

INTI-Contaminantes Orgánicos
Action Plan Feb 2013

Finding	Action	Status
1. Non conformity: For traceable to SI measurement services such as ethanol in water and organic volatile in soil, INTI's Organic Contaminant Center, as a NMI, requires to document the reported results in a Report of Analysis, which should be readily available for internal records in QS and for customers if requested.	The required information is being recorded and it is readily available for internal records in QS and for customers if requested	Cleared
2. Non conformity: For the value assignment in a service of a volatile organic contaminants in soil analysis, a RM for method preparation evaluation and control should be used, a INTI or other NMI's certified RM will be the best option, otherwise at least a home certified reference material should be used.	A spiked sample method from a NIST CRM was implemented as an in house CRM	Cleared
1. Recommendation: It is recommended that the organic contaminant area of INTI include within their training program an evaluation of fundamental metrological concepts such as the incorporated in the VIM and GUM.	The institutional training program, at INTI level, includes basic and advanced courses on those subjects yearly. Some people was trained in 2012, and the rest of them is included in the training plan for 2013	Cleared
2. Recommendation: It is recommended to ensure in internal and external teaching courses that the value and appropriate use of CRMs and traceability are included where appropriate. This will promote suitable use of CRMs with appropriate traceability.	Normally, an institutional training program includes courses on Metrology, Traceability, appropriate use of CRMs, etc. All the technical staff of the laboratory have participated in those courses. Also, training in others NMIs is being considered for 2013 (See Action 3)	Cleared
3. Recommendation: It is recommended that INTI set up a program for studies abroad at other NMIs to assist in the development of good metrology practices and set aside time for in-house metrology research to develop better understanding of their instrumental operations and measurements.	1) . INTI sets up a program for studies abroad at other NMIs to assist in the development of good metrology practices and set aside time for in-house metrology research to develop better understanding of their instrumental operations and measurements. Ignacio Pedre was trained in other NMI in 2012. 2) Also, a stay in other NMI is being planned for 2013	1) Cleared 2) In process Estimated to Dec2013
4. Recommendation: It is recommended that INTI investigate the possibility of providing an adequate temperature control in their balance room, and records temperature and humidity of its balance room.	A new version of the procedure PG 7.2 "Environmental conditions control" was released. In it, it is established that the temperature of the balance room must be in the range 20-25°C, and that it will be controlled by a data logger which has been installed	Cleared

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5. Recommendation: To improve safety in working areas, it is recommended that INTI rearrange the setting of their gas cylinders, where each of the cylinders can be secured to a base, table or wall with a band or chain.	The cylinders were held to the wall by means of a chain.	Cleared
6. Recommendation: It is recommended that INTI's Organic Contaminant Center continues their participation in relevant SIM and CCQM OAWG studies to ensure that the measurements made using revised methods /new types of instrumental systems, ambient condition, etc. for service delivery are properly compared.	The regular participation in relevant SIM and CCQM OAWG meetings and studies is an institutional policy. In November 2012, Adriana Rosso, Center's Director, participate at CCQM OAWG meeting in Hong Kong.	Cleared
7. Recommendation: The actual INTI hydrocarbons in water CMC was claimed using methanol as a solvent, and actually N-N-Dimethylacetamide (DMA) is used, therefore it is recommended that the Organic Contaminant Center evaluate if the results of the method using DMA as a solvent are comparable with the results of the method using methanol as a solvent.	The claimed and published CMCs are related to hydrocarbons in methanol. However, the demand of measurements for hydrocarbons in DMA matrix is higher than the one in methanol matrix. So, the reviewer has suggested to extent the dissemination of the traceability scope related to the CMCs, to include analytical services in DMA. For that purpose, a validation program is needed in order to demonstrate the equivalence and comparability of results, between both matrices. Comparisons are being performed, by testing both solutions with MRCs NIST 3000-3001-3002-3003-3004 y 3005.	In process. Estimated to June 2013
8. Recommendation: It is recommended that INTI's Organic Contaminant Center improve method validation and quality control of their volatile organic in solvent or in matrix measurements, a in house CRM or a CRM from another NMI is suggested to be used as a control sample.	Spiked sample method with a CRM from another NMI was used as an in house CRM to complete the validation and quality control	Cleared
9. Recommendation: It is recommended that INTI's Organic Contaminant Center improve method validation and quality control of their volatile organic contaminants measurements, a IS method is recommended to be implemented and compared with the actual ES method approach.	A control with IS was implemented in order to improve the validation and quality control of volatile organic contaminants measurements.	Cleared
10. Recommendation: See Recommendation 3.	Same as for Rec 3	See Rec 3

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11. Recommendation: While there is not temperature control of the balance room, the corresponding temperature correction of the mass is recommended to apply, or the variation of room temperature should be recorded and the corresponding variation of the mass because of the room temperature variation is recommended to be included in the uncertainty budget of the affected analytical measurements.	The conditions in balance room are now controlled (see Action 4). Moreover, a consult about this finding was carried out to the INTI Laboratory of Mass Standards. Changes in temperature could theoretically affect the air buoyancy during the weights processes. However, the laboratory is at the sea level, and therefore the air density is always deeply within the interval $1,2 \text{ kg/m}^3 \pm 10 \%$. So, corrections are considered negligible. Despite that, the associated uncertainties were taking into account in the uncertainty component due to the weights.	Cleared
12. Recommendation: To improve the accuracy of calibrants or samples gravimetric preparations it is recommended that the Organic Contaminant Center evaluate la possibility to acquire a microbalance.	Up to now, the calibrants are prepared by means of an analytical balance, obtaining an adequate uncertainty. However, in order to improve the laboratory capabilities, the purchase of a microbalance was included for the 2013 budget.	In process. Estimated to be solved in Dec 2013.
13. Recommendation: It is recommended that INTI's Organic Contaminant Center clearly declared in each method procedure to what reference the traceability to SI is intended to be established and disseminated through a particular analytical services, therefore the control CRM and Calibrant (primary reference materials) used for this purpose should be stated in the method procedure.	INTI's Organic Contaminant Center has declared to what reference the traceability to SI is intended in each procedure. They are established and disseminated through defined analytical services. The MRCs NIST 3000-3001-3002-3003-3004 y 3005 are used for these purposes. All this information was included in the specific procedures	Cleared
14. Recommendation: It is recommended that the Organic Contaminant Center clearly declared in the Measurement Certificate the identification number of the CRM used to establish traceability to the SI	A new version of Measurement Certificates is implemented. In it, the identification number of the CRM used to establish traceability to the SI should is declared	Cleared
15. Recommendation: It is recommended that INTI's Organic Contaminant Center improve their purity assessment approach of primary reference standards used for calibration, by comparing, and if adequate combining at least two methods results. These methods could be based on mass balance or direct quantification of the standard, or comparison of both approaches results.	In order to improve the evaluation of purity of standards, methods based on mass balance and direct quantification are being implemented.	In process. Estimated to be solved in Dec 2013.
16. Recommendation: For the mass balance method, quantification of water or solvents, and identification and quantification of major impurities content when is possible is recommended.	A thermo-gravimetric analyzer is being purchased to indetify and quantify of major impurities.	In process. Estimated to be solved in Dec 2013.

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17. Recommendation: To improve assessment of traceability dissemination for volatile organic measurement within Argentina is recommended that, the Organic Contaminant Center evaluate the possibility of organizing a national proficiency test for volatile organic contaminants in matrix.	A national proficiency test for volatile organic contaminants in methanol is in course.	In process. Estimated to June 2013.
18. Recommendation: It is recommended to convene a meeting of organic contaminant staff of presentation/discussion of expectations for critically evaluation of the results of a analytical measurements, or purity characterizations of materials used as calibrants (primary reference materials), as well as the overall uncertainty of the assigned value for a analytical services, or for purity of a calibrants, and the inclusion of their corresponding contributions in the uncertainty budget.	A meeting was held and the overall uncertainty is being evaluated. The uncertainty budget was modified	Cleared
19. Recommendation: Particularly, for the ethanol in water analytical service is recommended that the Organic Contaminant Center includes in the uncertainty estimation of the measurement result, the contribution of the primary reference material used.	The overall uncertainty was evaluated. The uncertainty budget was modified.	Cleared
20. Recommendation: For the ethanol in water and organic volatile in soil analytical services is recommended that the Organic Contaminant Center documents the uncertainty estimation steps in the method.	The analysis was performed	Cleared
21. Recommendation: To improve the preservation of a sensitive CRM is recommended that INTI's Organic Contaminant Center evaluate the possibility to acquire a -80 °C Freezer.	The purchase was planned in 2013 budget.	In process Estimated to June 2013.