

Washington State Department of Ecology Accreditation Process for Labs Doing Methamphetamine Wipe Analyses

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- **General Criteria for Accreditation.** The accreditation process for methamphetamine is the same as it is for other environmental tests. The lab...
 - applies for a specific method or methods,
 - pays a fee (currently \$115 for HPLC/MS or \$345 for GC/MS if the lab is not already paying the maximum for the GC/HPLC or GC/MS category),
 - submits an SOP and/or QA manual update,
 - submits results of an initial precision and recovery (IPR) study and method detection limit study (these substitute for analysis of a performance evaluation sample), and...
 - undergoes an on-site audit (which is waived if we are recognizing an approved third party's accreditation which includes the appropriate technologies).

- **Performance Evaluation (PE) Sample.** None identified at this time

- **IPR Study.** Analyze QC Standard (see section on QAPP below) in duplicate; acceptable recovery is 80 - 120 %R, maximum RPD for duplicate pair is 20%.

- **MDL Study.** Using QC Standard, do MDL study according to App B, 40 CFR 136 (seven replicates of a standard of concentration at 5-10 times the expected MDL, multiply standard deviation by 3.14). The MDL must be lower than the WA Dept of Health (WDOH) "action" level corresponding to contamination of 0.1 µg/100 cm²

- **Standard Operating Procedures.** The SOP (or QA Manual) must be submitted before the on-site assessment is conducted and must identify quality objectives for...
 - Accuracy
 - Bias (see minimum requirement under QAPP below)
 - Precision (see minimum requirement under QAPP below)
 - Defensibility
 - Data recording/reporting
 - Chain of Custody
 - Representativeness
 - Absence of contamination
 - Sample handling
 - Holding times
 - Sample storage

- **Methods.** The application will request accreditation for one of the methods that have been approved by WDOH which are HPLC/MS and GC/MS.
- **Chain of Custody Record.** The likelihood of litigation in the CDL program calls for strict adherence to chain of custody requirements, and the on-site audit will take a close look at c-o-c practices. See WA State's Department of Health's Section I-E of "Guidelines for Environmental Sampling at Illegal Drug Manufacturing Sites", Section I-E, located on the internet at, <http://www.doh.wa.gov/ehp/ts/CDL/cdl-envir-sampling.pdf>

Quality Assurance Project Plan

- **Sampling Plan** See WA State Department of Health's "Guidelines for Environmental Sampling at Illegal Drug Manufacturing Sites" located on the internet at: <http://www.doh.wa.gov/ehp/ts/CDL/cdl-envir-sampling.pdf> (these are not accreditation requirements, but are mentioned here for convenience)
 - Media Blank (a "clean" wipe in a "clean" container)
 - Field Duplicate (take samples from two adjacent areas on the same surface)
- **Analysis Plan**
 - MDL study required (see next section)
 - Control Charts required (for analysis of the check standard...an Excel control charting program is available gratis from Ecology)
 - Method Blank (extract a "clean" wipe, analyze extract; one/batch)
 - QC Standard (a known concentration of methamphetamine in solvent; one/10 samples, $\pm 20\%$ of true value; standard can be purchased as a solution, such as Sigma Chemical Company Cat. # M 5260, or prepared from the dry hydrochloride powder, such as Sigma Cat. #M 8750¹)
 - MS/MSD (spike two clean wipes with a known amount of methamphetamine and analyze each separately; one MS/MSD pair per 10 samples)
 - Methods. HPLC/MS or GC/MS.
 - Reporting Format
- **Definitions of Limits.** The lab's MDL must support the action limit of 0.1 $\mu\text{g}/100\text{ cm}^2$. For the purposes of meth analysis for this CDL program, the lab's "practical quantitation limit" must be equivalent to or lower than the action limit. For example, if the procedure calls for extracting the wipe with 1.0 mL of methanol, the action limit becomes 0.1 $\mu\text{g}/\text{mL}$ of solvent, or 0.1 mg/L , and the lab's PQL must be lower than 0.1 mg/L . The MDL for the purposes of this program is five times lower than the PQL, which means the MDL must be $\leq 0.02\text{ mg}/\text{L}$.

¹ Department of Ecology does not endorse this supplier, but merely identifies it as a possible source. There may be other equally qualified sources.

Questions concerning the accreditation process should be directed to Stew Lombard at (360) 895-6148 or slom461@ecy.wa.gov, or to Alan Rue at (360) 895-6178 or arue461@ecy.wa.gov. Questions concerning the *Sampling Guidelines* should be addressed to Greg McKnight at (360) 236-3381 or greg.mcknight@doh.wa.gov.