

Preparing for a Chemical Terrorist Event: Capabilities of the Texas LRN-C

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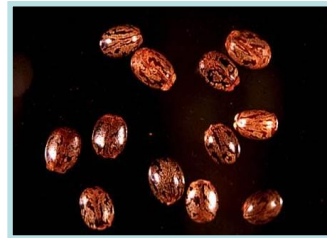


Overview

- Testing Capabilities of the Texas LRN-C
 - Clinical
 - Environmental
- Incident Preparations
- Trainings & Outreach



Capabilities



- LC-MS/MS

- Abrine & Ricinine (Bio-Markers of Abrin & Ricin) *urine*
- Organophosphorus Nerve Agent Metabolites (VX, rVX, GF, GD, GB) *urine & serum*
- Monofluoroacetate/Monochloroacetate (Metabolic Toxins Panel) *urine*
- Tetranitromethane Metabolite (HNPPAA) (4-Hydroxy 3-Nitrophenylacetic Acid) *urine*



Warning 1080 Poison
Sodium fluoroacetate
will be present on the ground from: 6/8/07

- DO NOT touch bait
- WATCH CHILDREN at all times
- DO NOT EAT animals from this area
- Poison baits or carcasses are **DEADLY to DOGS**

For more information contact:
Blairsville Police Dept. Freephone 800-442-1111

Unauthorized removal of signs or baits is an offence.

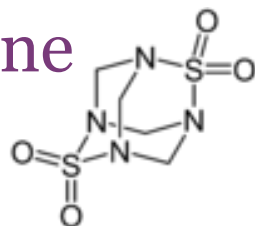
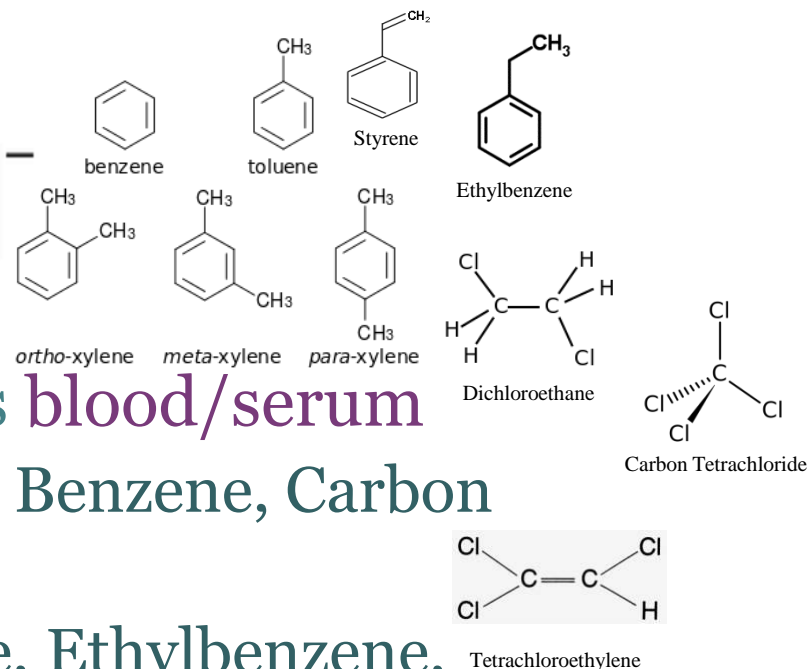
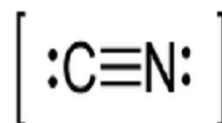




Capabilities

- GC-MS

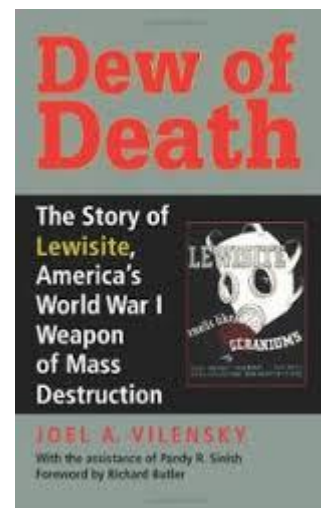
- Cyanide (HCN) **blood**
- Volatile Organic Compounds **blood/serum**
 - Chloroform, Dichloroethane, Benzene, Carbon Tetrachloride
 - Toluene, Tetrachloroethylene, Ethylbenzene, Styrene & Xylenes (o-,m-,p-)
- Tetramine (Tetramethylenedisulfotetramine, TETS) **urine**





Capabilities

- ICP-MS & LC-ICP-MS
 - Multiple Toxic Metals in Blood
 - Cd, Hg, Pb
 - *Expanding to include Se & Mn*
 - Multiple Toxic Metals in Urine
 - U, Be, Ba, Cd, Tl, Pb & As
 - *Expanding to include: Mn, Co, Sr, Mo, Sb, Cs, W, Pt*
 - *Possible future expansion to include Sn (challenging in matrix)*
 - *Lewisite (2-chlorovinylarsonous acid {CVAA})*
 - *Analysis of 2-chlorovinylarsonic acid {CVAOA}*
 - *Urine*



79	Mercury	80	Th
U		Hg	8
97		200.59	7
2.4		1.9	204.



Capabilities

- Environmental Techniques

- XRF (X-ray Fluorescence)

- Elemental Analysis
- Non-Destructive



- FT-IR Microscopy

- Allows us to analyze mixtures and conduct FTIR analysis on single crystals of material

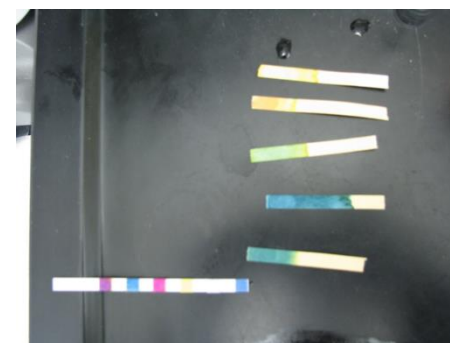


- *Traditional Techniques*

- *Wet Chemistry*

- *Less Frequently Requested*

- *Geiger Counter*
- *Volatiles Detector*





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Exercise

- June 1-4, 2015
- Scope: Test the Capabilities of High Risk Regions
 - Test the 24/7 capabilities
 - 24 hour emergency contact information provided to CDC
 - Ability to take delivery of specimens outside normal business hours
 - Communications (email, phone, etc...,)
 - Test the Shipping Capabilities
 - Small scale SPaSE
 - Can you ship to CDC & another laboratory successfully?
 - Inter-Laboratory Network Relationships & Partnerships
 - Can you call on a lab in the network to help you out?
 - {Our Partner: AZ.SPHL}
 - Method Testing Capabilities
 - Can you bring your method up by the time samples arrive at the door?

Exercise



- 24/7 Capabilities
 - Our information is current – CDC, the Courier, Partner Lab could communicate with us in/outside of business hours
 - Via the 24 Hour Emergency Phone, CT Team Lead Cell, Lab phone and DSHS emails
 - We took delivery of the specimens at 5:28pm 6-1-2015 (T=0)
- Shipping Capabilities
 - Two containers (10 samples each) were shipped to CDC and AZ.SPHL on 6/2/2015 Cat B, FedEx First Overnight 4:36pm CST 6/2/15
 - Tracking information was sent to CDC and AZ.SPHL
 - Note: We found a glitch in AZ.SPHL's ability to receive outside normal business hours in the early morning of 6/3/2015. Communication in/outside the lab is IMPORTANT. We were able to speak with them at home regarding the failed delivery attempt and they were able to start acting on it! It was sorted out in 2-3 hours.
 - Both CDC and AZ successfully received their specimens 6/3/2015
 - At the correct temperature
 - Packaged appropriately, according to Cat B specs, with appropriate materials.

Exercise



- Relationships & Partnerships??
 - Yes we have them, and they work.
 - They are *essential* to our mission to help the citizens of Texas but also of the other 49 states. We could be called upon to help anyone within the United States.
 - AZ.SPHL answered with a “YES” despite being in the middle of an As CLIA Exercise 6/2/2015
 - Phoenix.AZ.SPHL & Austin.TX.SPHL used capabilities exercise to do Training for our personnel.
 - Ordering Testing from a network lab via the common LIS
 - Accepting an Assignment from an external lab
 - Electronically accepting results from an external lab
- Method Capabilities
 - At notification our instrument was prepped and a mock run was done testing its readiness
 - We analyzed 10 samples for a release of 50 analytes.

Exercise



- Lessons Learned
 - Time & Distance Matter
 - From receipt to our release of reports: $t=T=20$ hrs 30 min
 - AZ.SPHL took delivery with a mishap (shipping $t=19$ H 27 M) $T=42$ H 36 M
 - CDC took delivery $T=36$ H 51 M
 - AZ.SPHL electronic results: (analysis to electronic reports $t=9$ H 27 M) $T=51$ H 52 M
 - Official end of exercise and time clock for CDC, AZ SPHL & TX DSHS: 52 H 45 M
 - Working outside business hours is different from inside business hours
 - Sometimes 2 hr 30 mins isn't enough time *{many hands and expanding automation make light work}*
 - Communication & Priorities
 - We are here, able and willing to act at short notice
 - We might need to break during the process
 - Quality Data Reporting
 - Efficient Time Schedules
 - Any and all forms of communication are okay (texts, emails, fax, phone calls)



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Training, Outreach, Misc....

- Upcoming First Responder Training (Austin, TX)
 - April 1, 2016
 - For More information regarding future trainings please email Cari Sloma (State Training Coordinator)
 - Cari.Sloma@dshs.state.tx.us
- Upcoming First Responder Training (Lubbock, TX)
 - May 3, 2016



CT Lab Contact Info

- **512-689-9945**—24-hour Emergency Phone
- 512-634-6730 or 512-776-3486 – Chemical Threat Team Lead
- 512-776-7270—Direct Lab Phone
- Jocelyn.Hover-Jeansonne@dshs.state.tx.us – Chemical Threat Coordinator
- <http://www.dshs.state.tx.us/lab/epr.shtm> -- DSHS Chemical Emergency Website
- <http://emergency.cdc.gov/chemical/lab.asp> -- CDC Chemical Emergency Website



Questions?? & Thank you!

