

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: PSM-105-B
Lot Number: CM-5307

Lot Issue Date: 08-Oct 2015
Expiration Date: 30-Nov 2017

Product Name: GC Pesticide Solution #2

Description:

This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	CAS#	Analyte Lot	Calculated Value	True Value	Traceability & Method
aldrin	000309-00-2	RM00635	50.1 µg/mL	51.1 ± 0.6 µg/mL	NW06573;GC/FID
bifentox	042576-02-3	RM02688	50.2 µg/mL	50.7 ± 1.5 µg/mL	NW06573;GC/FID
bromopropylate	018181-80-1	RM07506	50.1 µg/mL	46.5 ± 4.0 µg/mL	NW06573;GC/FID
carbophenothion (trithion)	000786-19-6	RM07084	50.2 µg/mL	48.9 ± 0.6 µg/mL	NW06573;GC/FID
chinomethionate (quinomethionate)	002439-01-2	RM07062	50.1 µg/mL	50.5 ± 0.4 µg/mL	NW06573;GC/FID
chlorfenvinphos	000470-90-6	RM09164	50.1 µg/mL	49.8 ± 1.3 µg/mL	NW06573;GC/FID
chlorobenzilate	000510-15-6	RM10084	50.1 µg/mL	50.3 ± 0.7 µg/mL	NW06573;GC/FID
chlorothalonil	001897-45-6	RM10394	50.2 µg/mL	50.1 ± 0.4 µg/mL	NW06573;GC/FID
chlorpropham	000101-21-3	NT01910	50.2 µg/mL	52.6 ± 0.6 µg/mL	NW06573;GC/FID
chlorpyrifos-methyl	005598-13-0	RM10219	50.1 µg/mL	50.9 ± 0.4 µg/mL	NW06573;GC/FID
cypermethrin	052315-07-8	RM07225	50.1 µg/mL	48.9 ± 4.7 µg/mL	NW06573;GC/FID
dichloran	000099-30-9	RM10690	50.1 µg/mL	50.5 ± 0.4 µg/mL	NW06573;GC/FID
diclofop methyl	051338-27-3	RM09811	50.1 µg/mL	48.5 ± 1.0 µg/mL	NW06573;GC/FID
dicofol (kelthane)	000115-32-2	RM03694	50.1 µg/mL	48.3 ± 1.9 µg/mL	NW06573;GC/FID
dieldrin	000060-57-1	RM03957	50.1 µg/mL	51.9 ± 0.7 µg/mL	NW06573;GC/FID
diphenylamine	000122-39-4	RM02095	50.1 µg/mL	50.7 ± 0.3 µg/mL	NW06573;GC/FID
etridiazole	002593-15-9	RM10196	50.1 µg/mL	49.6 ± 0.4 µg/mL	NW06573;GC/FID
ethion	000563-12-2	RM07079	50.1 µg/mL	52.1 ± 0.6 µg/mL	NW06573;GC/FID
fenitrothion	000122-14-5	RM09568	50.2 µg/mL	51.2 ± 0.5 µg/mL	NW06573;GC/FID
heptachlor	000076-44-8	RM03111	50.1 µg/mL	50.4 ± 0.8 µg/mL	NW06573;GC/FID
iprodione	036734-19-7	RM10085	50.1 µg/mL	49.1 ± 0.6 µg/mL	NW06573;GC/FID
isofenphos	025311-71-1	RM07075	50.1 µg/mL	50.0 ± 1.7 µg/mL	NW06573;GC/FID
mecarbam	002595-54-2	RM10104	50.1 µg/mL	50.0 ± 1.7 µg/mL	NW06573;GC/FID
methoxychlor	000072-43-5	RM10269	50.1 µg/mL	49.1 ± 5.4 µg/mL	NW06573;GC/FID
oxyfluorfen	042874-03-3	RM03175	50.1 µg/mL	51.9 ± 0.7 µg/mL	NW06573;GC/FID
pentachloronitrobenzene	000082-68-8	RM02477	50.2 µg/mL	51.1 ± 0.5 µg/mL	NW06573;GC/FID
pirimiphos-ethyl	023505-41-1	RM06226	50.1 µg/mL	53.1 ± 1.7 µg/mL	NW06573;GC/FID

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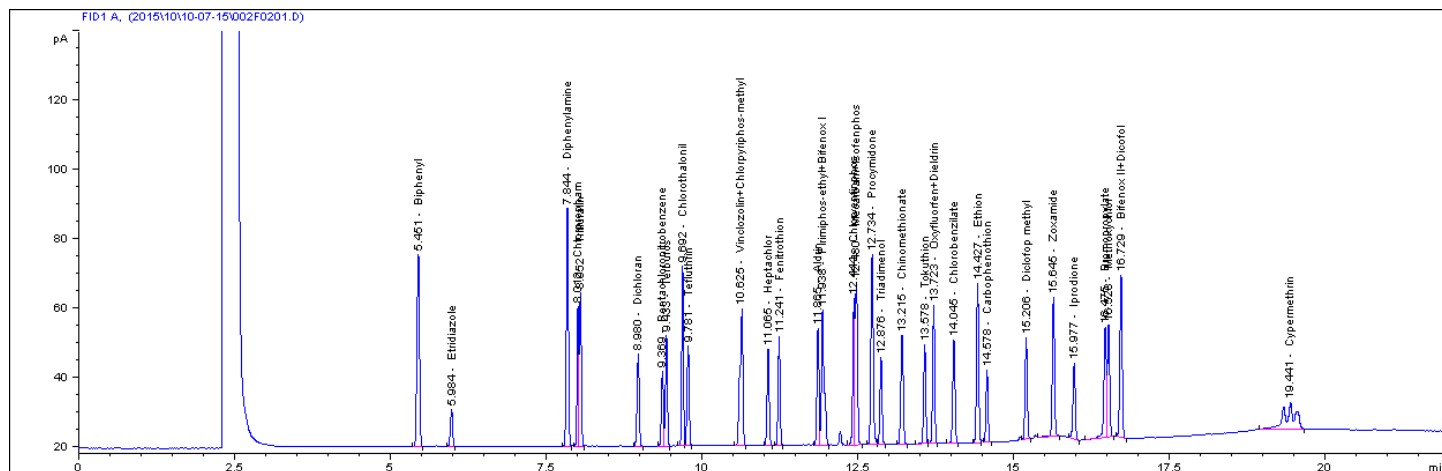
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procymidone	032809-16-8	RM07070	50.1 µg/mL	54.8 ± 0.2 µg/mL	NW06573;GC/FID
tefluthrin	079538-32-2	RM04904	50.1 µg/mL	50.7 ± 0.1 µg/mL	NW06573;GC/FID
terbufos	013071-79-9	RM06171	50.2 µg/mL	49.5 ± 0.3 µg/mL	NW06573;GC/FID
tokuthion (prothiophos)	034643-46-4	RM10210	50.1 µg/mL	50.0 ± 0.7 µg/mL	NW06573;GC/FID
triadimenol	055219-65-3	RM03453	50.2 µg/mL	49.4 ± 0.3 µg/mL	CM-2473;GC/FID
trifluralin	001582-09-8	RM05766	50.1 µg/mL	49.9 ± 0.4 µg/mL	NW06573;GC/FID
vinclozolin	050471-44-8	RM04638	50.1 µg/mL	50.8 ± 0.5 µg/mL	NW06573;GC/FID
zoxamide	156052-68-5	RM06946	50.1 µg/mL	50.6 ± 2.1 µg/mL	NW06573;GC/FID

Solvent: Acetone

Storage: Store Refrigerated (2° - 8°C)



Traceability:

Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:

The true value is reported, with its uncertainty value calculated at the 95% confidence level.

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Homogeneity:

This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainties. Each unit contains slightly more than the stated labeled volume to facilitate transfer of the material for testing.

Should crystallization occur after refrigeration, gentle warming (<40°C) and shaking of the container is usually sufficient to re-dissolve the material. If this is unsuccessful, an ultrasonic bath may be used. Solutions containing volatile components (such as gases) should be chilled prior to opening to minimize headspace problems.

Hazards:

Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:

The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:

The real-time, long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.



William J. Leary
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