



# Science for Diplomats

## Schedule 1 Chemicals in Industrial Processes

17 March 2015  
13:30 - 15:00  
Ooms Room

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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)

**Status of the Follow-Up to the Recommendations  
on S&T to the Third Review Conference**  
(EC-77/DG.11, Dated 5 September 2014)



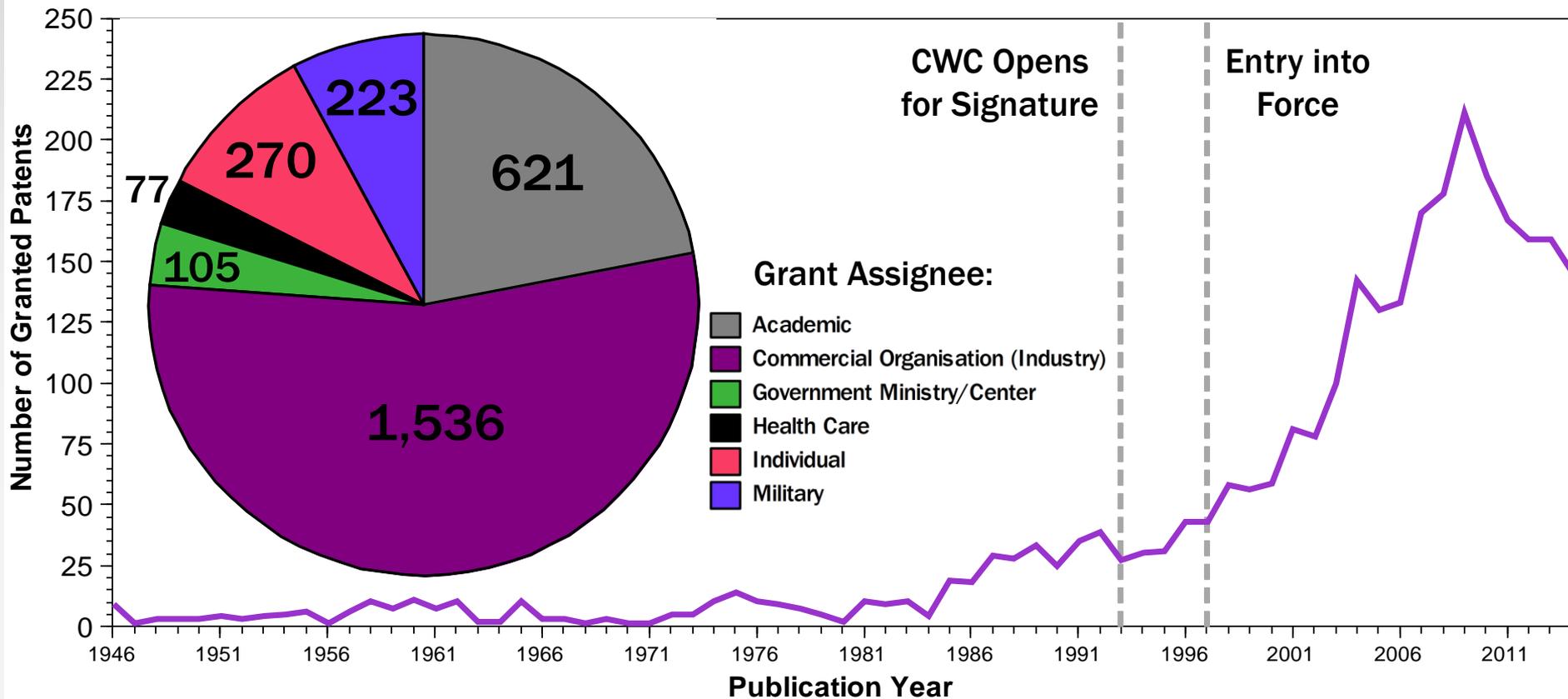
# Recommendations Concerning Schedule 1 Chemicals

## (from EC-77/DG.11, Dated 5 September 2014)

Recommendation	Status of Implementation
<p>“...establishment of a <b>low-concentration limit for Schedule 1 chemicals</b> ...which could be achieved through various mechanisms.”</p> <p>“...encourage States Parties to further discuss this regulatory aspect”</p> <p>(paragraphs 21 and 22 of RC-3/DG.2]</p>	<ul style="list-style-type: none"><li>• The TS intends to issue a Note on its procedure for handling cases of unavoidable Schedule 1 by-products</li><li>• Schedule 1 issues will be a topic for one of the “Science for Diplomats” workshops.</li></ul>
<p>“...<b>captive use of Schedule 1 chemicals</b>...an important issue about which the chemical industry needs to be informed through the National Authorities”</p> <p>“...request States Parties to share the relevant information with their chemical industry and to report other examples of captive use of Schedule 1 chemicals to the Secretariat”</p> <p>“...encourage States Parties to assess if some Schedule 1 chemicals could occur in certain types of their industries.”</p> <p>(paragraphs 17, 18 and 20 of RC-3/DG.2)</p>	<ul style="list-style-type: none"><li>• Schedule 1 issues will be a topic for one of the “Science for Diplomats” workshops.</li><li>• The DG is reminding States Parties of these recommendations.</li></ul>

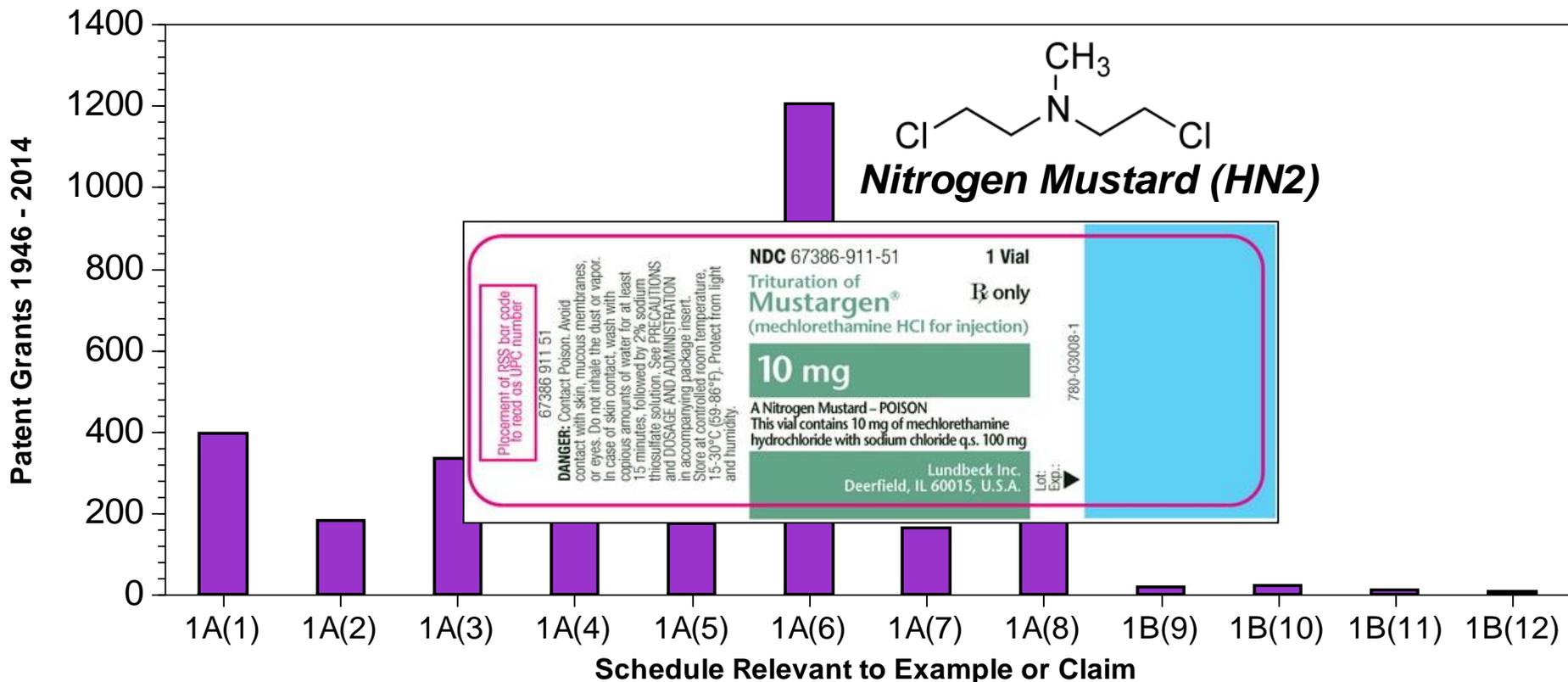


# Schedule 1 Chemicals in Patent Grants 1946 - 2014



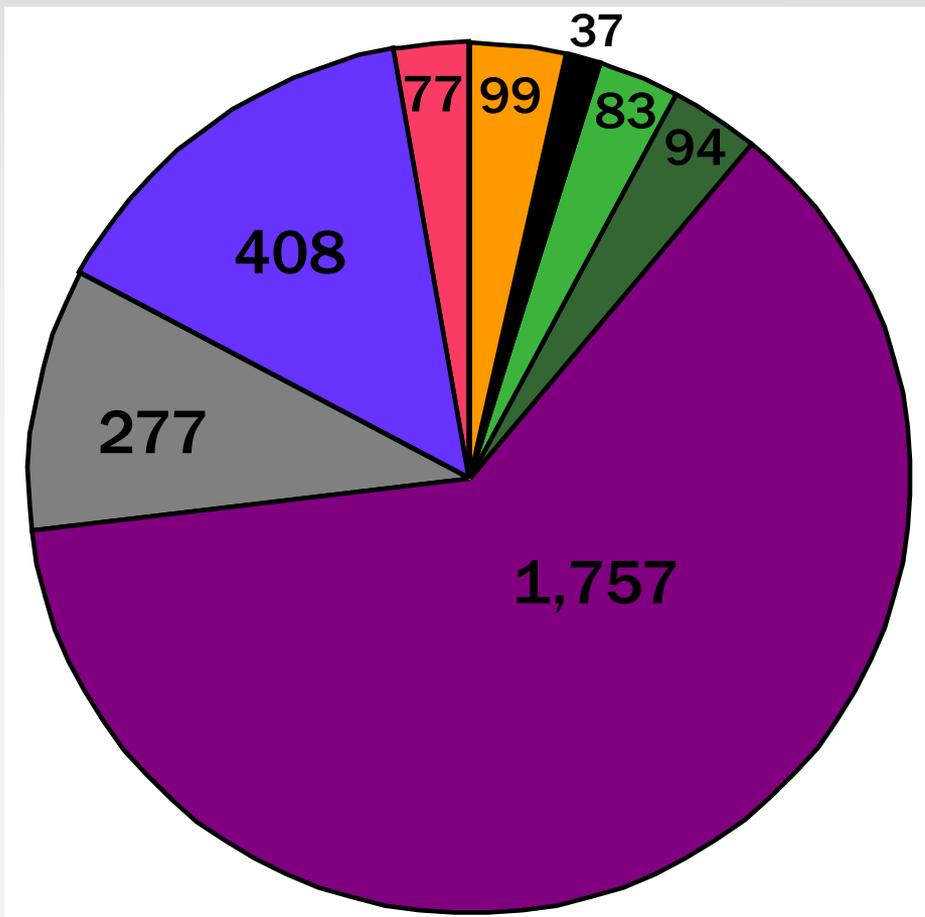


# Schedules Represented





# What Are All These Patents About?



## Application:

-  Analytical Chemistry
-  Cosmetics
-  Food Chemistry
-  Polymers
-  Biomedical (Drugs, Treatments, Research)
-  Pollution (Clean Up/Monitoring)
-  Chemical Synthesis/Production
-  Other





# Patents: Examples vs. Claims

## System and method for detecting liquid and aerosol forms of chemical analytes

WO 2014113106 A2

### ABSTRACT

A detection system capable of detecting liquid, liquid droplet and aerosol forms of chemical analytes. The system includes a detection element that it is able to function reliably in challenging environmental conditions over extended periods of time without degrading in performance. The element may also be part of a larger detection system which contains transduction mechanisms capable of transforming the detection element response into an electronic signal(s) for data transmission and remote signaling of detection events. The detection element may be a substrate that is composed of paper, plastic, polymer material, glass, metal, metal oxide, ceramic, or combinations thereof. The substrate may contain impregnated materials such as dyes, reactive chemicals, chemisorptive chemicals, physisorptive chemicals, and/or electronically or optically reactive media. A related method of the invention includes deployment of the detection system in an environment for the purpose of detecting chemical analytes of interest and reporting such detection.

Publication number	WO2014113106 A2
Publication type	Application
Application number	PCT/US2013/065526
Publication date	24 Jul 2014
Filing date	17 Oct 2013
Priority date	17 Oct 2012
Inventors	Carl TRIPP, Luke Doucette, Dean Smith, Eric Roy, Tyler Martin, Changfeng CHEN
Applicant	Orono Spectral Solutions, Inc.
Export Citation	BiBTeX, EndNote, RefMan
Classifications (2), Legal Events (1)	
External Links: Patentscope, Espacenet	

**Example:**  
**Patent describes  
live agent testing  
of invention**

## Method of treatment of wrinkles using topical chemodenervating agents

WO 2013142755 A1

### ABSTRACT

Methods for reducing the appearance of wrinkles in a subject are provided herein. The methods of the present invention comprise identifying a wrinkle distribution on a subject and applying a topical composition comprising at least one chemodenervating agent onto and along the wrinkle distribution. The methods disclosed herein provide alternative methods for delivery of chemodenervating agents to the skin for the treatment of wrinkles.

Publication number	WO2013142755 A1
Publication type	Application
Application number	PCT/US2013/033417
Publication date	Sep 26, 2013
Filing date	Mar 22, 2013
Priority date	Mar 22, 2012
Also published as	US20130251770
Inventors	Jacob Waugh, L. Daniel Browne
Applicant	Revance Therapeutics, Inc.
Export Citation	BiBTeX, EndNote, RefMan
Patent Citations (3), Non-Patent Citations (1), Classifications (7), Legal Events (1)	
External Links: Patentscope, Espacenet	

**Example:**  
**Patent describes  
topical treatment  
for wrinkles**

**Claim: ...at least one chemodenervating agent is selected from the group consisting of botulinum toxin, **saxitoxin**, tetanus toxin, tetrodotoxin and combinations thereof.**



ORGANISATION FOR THE  
PROHIBITION OF CHEMICAL WEAPONS

*Working together for a world free of chemical weapons*

# Presentation by Dr Christopher M. Timperley



# Science and Technology Awareness and Communication

**The OPCW Science & Technology Monitor**  
A sampling of Science & Technology relevant to the Chemical Weapons Convention

23 January 2015 Volume 2, Number 1

**Welcome**

**Featured Content:**

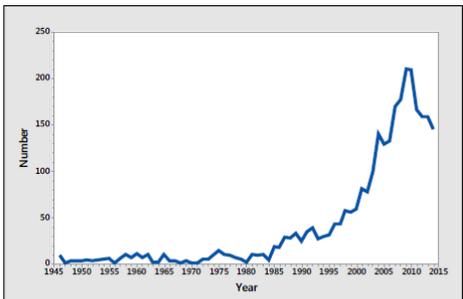
**Science Fun:**  
How are you keeping up with your 2015 New Year's resolutions? How do your resolutions compare to those of world-renowned scientists?  
Fans of the Back to the Future movies should find 2015, the year in which the 2<sup>nd</sup> film of the series took place, to be quite special. Take a look at how well the 1989 film predicted the future.  
Other attempts at predicting 2015 came from the world of think tanks (see how well they did in the complete report).  
Of course, both the movie and the think tank report neglected to mention that 2015 will be one second longer than previous years. No need to panic, there is a mitigation strategy in place.  
As the year unfolds, you may want to see how good these science predictions for 2015 (based on the best data available from 2014) turn out.  
For a bit of inspiration, take a look at some of the cool science we might expect to see in 2015 and beyond!  
One thing we do know will hold true in 2015 is our love of gadgets! Yet, some fear these same gadgets may be

**News and Updates**

**Recently Published Reports:**  
Dstl scientists have edited and contributed to an issue of *Best Synthetic Methods* devoted to organophosphorus (V) chemistry.  
2015 Chemical Outlook by [Region](#) and by [Markot](#) from *Chemical and Engineering News*.  
A User's Guide for [Evaluating Learning Outcomes from Citizen Science](#).  
Mobile Apps  
A mobile app for [biodetection technology information](#) from PNNL.  
[Mobile apps for science](#) from AAAS.  
Making News in Chemistry:  
From [28 December 2014 - 3 January 2015](#); from [4-10 January 2015](#); and from [11-17 January 2015](#).

**Schedule 1 Chemicals in 2014 Patent Grants**

The references to patents containing examples and claims related to [Schedule 1 chemicals](#) in previous issues of the *S&T Monitor* generated significant interest (even surprise) from our readers. Yet, these types of patents are not unusual; see for example, the chart below showing the number of patent grants related to Schedule 1 chemicals from 1946 - 2014 (data was collected using [SciFinder®](#)).



**The OPCW Science & Technology Monitor**  
A sampling of Science & Technology relevant to the Chemical Weapons Convention

26 February 2015 Volume 2, Number 3

**Welcome**

**Featured Content:**  
**MICROBES** On the subject of the microbiome of the New York subway system.  
Image from [Zhu et al. Current Medical Science](#).  
The microbiome of the New York subway system.  
Image from [seek.com](#)  
Smart scarf developed by Microsoft.

Today's issue of the *S&T Monitor* arrives on the anniversary of the opening of the first pneumatic powered subway line in New York City in 1870. Today, one-hundred and forty-five years later, the New York subway system uses newer technology and is home to hundreds of known and unknown microorganisms as identified by a citywide metagenomics study (details here).

**The S&T Puzzle**

Congratulations to Alexander Kelle (OSP) for winning the most recent puzzle with his estimate of 155,955,060 CAS numbers (closest to the reported value of >156,920,778). For those of you who were not sure where to look for the correct answer, it had been previously revealed through one of our social media posts. Puzzle statistics now stand at: VER 4, OSP 2, OCS 1.

For our next puzzle, can you guess what analysis is being performed and on what sample (in the image on the left)?

The first person to correctly answer wins the prize: a choice of either choosing our next featured topic, designing the next puzzle, or a gift of a special beverage hand selected by the Science Policy Advisor. Send your answers by [email](#) or [tweet](#) to [#OPCWST](#). Good luck!

**In this issue:**  
News and Updates  
Analytical Tools  
Wearable Technologies  
Continuous Flow Chemical Production  
Chemical Safety and Security

too, and we offer the following examples: For sampling and analysis related to the CWC, gas chromatography/mass

"microreactors", although larger scale devices are used for industrial scale production (microreactors themselves are best suited to research about, they have strong science and technology components.

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laboratories or at chemical production facilities. Emergency responders and medical personnel must be trained on how to deal with patients exposed to toxic chemicals in case of an incident. In this regard, the February 2015 issue of *Emergency Medicine Clinics of North America* has an informative collection of articles on the management of hazardous material emergencies. For training, of course we want innovative approaches, perhaps virtual reality platforms are just that!

**S** **T**

The links to articles, papers, reports, websites or other materials incorporated herein are being provided for information purposes only. The views and opinions expressed in the aforementioned materials are those of the authors and do not necessarily reflect the views of the OPCW. These items are added as a service to readers and do not imply endorsement by the OPCW. The OPCW does not provide any warranties, express or implied, that the information presented is accurate, timely, and does not contain inadvertent technical or factual inaccuracies. The OPCW is not responsible for the content of third party websites.

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[www.opcw.org/special-sections/science-technology/](http://www.opcw.org/special-sections/science-technology/)



## S & T For Diplomats: A Series of Discussions

- July 2015 (On the margins of EC-79, To be confirmed)
  - **S&T for Diplomats (5): The Chemistry of Countermeasures**
    - Assistance and protection related SAB recommendations
    - Immediate response and longer term considerations
- October 2015 (On the margins of EC-80, To be confirmed)
  - **S&T for Diplomats (6): Chemical Forensics**
    - Introduction and overview of developments in the field
- **For more information on S&T from OPCW**

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@OPCW\_ST (Twitter)

[www.opcw.org/special-sections/science-technology/](http://www.opcw.org/special-sections/science-technology/)

