

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: PSM-105-A
Lot Number: CM-5358

Lot Issue Date: 14-Oct 2015
Expiration Date: 30-Nov 2017

Product Name: GC Pesticide Solution #1

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
anilofos	064249-01-0	RM10541	50.2 µg/mL	50.7 ± 0.1 µg/mL	NW06604;GC/FID
BHC-Mix	000608-73-1	RM00754	50.1 µg/mL	47.6 ± 1.9 µg/mL	NW06604;GC/FID
bifenthrin	082657-04-3	RM07177	50.1 µg/mL	50.0 ± 0.2 µg/mL	NW06604;GC/FID
bromobutide	074712-19-9	RM09884	50.2 µg/mL	50.6 ± 0.1 µg/mL	NW06604;GC/FID
butachlor	023184-66-9	RM10364	50.1 µg/mL	48.8 ± 0.3 µg/mL	NW06604;GC/FID
captan	000133-06-2	RM02848	50.1 µg/mL	50.4 ± 0.3 µg/mL	NW06604;GC/FID
chlordan	000057-74-9	RM02727	50.2 µg/mL	48.8 ± 0.3 µg/mL	NW06604;GC/FID
chlorfenapyr	122453-73-0	RM09764	50.1 µg/mL	49.8 ± 0.2 µg/mL	NW06604;GC/FID
cyfluthrin (baythroid)	068359-37-5	RM05507	50.1 µg/mL	49.9 ± 1.6 µg/mL	NW06604;GC/FID
DDT-Mix	008017-34-3	RM03978	50.2 µg/mL	49.0 ± 0.6 µg/mL	NW06604;GC/FID
deltamethrin	052918-63-5	RM10595	50.1 µg/mL	50.8 ± 0.1 µg/mL	NW06604;GC/FID
disulfoton	000298-04-4	RM07350	50.1 µg/mL	49.9 ± 0.2 µg/mL	NW06604;GC/FID
endosulfan Sulfate	001031-07-8	RM06741	50.2 µg/mL	49.0 ± 0.6 µg/mL	NW06604;GC/FID
endrin	000072-20-8	RM00557	50.1 µg/mL	50.6 ± 0.2 µg/mL	NW06604;GC/FID
enthalfluralin	055283-68-6	RM03735	50.1 µg/mL	51.2 ± 0.3 µg/mL	NW06604;GC/FID
fenpropathrin	039515-41-8	RM06199	50.1 µg/mL	50.1 ± 0.1 µg/mL	NW06604;GC/FID
fenvalerate	051630-58-1	RM10549	50.1 µg/mL	50.4 ± 0.3 µg/mL	NW06604;GC/FID
flupronil	120068-37-3	RM03716	50.1 µg/mL	51.7 ± 0.4 µg/mL	NW06604;GC/FID
flucythrinate	070124-77-5	RM09927	50.1 µg/mL	50.6 ± 0.2 µg/mL	NW06604;GC/FID
fthalide	027355-22-2	RM09917	50.2 µg/mL	50.5 ± 0.2 µg/mL	NW06604;GC/FID
halfenprox	111872-58-3	RM07784	50.2 µg/mL	51.6 ± 0.2 µg/mL	NW06604;GC/FID
indanofan	133220-30-1	RM10686	50.1 µg/mL	50.7 ± 0.1 µg/mL	NW06604;GC/FID
indoxacarb	173584-44-6	RM09763	50.2 µg/mL	50.8 ± 0.1 µg/mL	NW06604;GC/FID
lambda-cyhalothrin	091465-08-6	RM07184	50.1 µg/mL	49.2 ± 0.2 µg/mL	NW06604;GC/FID
methyl Parathion	000298-00-0	RM10712	50.1 µg/mL	50.0 ± 0.1 µg/mL	NW06604;GC/FID
parathion (Ethyl)	000056-38-2	RM09958	50.1 µg/mL	50.8 ± 0.1 µg/mL	NW06604;GC/FID
permethrins (mixed isomers, total)	052645-53-1	RM10687	50.1 µg/mL	49.2 ± 0.5 µg/mL	NW06604;GC/FID
pyridalyl	179101-81-6	RM10683	50.1 µg/mL	50.7 ± 0.1 µg/mL	NW06604;GC/FID
tetradifon	000116-29-0	RM03451	50.1 µg/mL	49.8 ± 0.2 µg/mL	NW06604;GC/FID
thifluzamide	130000-40-7	RM10453	50.1 µg/mL	49.4 ± 0.5 µg/mL	CM-3882;GC/FID
tralomethrin	066841-25-6	RM09720	50.2 µg/mL	50.8 ± 0.1 µg/mL	NW06604;GC/FID

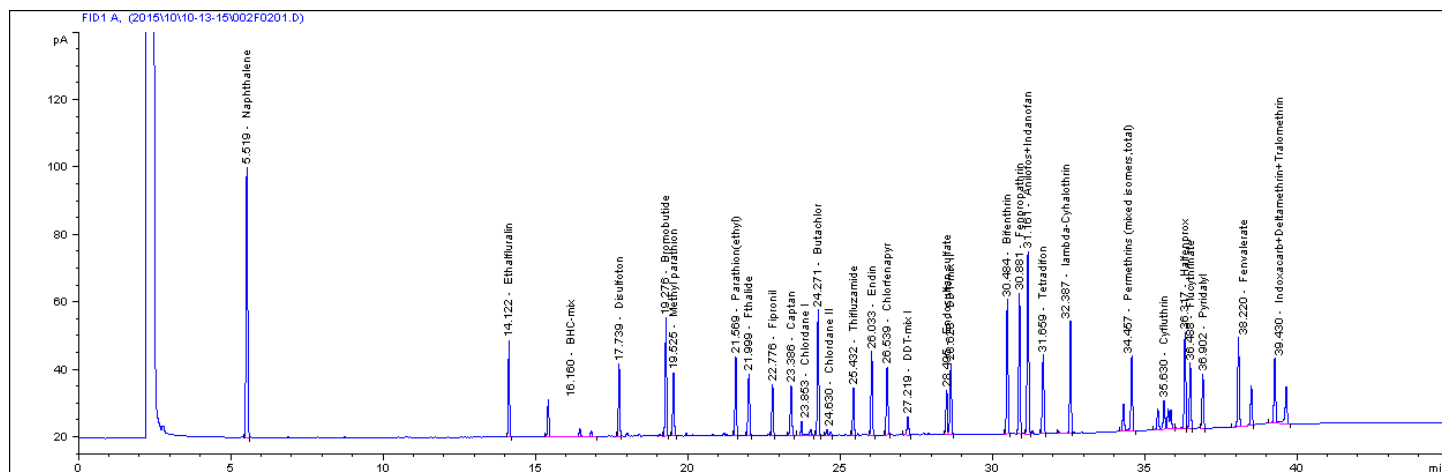
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Solvent: acetone

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/NCSL 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.

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.

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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
Vice President, QA/RA