amylcyclohexyl)acetaldehyde	620159-84-4	AOO	+	+	36.8	25	2.10	50	4.00	100	9.10					Gerberick et al. (2005)
2,2,6,6-Tetramethyl-heptane-3,5-dione	1118-71-4	ACE	+	+	26.7	10	2.10	20	2.80	40	3.40					Gerberick et al. (2005)
2,2-bis-[4-(2-hydroxy-3-methacryloxypropoxy)phenyl]-propane	1565-94-2	AOO	+	+	45.3	35	2.00	75	5.90							LLNA/EC3 Validation Study, Submitted by D. Basketter, I. Kimber, and F. Gerberick
3-Ethoxy-1-(2',3',4',5'-tetramethylphenyl)propane-1,3-dione	170928-69-5	ACE	+	+	33.0	10	1.10	20	1.70	40	3.70					Gerberick et al. (2005)
3-Methyleugenol	186743-26-0	AOO	+	+	31.6	11	1.50	27	2.30	54	6.40					Gerberick et al. (2005)
4,4,4-Trifluoro-1-phenylbutane-1,3-dione	362-06-7	ACE	+	+	20.0	10	2.10	20	3.00	40	4.60					Gerberick et al. (2005)
4-Allylanisole	140-67-0	AOO	+	+	17.7	10	1.20	25	4.70	50	4.50	100	8.00			Gerberick et al. (2005)
5-Methyl-2,3-hexanedione	13706-86-0	AOO	+	+	25.8	25	2.90	50	6.00	100	14.30					Gerberick et al. (2005)
5-Methyleugenol	186743-25-9	AOO	+	+	13.2	11	2.70	27	4.90	54	4.30					Gerberick et al. (2005)

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6-Methyleugenol	186743-24-8	AOO	+	+	16.9	11	1.90	27	4.90	54	8.30					Gerberick et al. (2005)
Atrazine SC	1912-24-9	Pluronic L92 (1%)	+	+	31.3	13	1.80	25	2.80	50	3.60	75	7.10	100	7.30	ECPA LLNA Project Report, Submitted by P. Botham
Butyl acrylate	141-32-2	ACE	+	+	24.4	10	1.00	20	2.18	30	4.07					NTP Study, Submitted by D. Germolec
Butyl glycidyl ether	2426-08-6	AOO	+	+	30.9	10	1.40	25	2.20	50	5.60					Gerberick et al. (2005)
C15-azlactone	176665-09-1	AOO	+	+	17.8	10	1.80	25	4.10	50	7.50					Gerberick et al. (2005)
C17-azlactone	176665-11-5	AOO	+	+	19.0	11	1.70	27	4.30	54	4.60					Gerberick et al. (2005)
C19-azlactone		AOO	-	+	26.4	12	2.50	29	3.10	59	2.50					Gerberick et al. (2005)
Cinnamic alcohol	104-54-1	AOO	+	+	20.6	10	1.80	25	3.50	50	3.90	90	5.70			Gerberick et al. (2005)
cis-6-Nonenal	2277-19-2	AOO	+	+	22.4	10	1.60	25	3.30	50	4.50	100	13.70			Gerberick et al. (2005)
Diethylacetaldehyde	97-96-1	AOO	+	+	76.1	25	1.20	50	0.80	75	2.40	100	16.30			Gerberick et al. (2005)
Dimethyl sulfoxide	67-68-5	AOO	+	+	71.9	25	2.70	50	2.30	100	3.90					Gerberick et al. (2005)
Ethyl acrylate	140-88-5	AOO	+	+	28.3	10	1.20	25	2.70	50	5.00					Gerberick et al. (2005)
Ethylene glycol dimethacrylate	97-90-5	MEK	+	+	28.3	10	1.20	25	2.40	50	7.00					Gerberick et al. (2005)
EXP 11120 A		Pluronic acid/H ₂ O (1%)	+	+	64.9	10	0.96	25	0.66	50	1.60	100	6.30			Bayer CropScience SA Studies, Submitted by E. Debruyne
FAR01060-00		Pluronic acid/H ₂ O (1%)	+	+	88.5	10	0.40	25	0.80	50	1.00	100	3.60			Bayer CropScience SA Studies, Submitted by E. Debruyne
Imidazolidinyl urea	39236-46-9	DMF	+	+	23.9	10	1.70	25	3.10	50	5.50					Gerberick et al. (2005)
Isopropyl myristate	110-27-0	AOO	+	+	43.8	25	2.10	50	3.30	100	3.40					Gerberick et al. (2005)
Jasmine absolute (Sambac)	8022-96-6	EtOH/DEP (1:3)	+	+	36.4	10	1.70	25	2.50	50	3.60	75	10.80	100	16.20	Lalko & Api (2006), Submitted by A. Api (RIFM)
Linalool alcohol	78-70-6	AOO	+	+	30.4	25	2.50	50	4.80	100	8.30					Gerberick et al. (2005)
Linoleic acid	60-33-3	AOO	+	+	14.1	10	1.50	25	7.00	50	9.10					EFfCI study, Submitted by P. Ungeheuer

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Methyl methacrylate	80-62-6	AOO	+	+	90.0	10	1.40	30	1.50	50	1.50	75	2.10	100	3.60	LLNA/EC3 Validation Study, Submitted by D. Basketter, I. Kimber, and F. Gerberick
Non-ionic surfactant 1		AOO	+	+	27.5	25	2.80	50	4.80	100	6.50					CESIO Report, Submitted by K. Skirda
Non-ionic surfactant 2		AOO	-	+	47.1	25	1.50	50	3.20	100	2.90					CESIO Report, Submitted by K. Skirda
Non-ionic surfactant 5		AOO	+	+	37.5	25	2.70	50	3.30	100	3.20					CESIO Report, Submitted by K. Skirda
Non-ionic surfactant 6		AOO	+	+	34.4	25	2.70	50	3.50	100	6.50					CESIO Report, Submitted by K. Skirda
Oleic acid	112-80-1	AOO	+	+	10.5	10	2.60	25	14.90	50	6.90					EFfCI study, Submitted by P. Ungeheuer
Pentachlorophenol	87-86-5	DMSO	+	+	19.6	10	2.10	25	3.50	50	5.40					Gerberick et al. (2005)
Precursor surfactant 1		AOO	+	+	60.7	25	2.20	50	2.70	100	4.10					CESIO Report, Submitted by K. Skirda
Pyridine	110-86-1	AOO	+	+	71.9	25	1.10	50	2.30	100	3.90					Gerberick et al. (2005)
Quinoxifen/cyproconazole	124495-18-7/ 113096-99-4	Pluronic L92 (1%)	+	+	27.8	13	2.00	25	2.30	50	8.60	75	15.80	100	30.10	ECPA LLNA Project Report, Submitted by P. Botham
R(+)-Limonene	5989-27-5	AOO	+	+	68.8	25	1.80	50	2.40	100	4.00					Gerberick et al. (2005)
Undecylenic acid	112-38-9	AOO	+	+	19.4	10	2.50	25	3.30	50	4.40					EFfCI study, Submitted by P. Ungeheuer
Unsaturated fatty acid ester		AOO	+	+	27.1	25	2.80	50	5.20	100	4.70					CESIO Report, Submitted by K. Skirda

Abbreviations: ACE = acetone; AOO = Acetone: olive oil (4:1 by volume); CASRN = Chemical Abstract Services Registry Number; CESIO = Comite Europeen des Agents de Surface et de Leurs Intermediaires Organiques (European Committee of Surfactants and their Organic Intermediates); Conc. = concentration; DEP = diethyl phthalate; DMF = dimethylformamide; DMSO = dimethyl sulfoxide; EFfCI = European Federation for Cosmetic Ingredients; ECPA = European Crop Protection Association; EtOH = ethanol; H2O = water; LLNA = Local Lymph Node Assay; MEK = methyl ethyl ketone; NTP = National Toxicology Program; rLLNA = Reduced Local Lymph Node Assay; RIFM = Research Institute for Fragrance Materials; SI = stimulation Index; Trad. = traditional

¹ "+" = Sensitizer; "-" = Non-sensitizer

² EC3 represents the estimated concentration needed to produce a stimulation index of three (i.e., a three-fold increase in lymphocyte proliferation is observed for the test substance versus the vehicle control substance).