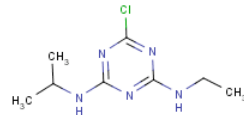
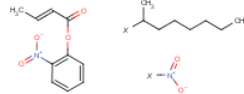


Appendix B1
Physico-Chemical Properties and Chemical Classes of Pesticide Formulations Tested in
the LLNA (Sorted Alphabetically)

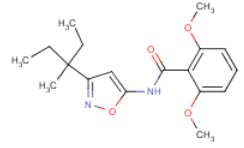
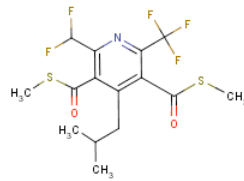
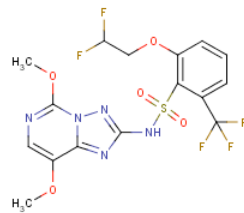
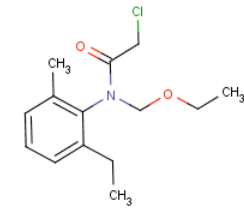
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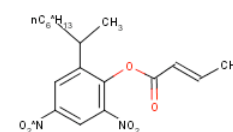
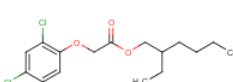
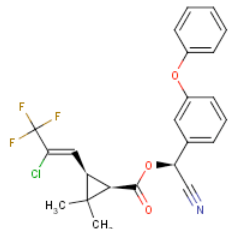
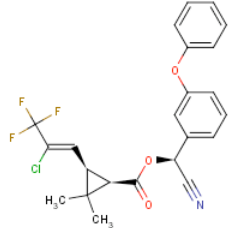
Physico-Chemical Properties and Chemical Classes of Pesticide Formulations Tested in the LLNA (Sorted Alphabetically)

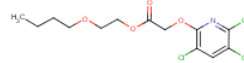
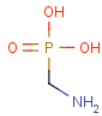
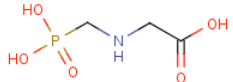
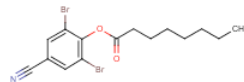
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
AE F016382 00 TK71 A101	NA	NA	NA	NA	NA	Formulation	NA
A SC600	NA	NA	NA	NA	NA	Formulation	NA
Atrazine	Atrazine SC 1-Chloro-3-ethylamino-5-isopropylamino-2,4,6-triazine	1912-24-9	215.68	2.82	Solid	Heterocyclic Compounds	
BASF #1	NA	NA	NA	NA	Emulsion	NA	NA
BASF #2	NA	NA	NA	NA	Emulsion	NA	NA
BASF #3	NA	NA	NA	NA	Liquid	NA	NA
BASF #4	NA	NA	NA	NA	Emulsion	NA	NA
BASF #5	NA	NA	NA	NA	Suspension	NA	NA
BASF #6	BAS 493 05 F	NA	NA	NA	Dispersion	NA	NA
BASF SC-1	NA	NA	NA	NA	Emulsion	NA	NA
BASF SE-1	NA	NA	NA	NA	Emulsion	NA	NA
D EC25	NA	NA	NA	NA	NA	Formulation	NA
D EW 15	NA	NA	NA	NA	NA	Formulation	NA

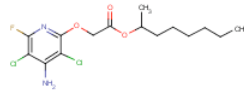
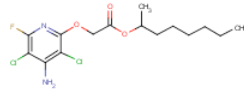
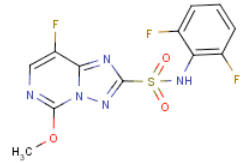
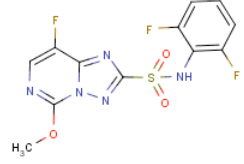
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Dinocap	Butenoic acid, 2-(or 4)-isooctyl-4,6(or 2,6)-dinitrophenyl ester (9CI) Crotonic acid, 2(or 4)-(1-methylheptyl)-4,6(or 2,6)-dinitrophenylester	39300-45-3	364.39	5.76	Liquid	Nitro Compounds; Hydrocarbons, Cyclic	
DU-10	NA	NA	NA	NA	NA	Formulation	NA
DU-11A	NA	NA	NA	NA	NA	Formulation	NA
DU-11B	NA	NA	NA	NA	NA	Formulation	NA
DU-11C	NA	NA	NA	NA	NA	Formulation	NA
DU-12	NA	NA	NA	NA	NA	Formulation	NA
DU-13A	NA	NA	NA	NA	NA	Formulation	NA
DU-13B	NA	NA	NA	NA	NA	Formulation	NA
DU-1A	NA	NA	NA	NA	NA	Formulation	NA
DU-1B	NA	NA	NA	NA	NA	Formulation	NA
DU-1C	NA	NA	NA	NA	NA	Formulation	NA
DU-2A	NA	NA	NA	NA	NA	Formulation	NA
DU-2B	NA	NA	NA	NA	NA	Formulation	NA
DU-2C	NA	NA	NA	NA	NA	Formulation	NA
DU-2D	NA	NA	NA	NA	NA	Formulation	NA

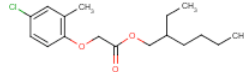
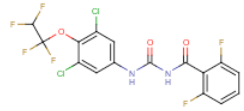
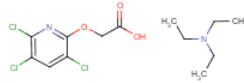
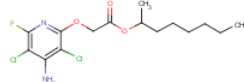
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
DU-2E	NA	NA	NA	NA	NA	Formulation	NA
DU-2F	NA	NA	NA	NA	NA	Formulation	NA
DU-3	NA	NA	NA	NA	NA	Formulation	NA
DU-4	NA	NA	NA	NA	NA	Formulation	NA
DU-5A	NA	NA	NA	NA	NA	Formulation	NA
DU-5B	NA	NA	NA	NA	NA	Formulation	NA
DU-5C	NA	NA	NA	NA	NA	Formulation	NA
DU-6	NA	NA	NA	NA	NA	Formulation	NA
DU-7	NA	NA	NA	NA	NA	Formulation	NA
DU-8A	NA	NA	NA	NA	NA	Formulation	NA
DU-8B	NA	NA	NA	NA	NA	Formulation	NA
DU-9A	NA	NA	NA	NA	NA	Formulation	NA
DU-9B	NA	NA	NA	NA	NA	Formulation	NA
EXP 10810 A	NA	NA	NA	NA	NA	Formulation	NA
EXP 11120 A	NA	NA	NA	NA	NA	Formulation	NA
FAR01042-00	NA	NA	NA	NA	NA	Formulation	NA
FAR01060-00	NA	NA	NA	NA	NA	Formulation	NA

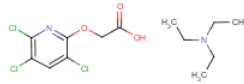
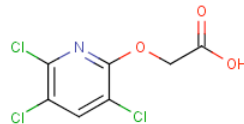
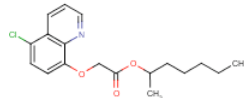
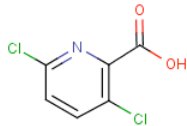
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 1	Isoxaben	82558-50-7	332.40	NA	Liquid	Formulation	
Formulation 10	22.9% w/w dithiopyr	97886-45-8	401.42	NA	Liquid	Formulation	
Formulation 11	0.31 wt % penoxsulam, 84.2 wt % acetochlor	219714-96-2 34256-82-1	483.37 269.77	NA	Liquid	Formulation	
							

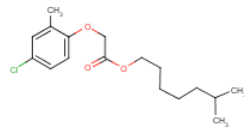
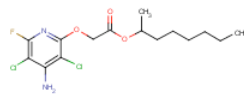

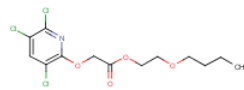
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 12	34.7% w/w 2,4-dinitro-6-(1-methylheptyl)phenyl crotonate DE-126	6119-92-2	364.40	NA	Liquid	Formulation	
Formulation 13	87.6% w/w 2,4-Dichlorophenoxyacetic acid 2-ethylhexyl ester 2,4-D-2-ethylhexyl	1928-43-4	333.25	NA	Liquid	Formulation	
Formulation 14	1.5 wt. % gamma-cyhalothrin Nexide Fentrol	76703-62-3	449.85	NA	Liquid	Formulation	
Formulation 15	5.8 wt.% gamma-cyhalothrin Nexide Fentrol	76703-62-3	449.85	NA	Liquid	Formulation	

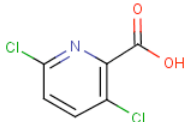
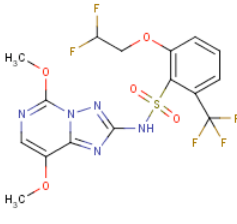
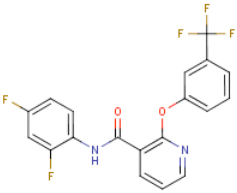
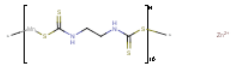
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 16	85.3% w/w triclopyr butoxyethyl ester	64470-88-8	356.63	NA	Liquid	Formulation	
Formulation 17	50.8% wt/wt glyphosate dimethylammonium salt (active ingredient) 40.1% wt/wt glyphosate (acid equivalent) 8.3% w/w Geronol CF/AS 30 (ammonium adjuvant)	1066-51-9 1071-83-6	111.04 169.02	NA	Liquid	Formulation	
							
Formulation 19	37.1 wt% Bromoxynil octanoate 9.23 wt% fluroxypyr-1-methylheptyl	1689-99-2 81406-37-3	403.11 367.25	NA	Liquid	Formulation	

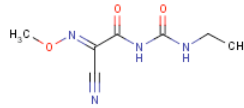
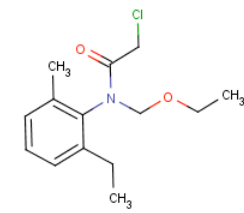
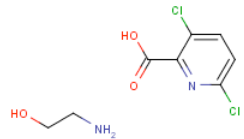
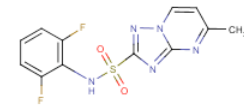
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
							
Formulation 2	14.2% w/w fluroxypyr -methyl 0.22% w/w florasulam	81406-37-3 145701-23-1	367.25 359.29	NA	Liquid	Formulation	
							
Formulation 20	0.39 wt% Florasulam 41.9 wt% 2-methyl-4-chlorophenoxyacetic acid 2-ethylhexyl ester (MCPA, 2-	145701-23-1 29450-45-1	359.29 312.84	NA	Liquid	Formulation	

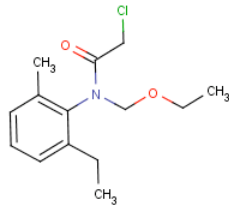
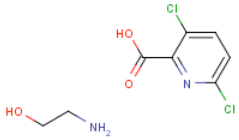
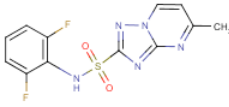
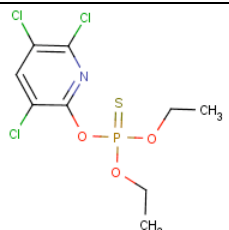
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
	ethyl hexyl ester)						
Formulation 21	50.4% Hexaflumuron N-(((3,5-dichloro-4-(1,1,2,2-tetrafluoroethoxy)phenyl)amino)carbonyl)-2,6-difluorobenzamide	86479-06-3	461.14	NA	Liquid	Formulation	
Formulation 22	8.3 wt. % triclopyr triethylammonium 2.8 wt. % fluroxypyr-methyl heptyl ester	57213-69-1 81406-37-3	357.66 367.25	NA	Liquid	Formulation	
							

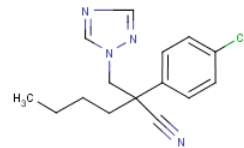
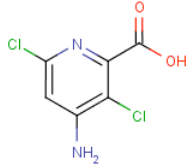
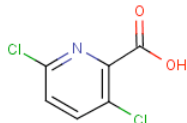
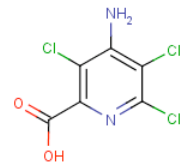
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 23	16.1 wt% Triclopyr-triethylammonium 11.6 wt% triclopyr acid	57213-69-1 55335-06-3	357.66	NA	Liquid	Formulation	
							
Formulation 24	8.8 wt% Cloquintocet-mexyl	99607-70-2	335.83	NA	Liquid	Formulation	
Formulation 25	2.2 wt.% clopyralid 37.7 wt.% MCPA-2-ethylhexyl ester 8.2 wt.% fluroxypyr-meptyl	1702-17-6 26544-20-7 81406-37-3	192.00 312.84/ 367.25	NA	Liquid	Formulation	

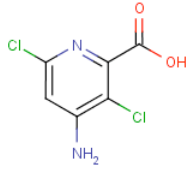
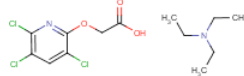
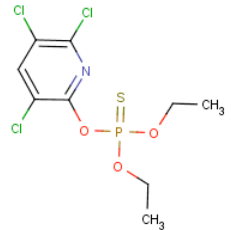
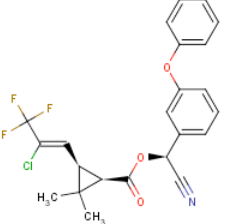
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
							 
Formulation 26	5.9 wt.% clopyralid 32.9 wt.% triclopyr-butotyl	1702-17-6 64700-56-7	192.00 356.63	NA	Liquid	Formulation	 

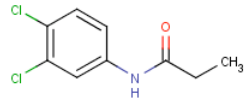
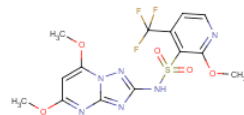
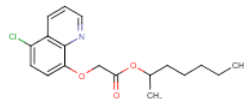
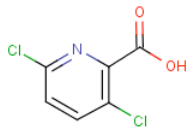
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 27	45.2 wt% fluroxypyr-meptyl	81406-37-3	192.00	NA	Liquid	Formulation	
Formulation 28	1.4 wt% penoxsulam 9.37 wt% diflufenican	219714-96-2 83164-33-4	483.37 394.30	NA	Liquid	Formulation	
							
Formulation 29	35.6% mancozeb, 4.92% cymoxanil	8018-01-7 57966-95-7	541.1 198.18	NA	Liquid	Formulation	

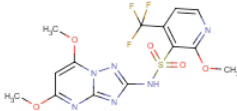
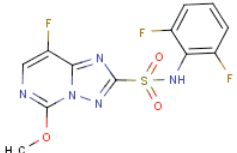
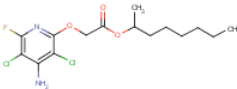
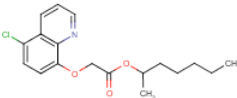
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
							
Formulation 3	455 g/L acetochlor 47 g/L clopyralid- olamine 14 g/L flumetsulam	34256-82-1 57754-85-5 98967-40-9	269.77 253.08 325.30	NA	Liquid	Formulation	
							
							

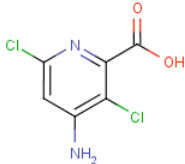
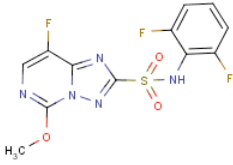
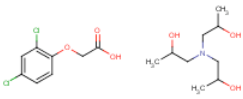
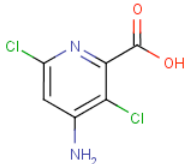
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 30	455 g/L acetochlor 47 g/L clopyralid- olamine 14 g/L flumetsulam	34256-82-1 57754-85-5 98967-40-9	269.77 253.08 325.30	NA	Liquid	Formulation	
							
							
Formulation 31	18.7 wt.% chlorpyrifos	2921-88-2	350.59	NA	Liquid	Formulation	

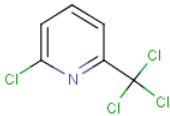
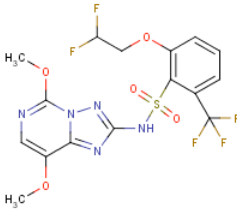
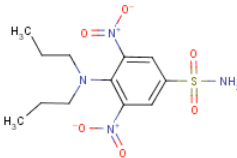
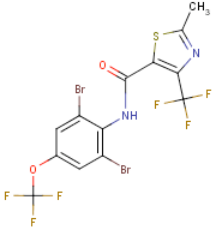
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 32	11.2 wt % ((E)-2-(1-methylheptyl) - 4,6-dinitrophenyl ester-2-butenic acid 4.68% wt/wt myclobutanil	88671-89-0	288.78	NA	Liquid/ Solid	Formulation	
Formulation 33	4.5 wt% aminopyralid-olamine 27.1 wt% clopyralid-olamine 8.7 wt% picloram-olamine 3.5 wt% aminopyralid 20.6 wt% clopyralid 7.0 wt% picloram	150114-71-9 1702-17-6 1918-02-1	207.02 192.00 241.46	NA	Liquid	Formulation	
							
							

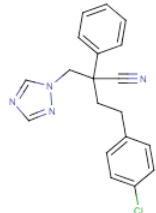
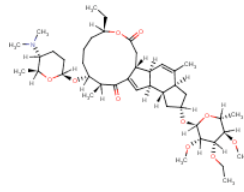
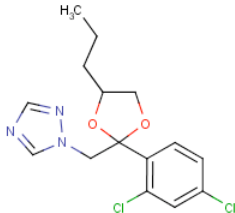
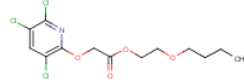
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 34	3.0 wt% aminopyralid	150114-71-9		NA	Liquid	Formulation	
Formulation 35	2.15 wt% aminopyralid-triisopropanolammium 16.0 wt% triclopyr-triethylammonium	566191-89-7 57213-69-1	NA 357.66	NA	Liquid	Formulation	NA
							
Formulation 37	30.6 wt.% chlorpyrifos 0.54 wt% gamma-cyhalothrin	2921-88-2 76703-62-3	350.60 449.85	NA	Liquid	Formulation	
							

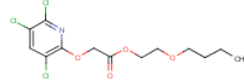
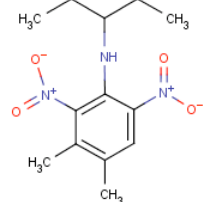
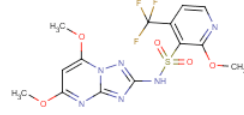
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 38	44.4 wt.% propanil	709-98-8	218.08	NA	Liquid	Formulation	
Formulation 39	4.2 wt% Pyroxsulam 8.7 wt% Cloquintocet mexyl	422556-08-9 99607-70-2	434.35 335.83	NA	Liquid	Formulation	
							
Formulation 4	100 g/L clopyralid mono-ethanolamine salt)	1702-17-6	192.00	NA	Liquid	Formulation	

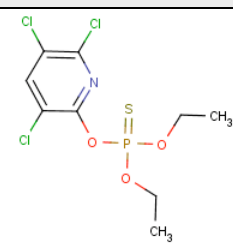
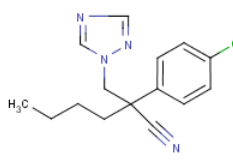
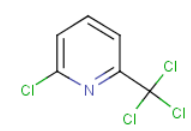
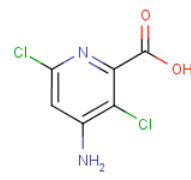
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³	
Formulation 40	1.2 wt% Pyroxsulam 0.21 wt% Florasulam 11.8 wt% Fluroxypyr-meptyl 3.6 wt% Cloquintocet-mexyl							
		422556-08-9	434.35	NA	Liquid	Formulation		
		145701-23-1	359.29					
		81406-37-3	367.25					
99607-70-2	335.83							

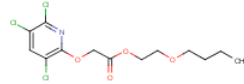
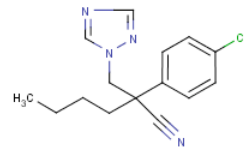
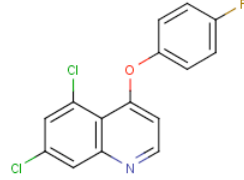
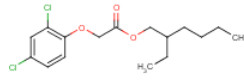
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 41	1.10 wt% Aminopyralid potassium salt 0.47 wt% Florasulam	150114-71-9 145701-23-1	207.02 359.29	NA	Liquid	Formulation	
							
Formulation 42	31 wt % 2,4-D- triisopropanolamine 1.52 wt % Aminopyralid triisopropanolamm onium	18584-79-7 150114-71-9	412.31 207.2	NA	NA	Formulation	
							

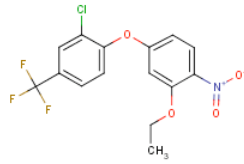
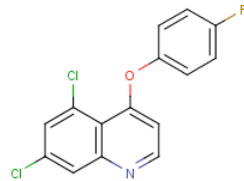
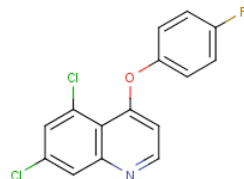
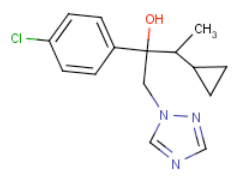
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 43	17.9 wt % Nitrpyrin	1929-82-4	230.91	NA	NA	Formulation	
Formulation 44	0.12 wt % Penoxsulam 40.38 wt % Oryzalin	219714-96-2 19044-88-3	483.37 346.36	NA	NA	Formulation	
							
Formulation 45	7.53 wt % Thifluzamide 9.42 wt % Fenbuconazole	130000-40-7 114369-43-6	528.06 336.82	NA	NA	Formulation	

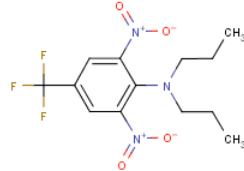
Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
							
Formulation 46	5.87 wt % Spinetoram	187166-15-0	760.02	NA	NA	Formulation	
Formulation 47	14.56 wt % propiconazole	60207-90-1	342.22	NA	NA	Formulation	
Formulation 49	23.7 WT% Triclopyr BEE	64700-56-7	356.63	NA	Liquid	Formulation	

Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 5	3,5,6-trichloro-2-pyridyloxyacetic acid, butoxy ethyl ester Triclopyr-butotyl triclopyr BEE	64700-56-7	356.63	NA	Liquid	Formulation	
Formulation 50	Glyphosate dimethylamine salt glyphosate dimethylammonium salt	34494-04-7 NA	NA	NA	Liquid	Formulation	NA
Formulation 51	29.6 wt% Pendimethalin 0.51 wt% Pyroxsulam	40487-42-1 422556-08-9	281.31 434.35	NA	Liquid	Formulation	
							

Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Formulation 53	41.1 wt.% chlorpyrifos	2921-88-2	350.60	NA	Liquid	Formulation	
Formulation 54	49.9 wt.% glyphosate dimethylammonium salt	NA	NA	NA	Liquid	Formulation	NA
Formulation 55	4.6 wt% Myclobutanil	88671-89-0	288.78	NA	Liquid	Formulation	
Formulation 56	20.5 wt % nitrapyrin	1929-82-4	230.91	NA	Liquid	Formulation	
Formulation 6	Aminopyralid Potassium + Triclopyr-Butotyl Form Aminopyralid herbicide	150114-71-9 64700-56-7	207.02	NA	Liquid	Formulation	

Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
							
Formulation 7	45 g/L myclobutanil + 45 g/L quinoxifen)	88671-89-0 124495-18-7	288.78 308.14	NA	Liquid	Formulation	
							
Formulation 8	81.8% w/w 2,4-Dichlorophenoxyacetic acid 2-ethylhexyl ester 2,4-D EHE	1928-43-4	333.25	NA	Liquid	Formulation	
Formulation 9	NA	NA	NA	NA	Liquid	Formulation	NA
F & Fo WG 50 + 25	NA	NA	NA	NA	NA	Formulation	NA

Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Fx + Me EW 69	NA	NA	NA	NA	NA	Formulation	NA
Oxyfluorfen	Oxirane, mono; ((C12-14-alkyloxy)methyl)derivatives	42874-03-3	361.70	5.21	Solid	Ethers	
Quinoxifen	5,7-dichloro-4-(4-fluorophenoxy)quinoline	124495-18-7	308.14	5.69	Liquid	Heterocyclic Compounds	
Quinoxifen/cyproconazole	5,7-dichloro-4-(4-fluorophenoxy)quinoline/ H-1,2,4-Triazole-1-ethanol, alpha-(4-chlorophenyl)-alpha-(1-cyclopropylethyl)-	124495-18-7 113096-99-4	308.14 291.78	5.69 3.25	Liquid	Heterocyclic Compounds	
							

Substance Name	Active Ingredient(s)	CASRN	Molecular Weight (g/mol)	Log Kow ¹	Physical Form	Chemical Class ²	Structure ³
Trifluralin	2,6-Dinitro-4-trifluormethyl-N,N-dipropylanilin	1582-09-8	335.28	5.31	NA	Hydrocarbons, Cyclic; Amine	

Abbreviations: CASRN=Chemical Abstract Services Registry Number; g/mol=Grams per mole; Kow=Octanol-water partition coefficient; NA=Not available.

¹Kow represents the octanol-water partition coefficient (expressed on log scale) obtained from the website: http://www.syrres.com/esc/est_kowdemo.htm.

²Chemical classifications based on the Medical Subject Headings classification for chemicals and drugs, as developed by the National Library of Medicine at: <http://www.nlm.nih.gov/mesh/meshhome.html>.

³Chemical structures of active ingredients, based on CASRN, were obtained from ChemID available at: <http://chem.sis.nlm.gov/chemidplus/chemidheavy.jsp>.

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