



ORGANISATION FOR THE
PROHIBITION OF CHEMICAL WEAPONS

Working together for a world free of chemical weapons

Science for diplomats (1)

Chemical Analysis in Verification

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OPCW Headquarters
The Hague, The Netherlands

Jonathan E. Forman, Ph.D.
Science Policy Adviser, Office of Strategy and Policy

Hugh Gregg, Ph.D.
Head Laboratory
Organisation for the Prohibition of Chemical Weapons



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SAB Report of the Developments in S&T to The Third review Conference

(RC-3/DG.1, Dated 29 October 2012)

Director General's Recommendations

(RC-3/DG.2, Dated 31 January 2013)

Laboratory Capabilities and Analysis

“The Secretariat will continue to monitor developments relating to **unscheduled and novel toxic chemicals** and will explore ways in which to augment its **technical capabilities** in this area.”

“...notes the SAB’s views on the **OPCW Central Analytical Database** and...the Secretariat needs to have analytical data on relevant unscheduled chemicals.”

(paragraphs 9 and 32 of RC-3/DG.2)

- The OPCW Laboratory (LAB) is monitoring developments, has noted the SAB's advice on RCAs and is working with the Validation Group to obtain analytical data on relevant unscheduled chemicals
- LAB is establishing a training laboratory
- LAB participates in various activities and programmes (e.g. EQuATox).
- OCAD continues to be regularly updated, it currently contains validated data for > 5000 scheduled chemicals

“...note the importance of continuing to **improve on-site and off-site analysis**”

“...future such exercises will progress towards the more difficult analysis of longer-lived biomarkers of exposure, such as protein adducts”

“...resources be made available to enable **regular exercises of the entire off-site analysis process** to be conducted in conjunction with OPCW field exercises.”

(paragraphs 24, 25, and 30 of RC-3/DG.2)

- Effective capability was demonstrated in the investigation of alleged use in 2013.
- LAB and OPCW Designated Laboratories are continually working on refining methodologies.
- LAB is continuing to improve its capabilities for conducting biomedical sampling and analysis.

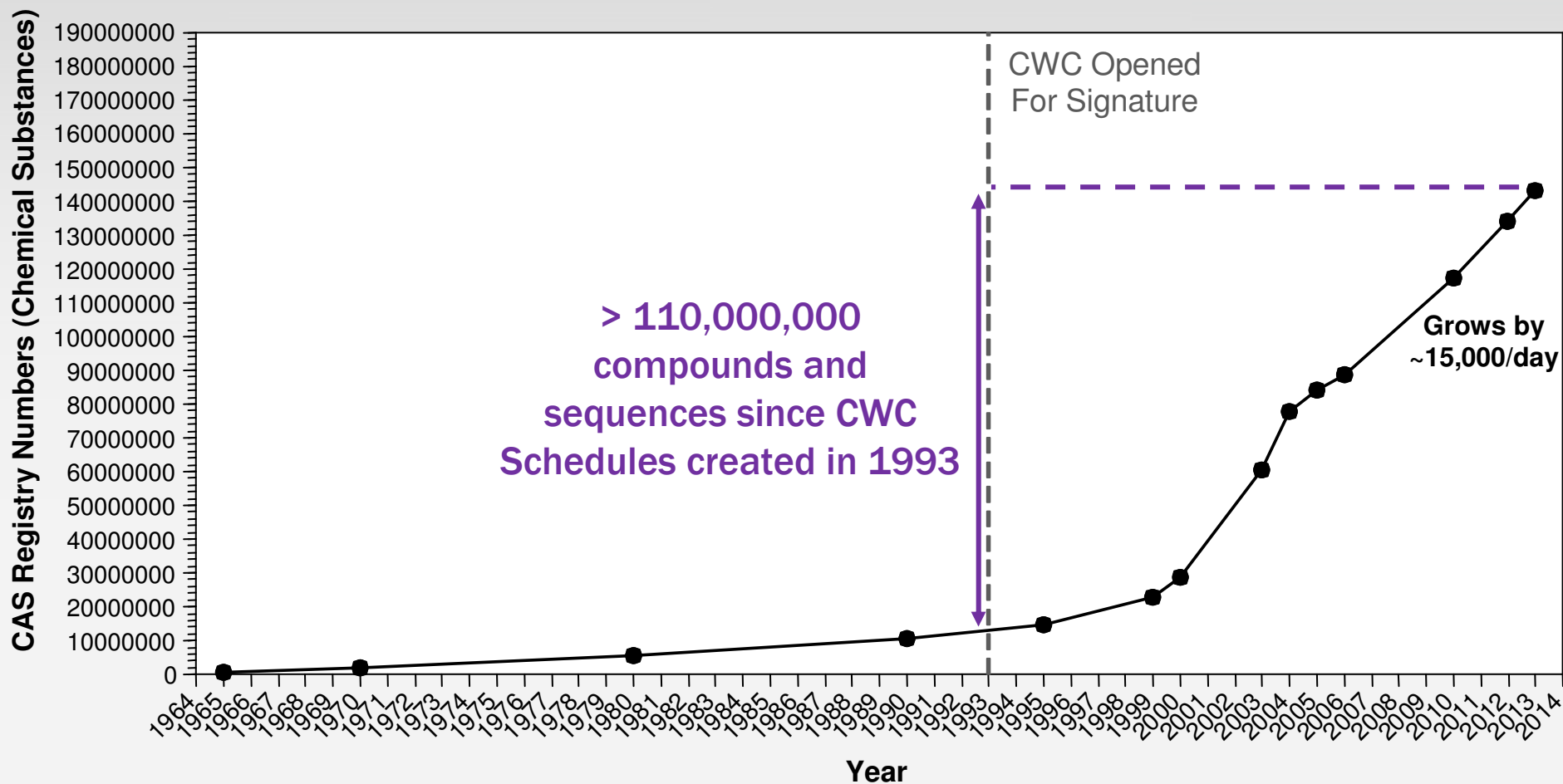
“...a **review of the proficiency-testing programme** be undertaken”

(paragraph 26 RC-3/DG.2)

- Dr. Robin Black, former SAB member, is chairing a group to review the proficiency testing programme



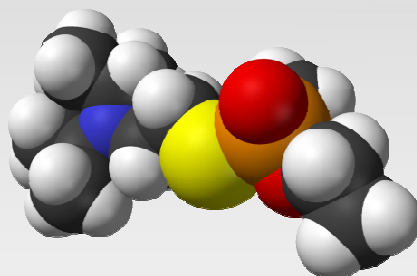
Reported Chemical Substances 1965-2013



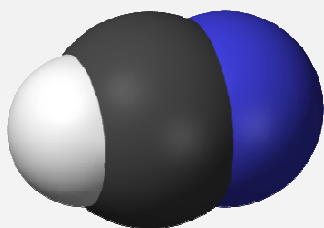


Scheduled Chemicals Span a Broad Range of Properties

VX (O-ethyl-S-[2(diisopropylamino)ethyl] methylphosphonothiolate)



Hydrogen Cyanide (HCN)



Ricin

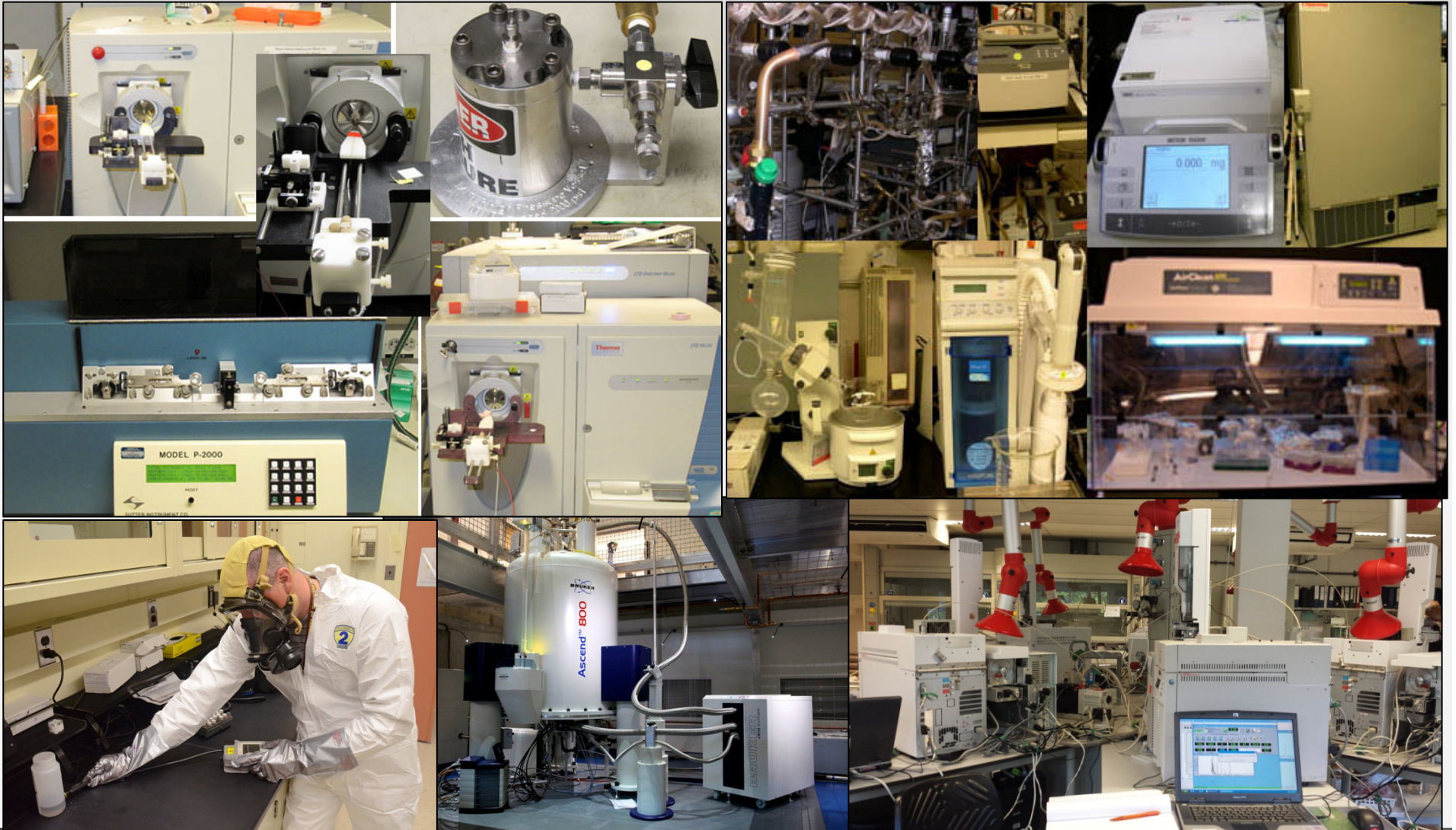




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The Most Appropriate Analytical Method?





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ANALYTICAL & BIOANALYTICAL CHEMISTRY



**Analysis of Chemicals Relevant
to the Chemical Weapons Convention**

Guest Editors Marc-Michael Blum · R. V. S. Murty Mamidanna



 Springer



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Presentation by Hugh Gregg



S & T For Diplomats: A Series of Discussions

- October (On the margins of EC-77, to be confirmed)
 - **S&T for Diplomats (2): Biomedical Samples**
 - SAB Laboratory recommendations
 - Sampling and analysis
- December (On the margins of CSP-19, To be confirmed)
 - **S&T for Diplomats (3): The meaning of production by synthesis and biomediated chemical production**
 - SAB convergence related recommendations
 - Production by synthesis
- **Other topics to be scheduled**