



## REFERENCE MATERIAL CERTIFICATE

ISO 17034

## 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 3 5 µg/mL in Acetonitrile:Acetone  
(69:21)

**Product Code**  
DRE-A5000084AA

**Lot**  
2-H406770

**Format**  
Multicomponent Solution

**Expiry Date**  
14 Apr 2021

**Storage**  
≤ -10 °C

| Compound Name           | CERTIFIED     |                                | CAS         | Lot No.       | Purity (%) | Amount (mg) | RT (min) |
|-------------------------|---------------|--------------------------------|-------------|---------------|------------|-------------|----------|
|                         | Conc. (ug/ml) | Expanded Uncertainty U (ug/ml) |             |               |            |             |          |
| Morpholine              | 5.043         | .31                            | 110-91-8    | 1396.11P      | 98         | 0.25        | 1.01     |
| Daminozide              | 5.044         | .3                             | 1596-84-5   | 2953.421.2P   | 98.91      | 0.25        | 1.14     |
| N,n'-ethylenethiourea   | 4.995         | .29                            | 96-45-7     | 1434.11P      | 100        | 0.25        | 1.18     |
| Benomyl                 | 5.047         | .31                            | 17804-35-2  | 2101.421.1P   | 98         | 0.25        | 1.18     |
| Quinoline               | 5.025         | .29                            | 91-22-5     | 1268.71P      | 99.5       | 0.25        | 1.19     |
| Hymexazole              | 5.005         | .31                            | 10004-44-1  | 2932.29.1P    | 99.1       | 0.25        | 3.59     |
| Propamocarb Hcl         | 4.962         | .33                            | 25606-41-1  | 2914.421.1P   | 97.29      | 0.25        | 4.42     |
| Butocarboxim Sulfoxide  | 5.021         | .28                            | 34681-24-8  | 4368.421.2P   | 97.49      | 0.25        | 4.84     |
| 2,4-dimethylaniline     | 5.075         | .31                            | 95-68-1     | 1705.71P      | 99.5       | 0.25        | 5.36     |
| Asulam                  | 4.95          | .3                             | 3337-71-1   | 2788.421.1P   | 99         | 0.25        | 6.10     |
| Phenylurea              | 4.98          | .29                            | 64-10-8     | 5962.71P      | 99.6       | 0.25        | 6.43     |
| Dazomet                 | 5.075         | .29                            | 533-74-4    | 2954.31P      | 99.5       | 0.25        | 6.52     |
| Sulfamerazine           | 5.005         | .31                            | 127-79-7    | 2636.11P      | 99.1       | 0.25        | 6.62     |
| Atrazine Desisopropyl   | 5             | .31                            | 1007-28-9   | 1054.421.2P   | 99         | 0.25        | 6.82     |
| Quinine Sulfate         | 4.993         | .38                            | 6119-70-6   | 988.11P       | 99.8       | 0.25        | 6.87     |
| Dimefox                 | 4.919         | .3                             | 115-26-4    | 2276.421.1P   | 97.4       | 0.25        | 6.93     |
| Levofloxacin            | 5.054         | .29                            | 100986-85-4 | 5634.29.1P    | 99.1       | 0.25        | 7.23     |
| Simetone                | 4.938         | .29                            | 673-04-1    | 4837.3.2P     | 99         | 0.25        | 7.25     |
| Imidacloprid-olefin     | 5.051         | .27                            | 115086-54-9 | 7007.286.1.2  | 95.3       | 0.25        | 7.48     |
| Crimidine               | 4.985         | .29                            | 535-89-7    | 4013.8.1P     | 99.7       | 0.25        | 7.56     |
| Phorate Oxon Sulfoxide  | 5.096         | .29                            | 2588-05-8   | 4310.286.1.1P | 98         | 0.25        | 8.22     |
| Clothianidin            | 5.012         | .27                            | 210880-92-5 | 2067.421.4.2P | 99.25      | 0.25        | 8.41     |
| Fenthion Oxon Sulfoxide | 5.008         | .27                            | 6552-13-2   | 3896.286.3P   | 98.2       | 0.25        | 8.56     |
| Topramezone             | 4.975         | .3                             | 210631-68-8 | 4588.3.1P     | 99.5       | 0.25        | 8.63     |
| Ethidimuron             | 5             | .29                            | 30043-49-3  | 4405.421.1P   | 99         | 0.25        | 8.66     |
| Cymiazole               | 4.94          | .29                            | 61676-87-7  | 4301.421.2P   | 99.8       | 0.25        | 8.68     |
| Dimetilan               | 5.049         | .3                             | 644-64-4    | 5432.421.2.1P | 99         | 0.25        | 9.01     |
| Desmetryn               | 5.049         | .3                             | 1014-69-3   | 3757.421.1P   | 99         | 0.25        | 9.21     |
| Diphenyl Phosphate      | 5.124         | .29                            | 838-85-7    | 5894.1.1P     | 99.5       | 0.26        | 9.59     |
| Phosfolan               | 5.008         | .3                             | 947-02-4    | 989.421.1P    | 99.16      | 0.25        | 9.72     |

| Compound Name                  | CERTIFIED     |                                | CAS         | Lot No.       | Purity (%) | Amount (mg) | RT (min) |
|--------------------------------|---------------|--------------------------------|-------------|---------------|------------|-------------|----------|
|                                | Conc. (ug/ml) | Expanded Uncertainty U (ug/ml) |             |               |            |             |          |
| Phorate-oxon Sulfone           | 4.971         | .29                            | 2588-06-9   | 3893.421.1P   | 98         | 0.25        | 9.76     |
| Fenthoxon Sulfone              | 5.077         | .27                            | 14086-35-2  | 3891.3.1P     | 96.7       | 0.25        | 9.86     |
| Flupyradifurone                | 4.968         | .29                            | 951659-40-8 | 7006.1.1P     | 99.6       | 0.25        | 10.03    |
| Imazethapyr                    | 5.186         | .3                             | 81335-77-5  | 2991.421.2P   | 99.73      | 0.26        | 10.09    |
| Cyclohexamide                  | 5.04          | .29                            | 66-81-9     | 4399.29.2P    | 96         | 0.25        | 10.15    |
| Sebuthylazin-desethyl          | 5             | .31                            | 37019-18-4  | 3709.421.1P   | 99         | 0.25        | 10.17    |
| Benzthiazuron                  | 5.025         | .29                            | 1929-88-0   | 2611.3.1P     | 99.5       | 0.25        | 10.38    |
| Amicarbazone                   | 5.075         | .3                             | 129909-90-6 | 5874.3.1P     | 99.5       | 0.25        | 10.49    |
| Tetraethyl Pyrophosphate       | 4.955         | .29                            | 107-49-3    | 1455.3.5P     | 99.1       | 0.25        | 10.49    |
| Erythromycin                   | 5.014         | .39                            | 114-07-8    | 2633.18.1P    | 98         | 0.25        | 10.57    |
| Bromacil                       | 5.075         | .28                            | 314-40-9    | 1168.3.6P     | 99.5       | 0.25        | 10.86    |
| Chlorthiamid                   | 5.096         | .31                            | 1918-13-4   | 2791.158.1P   | 98         | 0.25        | 11.06    |
| Benazolin                      | 5.015         | .37                            | 3813-05-6   | 4364.421.2P   | 99.3       | 0.25        | 11.08    |
| Isouron                        | 5.124         | .29                            | 55861-78-4  | 4787.421.1.2P | 99.5       | 0.26        | 11.13    |
| Thiazafluron                   | 4.998         | .29                            | 25366-23-8  | 5611.421.2P   | 98         | 0.25        | 11.30    |
| Imazaquin                      | 5.025         | .29                            | 81335-37-7  | 2933.3.1P     | 99.5       | 0.25        | 11.39    |
| Quinoclamine                   | 4.996         | .3                             | 2797-51-5   | 2911.7.1P     | 97         | 0.25        | 11.50    |
| Ethoxyquin                     | 4.992         | .3                             | 91-53-2     | 1616.286.1P   | 96         | 0.25        | 11.57    |
| PyrifenoX (mixture Of Isomers) | 4.981         | .29                            | 88283-41-4  | 1835.421.3P   | 99.61      | 0.25        | 11.58    |
| Oxasulfuron                    | 5.069         | .29                            | 144651-06-9 | 3436.421.2P   | 99.39      | 0.25        | 11.61    |
| Aconitine                      | 5.141         | .36                            | 302-27-2    | 6879.286.1P   | 97         | 0.26        | 11.64    |
| Pirimiphos-methyl-n-desethyl   | 4.955         | .29                            | 67018-59-1  | 4031.3.2P     | 99.1       | 0.25        | 11.67    |
| Procyazine                     | 5.06          | .3                             | 32889-48-8  | 5292.3.1P     | 97.3       | 0.25        | 11.77    |
| Karbutilate                    | 4.94          | .29                            | 4849-32-5   | 2552.8.1P     | 98.8       | 0.25        | 11.84    |
| Clarithromycin                 | 5.067         | .29                            | 81103-11-9  | 5499.7.1P     | 99.6       | 0.25        | 11.89    |
| Roxithromycin                  | 4.965         | .31                            | 80214-83-1  | 2634.1.1P     | 97.6       | 0.25        | 12.04    |
| Cythioate                      | 5.112         | .29                            | 115-93-5    | 6570.3.1P     | 98.3       | 0.26        | 12.07    |
| Mefluidide                     | 5.075         | .3                             | 53780-34-0  | 5433.3.1P     | 99.5       | 0.25        | 12.19    |
| Dodemorph                      | 5             | .28                            | 1593-77-7   | 4404.3.1P     | 99         | 0.25        | 12.27    |
| Pyroxulam                      | 5.059         | .29                            | 422556-08-9 | 5082.421.1P   | 99.19      | 0.25        | 12.32    |



## REFERENCE MATERIAL CERTIFICATE

ISO 17034

## 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 3 5 µg/mL in Acetonitrile:Acetone  
(69:21)

**Product Code**  
DRE-A50000084AA

**Lot**  
2-H406770

**Format**  
Multicomponent Solution

**Expiry Date**  
14 Apr 2021

**Storage**  
≤ -10 °C

| Compound Name                 | CERTIFIED<br>Conc.<br>(µg/ml) | Expanded<br>Uncertainty<br>U (µg/ml) | CAS         | Lot No.       | Purity<br>(%) | Amount<br>(mg) | RT<br>(min) |
|-------------------------------|-------------------------------|--------------------------------------|-------------|---------------|---------------|----------------|-------------|
| Sulcotrione                   | 4.969                         | .29                                  | 99105-77-8  | 3762.421.2P   | 99.62         | 0.25           | 12.33       |
| Sulfometuron Methyl           | 5.058                         | .29                                  | 74222-97-2  | 3435.421.1.1P | 98.22         | 0.25           | 12.34       |
| Reserpine                     | 5.047                         | .29                                  | 50-55-5     | 1280.1.2P     | 98            | 0.25           | 12.36       |
| Tris(2-chloroethyl) Phosphate | 5.068                         | .31                                  | 115-96-8    | 3172.7.1P     | 98.4          | 0.25           | 12.39       |
| Flucarbazone-sodium           | 5.096                         | .3                                   | 181274-17-9 | 2992.3.1P     | 99.5          | 0.25           | 12.47       |
| Desmethyl Norflurazon         | 4.938                         | .3                                   | 23576-24-1  | 5932.286.2P   | 99            | 0.25           | 12.51       |
| Cyprosulfamide                | 5                             | .29                                  | 221667-31-8 | 5544.421.2P   | 99            | 0.25           | 12.53       |
| Phorate Sulfoxide             | 4.98                          | .27                                  | 2588-03-6   | 4312.1.1P     | 96.7          | 0.25           | 12.69       |
| Cyprazine                     | 5.064                         | .38                                  | 22936-86-3  | 5487.5.1.1P   | 99.3          | 0.25           | 12.70       |
| Rimsulfuron                   | 5.022                         | .29                                  | 122931-48-0 | 2808.3.4P     | 98.5          | 0.25           | 12.74       |
| Fentin Acetate As Fentin      | 5.001                         | .29                                  | 900-95-8    | 8067.8.1P     | 99.9          | 0.25           | 12.89       |
| Diazinon-o-analog             | 5.044                         | .29                                  | 962-58-3    | 4442.3.3P     | 98.9          | 0.25           | 12.90       |
| Ethametsulfuron-methyl        | 5.05                          | .3                                   | 97780-06-8  | 2995.421.1P   | 99.01         | 0.25           | 12.94       |
| Probenazole                   | 4.916                         | .29                                  | 27605-76-1  | 2866.421.1P   | 99.32         | 0.25           | 13.04       |
| Metalaxyl-m                   | 5.02                          | .3                                   | 70630-17-0  | 1058.421.2P   | 99.41         | 0.25           | 13.07       |
| Metosulam                     | 5.015                         | .29                                  | 139528-85-1 | 3763.421.2P   | 98.33         | 0.25           | 13.26       |
| Trifloxysulfuron-sodium       | 4.98                          | .27                                  | 199119-58-9 | 3996.421.1P   | 99            | 0.25           | 13.30       |
| Inabenfide                    | 5.008                         | .44                                  | 82211-24-3  | 2935.421.3P   | 93.6          | 0.25           | 13.39       |
| Isonoruron                    | 5.112                         | .31                                  | 28805-78-9  | 5956.421.2P   | 98.3          | 0.26           | 13.41       |
| Flumorph                      | 5.025                         | .28                                  | 211867-47-9 | 4579.3.1P     | 99.5          | 0.25           | 13.44       |
| Norflurazon                   | 4.982                         | .29                                  | 27314-13-2  | 1175.421.1.1P | 97.93         | 0.25           | 13.58       |
| 3,4,5-trimethacarb            | 4.975                         | .29                                  | 2686-99-9   | 2764.3.3P     | 99.5          | 0.25           | 13.69       |
| Fenthion Oxon                 | 5.096                         | .28                                  | 6552-12-1   | 3727.286.1P   | 98            | 0.25           | 13.69       |
| Dibrom                        | 5.051                         | .29                                  | 300-76-5    | 356.18.1.1P   | 98            | 0.25           | 13.94       |
| Ethephone                     | 5.021                         | .29                                  | 16672-87-0  | 1023.3.2P     | 98.7          | 0.25           | 13.94       |
| Cloransulam-methyl            | 4.975                         | .29                                  | 147150-35-4 | 4811.3.1P     | 99.5          | 0.25           | 14.04       |
| Penoxsulam                    | 5.095                         | .29                                  | 219714-96-2 | 3649.1.1P     | 99.9          | 0.25           | 14.05       |
| Thiophanate-ethyl             | 4.984                         | .4                                   | 23564-06-9  | 5612.421.1P   | 97.73         | 0.25           | 14.14       |
| Tribenuron-methyl             | 5                             | .29                                  | 101200-48-0 | 3000.1.1P     | 99            | 0.25           | 14.24       |
| Flazasulfuron                 | 4.984                         | .29                                  | 104040-78-0 | 4020.3.2P     | 98.7          | 0.25           | 14.26       |

| Compound Name                      | CERTIFIED<br>Conc.<br>(µg/ml) | Expanded<br>Uncertainty<br>U (µg/ml) | CAS         | Lot No.       | Purity<br>(%) | Amount<br>(mg) | RT<br>(min) |
|------------------------------------|-------------------------------|--------------------------------------|-------------|---------------|---------------|----------------|-------------|
| Dodine                             | 4.998                         | .29                                  | 2439-10-3   | 2951.1.1P     | 98.97         | 0.25           | 14.36       |
| Flurilazole                        | 5.095                         | .29                                  | 121776-33-8 | 4781.1.1P     | 99.9          | 0.25           | 14.45       |
| Coumaphos Oxon                     | 4.943                         | .29                                  | 321-54-0    | 8254.3.2P     | 99.1          | 0.25           | 14.45       |
| Benodanil                          | 5.049                         | .28                                  | 15310-01-7  | 4365.421.1P   | 99            | 0.25           | 14.57       |
| Naphthalophos (naftalofos)         | 4.995                         | .29                                  | 1491-41-4   | 6573.1.1P     | 99.9          | 0.25           | 14.68       |
| Phorat-sulfone                     | 5.066                         | .28                                  | 2588-04-7   | 2780.421.2P   | 98.37         | 0.25           | 14.69       |
| Fluridone                          | 5.062                         | .3                                   | 59756-60-4  | 1177.3.1P     | 99.5          | 0.25           | 14.82       |
| Fenpiclonil                        | 5.114                         | .28                                  | 74738-17-3  | 4827.8.1P     | 99.3          | 0.26           | 14.86       |
| Isofenphos-oxon                    | 4.996                         | .34                                  | 31120-85-1  | 3802.286.1P   | 97            | 0.25           | 14.96       |
| Clodinafop (acid Free)             | 4.981                         | .35                                  | 114420-56-3 | 4022.421.3.1P | 93.1          | 0.25           | 14.96       |
| Crotoxyphos                        | 5.003                         | .29                                  | 7700-17-6   | 927.3.7P      | 95.3          | 0.25           | 15.04       |
| Fluazifop                          | 5.024                         | .29                                  | 69335-91-7  | 3784.341.1P   | 98.5          | 0.25           | 15.05       |
| 4-bromo-3,5-dimethylphenyl-n-      | 5.025                         | .31                                  | 672-99-1    | 1076.3.1P     | 99.5          | 0.25           | 15.08       |
| Cyclanilide                        | 5.075                         | .3                                   | 113136-77-9 | 4815.3.1P     | 99.5          | 0.25           | 15.10       |
| Flurtamone                         | 4.963                         | .29                                  | 96525-23-4  | 4831.421.2P   | 99.5          | 0.25           | 15.14       |
| Simeconazole                       | 4.917                         | .29                                  | 149508-90-7 | 2913.421.2P   | 98.33         | 0.25           | 15.26       |
| Pyrazosulfuron-ethyl               | 5.01                          | .31                                  | 93697-74-6  | 3439.421.2P   | 99.2          | 0.25           | 15.27       |
| Fludioxonil                        | 5.091                         | .28                                  | 131341-86-1 | 1816.421.1.2P | 99.82         | 0.25           | 15.32       |
| 2-n-octyl-4-isothiazolin-3-one     | 4.958                         | .29                                  | 26530-20-1  | 5411.7.1P     | 99.4          | 0.25           | 15.33       |
| Benfuresate                        | 5.184                         | .3                                   | 68505-69-1  | 2870.421.1P   | 99.7          | 0.26           | 15.35       |
| Bromuconazole (mixture Of Isomers) | 4.95                          | .29                                  | 116255-48-2 | 2773.3.4P     | 99            | 0.25           | 15.40       |
| Tembotrione                        | 5.099                         | .3                                   | 335104-84-2 | 5083.421.2P   | 98.3          | 0.25           | 15.51       |
| Saflufenacil                       | 4.994                         | .27                                  | 372137-35-4 | 5066.421.1.1P | 94.22         | 0.25           | 15.52       |
| Cruformate                         | 4.993                         | .29                                  | 299-86-5    | 4398.421.2.2  | 98.88         | 0.25           | 15.53       |
| Uniconazole                        | 5.037                         | .35                                  | 83657-22-1  | 4346.286.1.1  | 99.75         | 0.25           | 15.54       |
| Cumyluron                          | 4.995                         | .29                                  | 99485-76-4  | 4783.421.2P   | 98.19         | 0.25           | 15.57       |
| Chlorimuron Ethyl                  | 5                             | .29                                  | 90982-32-4  | 3438.3.2P     | 99            | 0.25           | 15.61       |
| Fenchlorphos-oxon                  | 4.987                         | .29                                  | 3983-45-7   | 4027.421.1.1P | 97.79         | 0.25           | 15.62       |
| Tiadinil                           | 5.092                         | .29                                  | 223580-51-6 | 4879.421.1.1P | 98.87         | 0.25           | 15.66       |
| Daimuron                           | 4.977                         | .29                                  | 42609-52-9  | 2952.421.2.1P | 99.53         | 0.25           | 15.83       |



## REFERENCE MATERIAL CERTIFICATE

ISO 17034

## 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 3 5 µg/mL in Acetonitrile:Acetone  
(69:21)

**Product Code**  
DRE-A5000084AA

**Lot**  
2-H406770

**Format**  
Multicomponent Solution

**Expiry Date**  
14 Apr 2021

**Storage**  
≤ -10 °C

| Compound Name                        | CERTIFIED<br>Conc.<br>(ug/ml) | Expanded<br>Uncertainty<br>U (ug/ml) | CAS         | Lot No.       | Purity<br>(%) | Amount<br>(mg) | RT<br>(min) |
|--------------------------------------|-------------------------------|--------------------------------------|-------------|---------------|---------------|----------------|-------------|
| Enamectin                            | 5.018                         | .29                                  | 119791-41-2 | 3721.3.2P     | 96.5          | 0.25           | 15.85       |
| Quizalofop                           | 5.104                         | .3                                   | 76578-12-6  | 4021.3.4P     | 99.1          | 0.26           | 15.85       |
| Triflurosulfuron-methyl              | 5.025                         | .31                                  | 126535-15-7 | 3001.8.1P     | 99.5          | 0.25           | 16.03       |
| Methyl Parathion                     | 5.008                         | .35                                  | 298-00-0    | 284.421.2P    | 98.2          | 0.25           | 16.07       |
| Fluopicolide                         | 5.065                         | .29                                  | 239110-15-7 | 2938.421.2P   | 99.31         | 0.25           | 16.18       |
| Chlorpyrifos-oxon                    | 5.049                         | .28                                  | 5598-15-2   | 3363.3.6P     | 99            | 0.25           | 16.23       |
| Cyclosulfamuron                      | 4.97                          | .29                                  | 136849-15-5 | 4058.3.1P     | 99.4          | 0.25           | 16.40       |
| Iprobenfos                           | 4.946                         | .3                                   | 26087-47-8  | 2900.421.1.2P | 98.91         | 0.25           | 16.42       |
| Pethoxamid                           | 4.95                          | .3                                   | 106700-29-2 | 5023.421.1.1P | 99            | 0.25           | 16.52       |
| Barban                               | 4.998                         | .3                                   | 101-27-9    | 2102.421.1.1P | 98            | 0.25           | 16.53       |
| Metolachlor                          | 5.088                         | .3                                   | 51218-45-2  | 909.3.15P     | 98.8          | 0.25           | 16.62       |
| Propisochlor                         | 5.049                         | .29                                  | 86763-47-5  | 2915.421.2.1P | 98.03         | 0.25           | 16.62       |
| Triazamate                           | 4.929                         | .29                                  | 112143-82-5 | 4782.3.1P     | 97.6          | 0.25           | 16.64       |
| Bufencarb                            | 4.992                         | .3                                   | 8065-36-9   | 8466.286.1.1  | 96            | 0.25           | 16.76       |
| Procymidone                          | 4.983                         | .29                                  | 32809-16-8  | 1629.1.2P     | 99.9          | 0.25           | 16.78       |
| Thenylchlor                          | 5.087                         | .33                                  | 96491-05-3  | 3805.421.4.1P | 96.9          | 0.25           | 16.88       |
| Diniconazole (z Isomer)              | 4.99                          | .29                                  | 70217-36-6  | 2898.8.3P     | 99.8          | 0.25           | 16.95       |
| Chlorobenzuron                       | 5                             | .31                                  | 57160-47-1  | 3894.421.1P   | 99            | 0.25           | 17.00       |
| Fenothiocarb                         | 4.95                          | .29                                  | 62850-32-2  | 2062.421.1P   | 99            | 0.25           | 17.00       |
| Penfluron                            | 4.995                         | .3                                   | 35367-31-8  | 5491.421.2P   | 98.91         | 0.25           | 17.20       |
| Eptc (s-ethyl Dipropylthiocarbamate) | 4.975                         | .29                                  | 759-94-4    | 910.3.7P      | 99.5          | 0.25           | 17.26       |
| Chlorfenvinphos (mixture Of Z And E  | 5.013                         | .29                                  | 470-90-6    | 925.421.3P    | 99.26         | 0.25           | 17.31       |
| Pentanochlor                         | 5.078                         | .31                                  | 2307-68-8   | 4747.3.1P     | 98.6          | 0.25           | 17.39       |
| Thifluzamide                         | 4.96                          | .29                                  | 130000-40-7 | 4452.7.1P     | 99.2          | 0.25           | 17.42       |
| Fenoxanil                            | 5.02                          | .27                                  | 115852-48-7 | 2899.3.1P     | 99.4          | 0.25           | 17.55       |
| Nitralin                             | 5.025                         | .29                                  | 4726-14-1   | 928.3.2P      | 99.5          | 0.25           | 17.65       |
| Penthiopyrad                         | 5.065                         | .3                                   | 183675-82-3 | 6183.3.2P     | 97.4          | 0.25           | 17.72       |
| Demeton O                            | 5.047                         | .31                                  | 298-03-3    | 2493.286.1.2  | 98            | 0.25           | 17.88       |
| Carpropamid                          | 5.04                          | .29                                  | 104030-54-8 | 2955.421.1P   | 98.82         | 0.25           | 17.92       |
| Pyraclofos                           | 4.995                         | .29                                  | 77458-01-6  | 2883.341.1P   | 99.9          | 0.25           | 18.05       |

| Compound Name        | CERTIFIED<br>Conc.<br>(ug/ml) | Expanded<br>Uncertainty<br>U (ug/ml) | CAS         | Lot No.       | Purity<br>(%) | Amount<br>(mg) | RT<br>(min) |
|----------------------|-------------------------------|--------------------------------------|-------------|---------------|---------------|----------------|-------------|
| Anilofos             | 4.945                         | .29                                  | 64249-01-0  | 2869.3.1P     | 98.9          | 0.25           | 18.06       |
| Parathion            | 5.052                         | .31                                  | 56-38-2     | 292.421.2.1P  | 99.7          | 0.25           | 18.07       |
| Bensulide            | 5                             | .29                                  | 741-58-2    | 1910.421.1P   | 99            | 0.25           | 18.15       |
| Dinitramine          | 4.99                          | .29                                  | 29091-05-2  | 1660.421.1P   | 99.79         | 0.25           | 18.22       |
| Sulfallate           | 4.94                          | .29                                  | 95-06-7     | 2809.3.3P     | 99.5          | 0.25           | 18.32       |
| Etobenzanid          | 5.104                         | .29                                  | 79540-50-4  | 4769.341.1P   | 99.1          | 0.26           | 18.34       |
| Thiazopyr            | 4.995                         | .32                                  | 117718-60-2 | 2895.421.2P   | 99.51         | 0.25           | 18.36       |
| Isafenphos-methyl    | 5                             | .31                                  | 99675-03-3  | 2802.3.9P     | 99            | 0.25           | 18.37       |
| Tolylfluandil        | 5.115                         | .3                                   | 731-27-1    | 1843.421.2P   | 99.32         | 0.26           | 18.60       |
| Dyfonate (tm)        | 4.975                         | .29                                  | 944-22-9    | 1002.421.1.2P | 98.52         | 0.25           | 18.64       |
| Fipronil Sulfide     | 4.998                         | .34                                  | 120067-83-6 | 3227.286.1.1P | 98            | 0.25           | 18.69       |
| Terbutol (terbucarb) | 5.08                          | .29                                  | 1918-11-2   | 3314.421.1P   | 99.6          | 0.25           | 18.75       |
| Vernolate            | 5.078                         | .31                                  | 1929-77-7   | 1161.421.1.1P | 98.6          | 0.25           | 18.81       |
| Pebulate             | 4.95                          | .37                                  | 1114-71-2   | 1162.3.2.1P   | 95.2          | 0.25           | 18.81       |
| Pyrazolynate         | 4.985                         | .3                                   | 58011-68-0  | 4055.421.1P   | 99.7          | 0.25           | 18.85       |
| Cycloate             | 4.955                         | .29                                  | 1134-23-2   | 1044.3.3P     | 99.1          | 0.25           | 18.92       |
| Haloxypor-p Methyl   | 4.901                         | .3                                   | 72619-32-0  | 2931.421.1.1P | 99            | 0.25           | 18.99       |
| Cyflufenamid         | 5.049                         | .31                                  | 180409-60-3 | 2958.421.1.1P | 99            | 0.25           | 19.13       |
| Nitroguanidine       | 5.025                         | .3                                   | 556-88-7    | 2360.1.1P     | 100           | 0.25           | 19.15       |
| Isoxathion           | 4.944                         | .29                                  | 18854-01-8  | 3269.421.3P   | 98.88         | 0.25           | 19.15       |
| Dimepiperate         | 5.065                         | .29                                  | 61432-55-1  | 2494.421.2.1P | 99.31         | 0.25           | 19.19       |
| Fluchloralin         | 4.949                         | .29                                  | 33245-39-5  | 3425.421.2P   | 100           | 0.25           | 19.69       |
| Butylate             | 5.039                         | .29                                  | 2008-41-5   | 1160.421.1.1P | 98.8          | 0.25           | 19.81       |
| Dithiopyr            | 5.025                         | .29                                  | 97886-45-8  | 2285.3.3P     | 99.5          | 0.25           | 19.81       |
| Fenthion-ethyl       | 4.95                          | .29                                  | 1716-09-2   | 6571.3.1P     | 99            | 0.25           | 19.95       |
| Fluazuron            | 4.998                         | .3                                   | 86811-58-7  | 5107.286.1P   | 98            | 0.25           | 20.18       |
| Sulfuramid           | 5.083                         | .31                                  | 4151-50-2   | 4743.8.2.1P   | 98.7          | 0.25           | 20.18       |
| Chlorfenapyr         | 5.01                          | .29                                  | 122453-73-0 | 2775.3.7P     | 99.2          | 0.25           | 20.18       |
| Esprocarb            | 5.095                         | .3                                   | 85785-20-2  | 2882.421.2.1P | 99.9          | 0.25           | 20.20       |
| Oxaziclomefone       | 5.062                         | .29                                  | 153197-14-9 | 2917.341.1P   | 99.5          | 0.25           | 20.20       |



## REFERENCE MATERIAL CERTIFICATE

ISO 17034

| Compound Name           | CERTIFIED Conc. (ug/ml) | Expanded Uncertainty U (ug/ml) | CAS         | Lot No.     | Purity (%) | Amount (mg) | RT (min) |
|-------------------------|-------------------------|--------------------------------|-------------|-------------|------------|-------------|----------|
| Cinmethylin             | 5                       | .3                             | 87818-31-3  | 4777.421.2P | 98.04      | 0.25        | 20.24    |
| Sethoxydim              | 5.003                   | .29                            | 74051-80-2  | 1374.3.5P   | 95.3       | 0.25        | 20.31    |
| Fluazifop-butyl         | 4.987                   | .29                            | 69806-50-4  | 2451.421.1P | 97.79      | 0.25        | 20.43    |
| Bromophos Methyl        | 4.95                    | .28                            | 2104-96-3   | 1637.421.3P | 99         | 0.25        | 20.44    |
| Butoxydim               | 4.973                   | .3                             | 138164-12-2 | 8382.421.1P | 97.5       | 0.25        | 20.56    |
| Tebupirimfos            | 5.021                   | .29                            | 96182-53-5  | 1619.3.3P   | 97.5       | 0.25        | 20.63    |
| Iodofenphos             | 4.93                    | .29                            | 18181-70-9  | 2277.421.2P | 99.4       | 0.25        | 20.66    |
| Flucyclohexuron         | 4.975                   | .29                            | 113036-88-7 | 2191.3.1P   | 99.5       | 0.25        | 20.76    |
| Pyributicarb            | 4.985                   | .3                             | 88678-67-5  | 2892.341.1P | 99.7       | 0.25        | 20.83    |
| Flumetralin             | 5.025                   | .29                            | 62924-70-3  | 3790.3.2P   | 99.5       | 0.25        | 20.94    |
| Trifluralin             | 5.119                   | .3                             | 1582-09-8   | 335.3.6P    | 99         | 0.26        | 20.97    |
| Benfluralin (benefin)   | 5.01                    | .29                            | 1861-40-1   | 553.3.3P    | 99.2       | 0.25        | 20.97    |
| Tris(o-cresyl)phosphate | 4.988                   | .3                             | 78-30-8     | 979.7.1P    | 97.8       | 0.25        | 21.01    |
| Isopropalin             | 5.024                   | .29                            | 33820-53-0  | 1649.3.3P   | 98.5       | 0.25        | 22.22    |
| Aspon (tm)              | 5.088                   | .3                             | 3244-90-4   | 3033.3.7P   | 92.5       | 0.25        | 22.27    |
| Profoxydim Lithium      | 5                       | .31                            | 139001-49-3 | 5111.421.2P | 99         | 0.25        | 22.61    |
| Leptophos               | 4.947                   | .3                             | 21609-90-5  | 1670.286.1P | 97         | 0.25        | 22.77    |

emamectin : B1a: 97.05%, B1b: 2.95% flumorph : GC1: 67.3%, GC2: 32.7% bromuconazole (mixture of isomers) : LS850646: 52.6%, LS850647: 47.3%

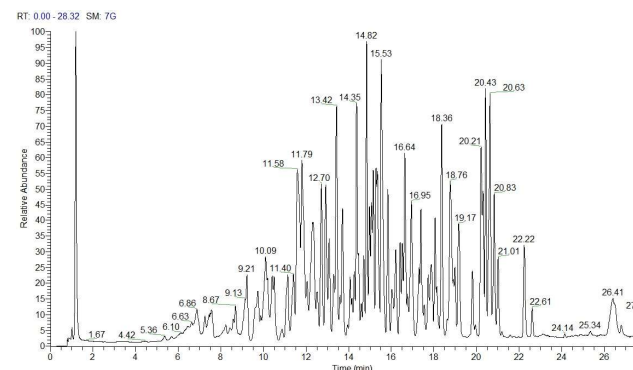
The producer certifies that this reference material meets the specification stated in this certificate until the expiry date, provided it is stored unopened at the recommended temperature herein. Product warranties for this reference material are set out in the terms and conditions of purchase.

CERTIFIED BY  
HuiChen Stavros, Ph.D.

CERTIFIED ON  
1 Apr 2020

RM Release

## CHROMATOGRAM

Instrument  
LC/HRMSDetection  
HRMS - Positive ModeColumn  
Vanquish C18+ 100mm x  
2.1mm ID 1.5um ParticleMethod 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 |

**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 (69:21), Lot no. 194127:191785, 50 mL

**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](http://lgcstandards.com) for a series of Dr. Ehrenstorfer Tech Tip videos and frequently asked questions.

**LGC Group**

7290-B Investment Drive  
North Charleston, SC 29418  
United States  
T | +1 843 763 4884  
F | +1 866 509 5146  
E | [dr.ehrenstorfer@lgcgroup.com](mailto:dr.ehrenstorfer@lgcgroup.com)

The producer of this reference material is registered to ISO 9001:2015 under IZ391-IS4 by NSF-ISR and accredited to ISO 17025:2005 and ISO 17034:2016 by A2LA with the accreditation numbers 3031.01 and 3031.02.



ISO 17034 Accredited  
Reference Material Producer  
Cert. No. 3031.02