

**Certified Reference Material**

This certificate is designed in accordance with ISO 17034 and ISO Guide 31. This certified reference material (CRM) was designed, produced and verified in accordance with ISO/IEC 17025, ISO 17034 and a registered quality management system ISO 9001.

Product Name
PestiMix 4 5 µg/mL in Acetonitrile:Acetone
(72:13.5)

Product Code
DRE-A5000085AA

Lot Number
2-H406209

Format
Multicomponent Solution

Expiry Date
8 Apr 2021

Storage
≤ -10 °C

Compound Name	CERTIFIED		CAS	Lot No.	Purity (%)	Amount (mg)	RT (min)
	Conc. (ug/ml)	Expanded Uncertainty U (ug/ml)					
Terbutaline Sulfate	5	.31	23031-32-5	4655.271.1P	99	0.25	1.21
Disosultap	4.955	.29	52207-48-4	3898.3.2P	99.1	0.25	1.96
Nereistoxin Oxalate	5.018	.29	1631-52-3	4779.421.1P	96.5	0.25	1.98
Thiocyclam Hydrogrnoxalate As	4.94	.35	31895-22-4	2904.421.1P	95	0.25	1.98
Deoxyvalenol	4.94	.3	51481-10-8	4445.286.6P	95	0.25	2.00
Methomyl-oxime	5	.31	13749-94-5	4798.21.1P	99	0.25	7.33
Vamidothion Sulfoxide	4.974	.29	20300-00-9	5029.421.4P	98.5	0.25	8.35
Lontrel (clopyralid)	5.088	.31	1702-17-6	1010.158.1P	96	0.25	8.67
Nitenpyram(iso)	5.075	.3	150824-47-8	8439.421.1P	99.5	0.25	8.74
Phospholan-methyl	5.061	.31	5120-23-0	5793.286.1.2	96.4	0.25	9.39
Dimethirimol	4.994	.29	5221-53-4	4784.421.2P	99.88	0.25	9.48
Propazine-2-hydroxy	4.95	.3	7374-53-0	4877.21.1P	99	0.25	9.49
Terbutylazine-2-hydroxy	5.011	.29	66753-07-9	5966.18.1P	97.3	0.25	9.49
Terbumeton-desethyl	5.099	.31	30125-64-5	5434.421.1P	99	0.25	9.55
2,6-dichlorobenzamide	5.018	.31	2008-58-4	2743.7.1P	98.4	0.25	9.67
Schradan (dmpa)	5.114	.38	152-16-9	551.5.2.3P	94.7	0.26	9.76
1,2-benzisothiazol-3(2h)-one	5	.29	2634-33-5	8331.7.1P	100	0.25	9.83
Prohydrojasmon	4.998	.31	158474-72-7	8232.421.1P	98	0.25	10.21
Z-mevinphos	5.047	.33	338-45-4	8287.421.2P	98	0.25	10.21
Sulfamonomethoxine	4.998	.31	1220-83-3	4227.18.1P	98	0.25	10.29
Pentachlorocyanobenzene	5.049	.31	20925-85-3	4564.286.1P	99	0.25	10.37
Imazapic	5.075	.3	104098-48-8	1915.3.1P	99.5	0.25	10.37
Quinmerac	5.094	.3	90717-03-6	2910.421.2.2P	99.89	0.25	10.49
Secbumeton	4.964	.57	26259-45-0	1663.5.1P	98.3	0.25	10.85
Pyridafol	4.974	.3	40020-01-7	5965.421.4P	98.5	0.25	10.87
Ferimzone	5.069	.31	89269-64-7	2945.421.2P	99.4	0.25	11.01
Flumestulam	4.989	.29	98967-40-9	3955.3.1P	98.8	0.25	11.28
Triazoxid	4.95	.29	72459-58-6	5545.421.2P	99	0.25	11.60
Oxycarboxin	4.956	.29	5259-88-1	2314.421.1P	99.12	0.25	11.70
Pyroquilon	5.049	.3	57369-32-1	2894.421.2P	99	0.25	11.70

Compound Name	CERTIFIED		CAS	Lot No.	Purity (%)	Amount (mg)	RT (min)
	Conc. (ug/ml)	Expanded Uncertainty U (ug/ml)					
Sulfoxaflor	4.975	.29	946578-00-3	7009.3.2P	99.5	0.25	11.76
3-ketocarbofuran	4.973	.29	16709-30-1	2237.3.2P	97.5	0.25	11.86
Phosmet Oxon	5.035	.34	3735-33-9	4488.3.4P	99	0.25	11.87
Tiamulin Fumarate	5	.31	55297-96-6	8389.18.1P	99	0.25	12.02
Piperalin	5.075	.31	3478-94-2	5990.421.1P	99.5	0.25	12.04
Ancymidol	4.975	.31	12771-68-5	4351.3.1P	99.5	0.25	12.07
Fluroxypyr	4.929	.29	69377-81-7	2797.421.2P	98.57	0.25	12.30
Ethaboxam	4.945	.3	162650-77-3	8255.421.1P	99.89	0.25	12.65
Naptalam	4.96	.29	132-66-1	4017.3.1P	99.2	0.25	12.70
1-(3,4-dichlorophenyl)-3-methyl Urea	4.975	.29	3567-62-2	3979.3.2P	99.5	0.25	13.17
Azadirachtin (technical)	4.947	.3	11141-17-6	1885.286.1.2	97	0.25	13.21
2,6-diethylaniline	5.005	.29	579-66-8	3528.1.1P	99.1	0.25	13.39
Irgarol (cybutryne)	4.945	.29	28159-98-0	4586.1.1P	98.9	0.25	13.45
Diclocymet	4.977	.31	139920-32-4	4771.421.1P	99.53	0.25	13.50
Cyantraniliprole	4.95	.3	736994-63-1	6960.286.1.1	99	0.25	13.81
Dimethametryn	4.998	.29	22936-75-0	2949.421.1.1P	99	0.25	13.81
Indaziflam	5.025	.31	950782-86-2	5537.421.1P	99.5	0.25	13.84
Ethyclozate	4.982	.29	27512-72-7	4778.421.1.1P	99.63	0.25	14.00
Triaziflam	5.015	.29	131475-57-5	8079.8.1P	99.3	0.25	14.00
Ethiozin	5.039	.3	64529-56-2	5996.3.2P	98.8	0.25	14.03
Noruron	5.013	.29	18530-56-8	5995.3.2P	98.3	0.25	14.10
Ketoprofen	4.95	.29	22071-15-4	2642.1.1P	99	0.25	14.12
1,3-diphenylurea	5.045	.29	102-07-8	6929.1.1P	99.9	0.25	14.19
3,4 Dichloroaniline	4.985	.3	95-76-1	1050.1.1P	99.7	0.25	14.20
Metaminostrobin (e isomer)	5.073	.3	133408-50-1	4770.3.1P	98.5	0.25	14.52
Metaminostrobin (z-type)	5.02	.3	133408-51-2	4800.3.2P	99.4	0.25	14.53
Trinexapac-ethyl	4.963	.29	95266-40-3	2905.421.1P	99.25	0.25	14.59
Diclosulam	5.025	.3	145701-21-9	4812.3.1P	99.5	0.25	14.64
Methfuroxam	5.02	.31	28730-17-8	5963.421.2P	99.4	0.25	15.46
Bentazon-methyl	4.975	.29	61592-45-8	2549.3.2P	99.5	0.25	15.61

**Certified Reference Material**

This certificate is designed in accordance with ISO 17034 and ISO Guide 31. This certified reference material (CRM) was designed, produced and verified in accordance with ISO/IEC 17025, ISO 17034 and a registered quality management system ISO 9001.

Product Name
PestiMix 4 5 µg/mL in Acetonitrile:Acetone
(72:13.5)

Product Code
DRE-A50000085AA

Lot Number
2-H406209

Format
Multicomponent Solution

Expiry Date
8 Apr 2021

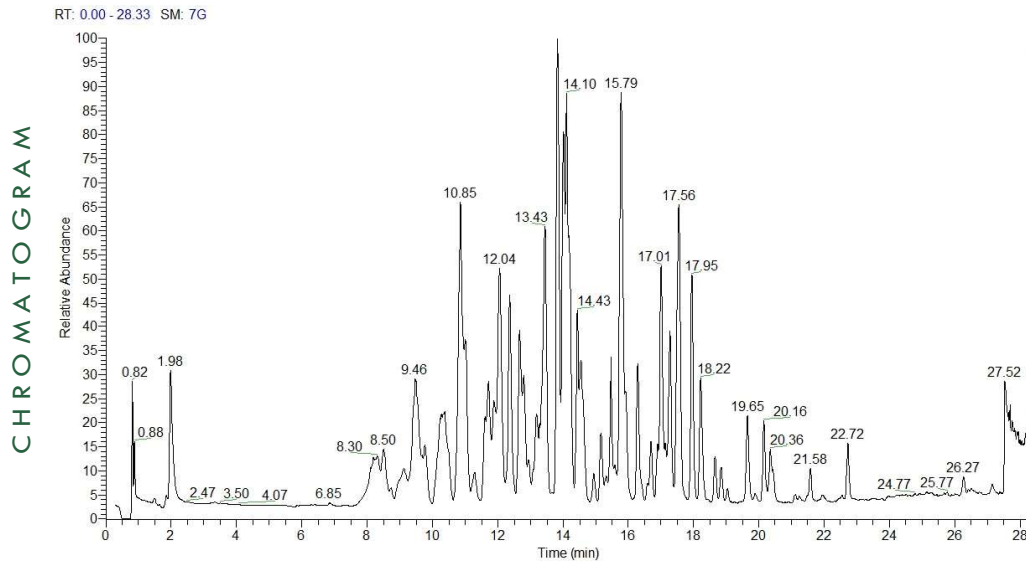
Storage
≤ -10 °C

Compound Name	CERTIFIED Conc. (ug/ml)	Expanded Uncertainty U (ug/ml)	CAS	Lot No.	Purity (%)	Amount (mg)	RT (min)
Flupysulfuron-methyl-sodium	4.989	.34	144740-54-5	4817.421.2P	90.7	0.25	15.75
Orysastrobin	4.973	.29	248593-16-0	8440.18.1P	97.5	0.25	15.79
Aziprotryne	4.95	.29	4658-28-0	4362.421.1P	99	0.25	15.84
Sulprofos Sulfoxide	4.944	.3	34643-47-5	5994.3.2P	96	0.25	15.94
Fluopyram	5.019	.29	658066-35-4	4587.421.1.1P	99.39	0.25	16.30
Fomesafen	4.985	.29	72178-02-0	3764.3.2P	99.7	0.25	16.42
Imiprothrin (mix Of Isomers)	4.998	.31	72963-72-5	8263.18.1.1P	98	0.25	16.71
Cafenstrole	4.955	.29	125306-83-4	4765.3.1P	99.1	0.25	16.90
Diphenylamine	5.095	.31	122-39-4	78.29.1P	99.9	0.25	17.00
Trifloxystrobin Metabolite	4.96	.29	252913-85-2	8345.341.1P	99.2	0.25	17.04
Nitrapyrin (2-chloro-6-(trichloromethyl)	4.985	.31	1929-82-4	336.1.1P	99.7	0.25	17.20
Silthiofam	5.124	.3	175217-20-6	4335.3.1P	99.5	0.26	17.29
Pyrazoxyfen	5.025	.3	71561-11-0	2906.3.1P	99.5	0.25	17.50
Tdcp	5.006	.29	13674-87-8	4386.421.2P	97.5	0.25	17.51
Tridiphane	5.074	.3	58138-08-2	4838.421.3P	99.49	0.25	17.51
Fluthiacet-methyl	4.939	.29	117337-19-6	4314.421.2P	97.81	0.25	17.56
Diethyl Ethyl	5.025	.3	38727-55-8	5168.421.1.1P	99.5	0.25	17.56
Isomethiozin	5	.29	57052-04-7	5613.421.1P	99	0.25	17.59
Indanofan	4.975	.29	133220-30-1	2887.3.2P	99.5	0.25	17.62
Alloxydim Sodium	4.968	.35	55635-13-7	8438.421.1P	84.2	0.25	17.96
Fipronil-desulfinyl	4.992	.31	205650-65-3	6050.286.2P	96	0.25	17.99
Flamprop-m-isopropyl	5.064	.3	63782-90-1	2794.421.1P	99.3	0.25	18.22
Fenazox	4.96	.29	495-48-7	5961.29.1P	99.2	0.25	18.28
Mgk-264 (mixture Of Isomers)	5	.31	113-48-4	1186.7.1.1P	98	0.25	18.67
Pyrethrin (mixture Of Isomers)	5.02	.28	8003-34-7	2382.1.1P	50.2	0.25	19.05
Clomeprop	4.95	.29	84496-56-0	4809.3.2P	99	0.25	19.65
Fluoglycofene-ethyl	4.973	.29	77501-90-7	4829.421.2P	99.45	0.25	19.67
Fenclorim	5.095	.3	3740-92-9	2942.7.1P	99.9	0.25	19.70
Flumiclorac-pentyl	5.093	.3	87546-18-7	3635.3.1P	98.9	0.25	20.15
Fluorodifen	5.124	.3	15457-05-3	4828.3.1P	99.5	0.26	20.15

Compound Name	CERTIFIED Conc. (ug/ml)	Expanded Uncertainty U (ug/ml)	CAS	Lot No.	Purity (%)	Amount (mg)	RT (min)
Oxyfluorfen	5.039	.3	42874-03-3	562.3.4P	98.8	0.25	20.27
Esbiol	5.018	.29	28434-00-6	5362.8.1P	93.8	0.25	20.36
Lactofen	4.949	.29	77501-63-4	4723.3.2P	98	0.25	20.45
Akton	5.068	.31	1757-18-2	4349.3.1P	98.4	0.25	21.11
Fenpropathrin	5.069	.29	64257-84-7	2857.398.1P	99.4	0.25	21.96
Cycloprothrin	4.994	.29	63935-38-6	4808.421.2P	97.92	0.25	22.43
Alpha-cypermethrin	5.07	.3	67375-30-8	1884.421.1.1P	99.42	0.25	22.43
Bioresmethrin	5.045	.29	28434-01-7	4367.421.1.1P	97.96	0.25	22.72
S-hydroprene	5.072	.29	65733-18-8	6051.1.1P	95.7	0.25	26.27

The producer certifies that this reference material meets the specification stated in this certificate until the expiry date, provided it is stored unopened at the recommended temperature herein. Product warranties for this reference material are set out in the terms and conditions of purchase.

CERTIFIED BY HuiChen Stavros, Ph.D.	CERTIFIED ON 25 Mar 2020		RM Release
---	------------------------------------	--	-------------------



Instrument
LC/HRMS

Detection
HRMS - Positive Mode

Column
Vanquish C18+ 100mm x 2.1mm ID
1.5um Particle

Method Details
Mobile Phase A: Water w/0.1%
Formic Acid
Mobile Phase B: Acetonitrile w/
0.1% Formic Acid

Time	%A	%B
0.0	95	5
1.0	95	5
22	5	95
22.25	5	95
28.5	95	5

Inj.-Vol
10 µl

Flow
0.2 ml/min

Method of Preparation

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by the appropriate analytical techniques.

Batch Information

Solvent: Acetonitrile:Acetone (72:13.5), Lot no. 194217:03192020, 50 mL

pyrethrin (mixture of isomers) : C II: 4.6%, P II: 27.0%, J II: 2.5%, C I: 7.8%, P I: 53.9%, J I: 4.2% MGK-264 (mixture of isomers) : A: 70%, B: 30%

Intended Use

This CRM is intended for use in a laboratory as a calibration and quality control standard or in method development for analytical techniques.

Safety

Proper precautions should be observed while handling. See Safety Data Sheet.

Uncertainty

The certified value(s) and uncertainty(ies) are determined in accordance with ISO 17034 with an 95% confidence level ($k=2$). Uncertainty is based on the Total Combined Uncertainty, including uncertainties of preparation, purity of neat materials, homogeneity, long-term stability testing, and transportation stability.

Traceability

The balances used for gravimetric measurements are calibrated with weights traceable to the national standards (NIST). The calibration of the balances is verified daily internally and annually by an external accredited calibration service. Only Class A glassware is used for volumetric measurements.

Homogeneity

Random replicate samples of the final packaged CRM have been analysed to prove homogeneity consistent with ISO 17034.

Storage

The CRM should be stored in the original sealed bottle at the indicated temperature.

Instructions for Use

The CRM should be used shortly after opening to avoid concentration changes due to evaporation. It is recommended to use 1 µL as the minimum sample size. If storage after opening is necessary, it should be transferred to an amber vial with minimum head space and a Teflon lined silicon septum. If handled as recommended, use period after opening is a maximum of 82 days for an estimated 5% drift in concentration as a result of analyte and/or solvent transpiration. Visit the support section of our website lgcstandards.com for a series of Dr. Ehrenstorfer Tech Tip videos and frequently asked questions.