



B188 Recent Seizures at the Canadian Border: New Fentanyl Analogues and Other Novel Psychoactive Substances (NPS)

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After attending this presentation, attendees will better understand the work performed by the Contraband Drug Analysis (CDA) section of the Canada Border Services Agency (CBSA) laboratory in identifying unknown drugs intercepted in shipments crossing the Canadian border.

This presentation will impact the forensic science community by providing recent information regarding NPS, including newer fentanyl analogues, intercepted at the Canadian border. Attendees will be presented with casework derived from both import and export shipments, including shipments crossing the Canada-United States border. Attendees will also be presented with various methods of concealment, analytical challenges in the analysis, and a comprehensive overview of the observed drug trends as seen by the CDA section.

It is increasingly important to be aware of drug trends involving shipments investigated at the border. Often drugs are imported as a pure chemical, which can later be processed into a dosage form prior to being sold on the street. Understanding the trends of drugs being imported can be used to signal law enforcement partners of potential drugs that may appear on the streets in the coming months and assist with their identification.

CBSA delivers a variety of programs and services designed to aid travelers and facilitate legitimate trade, while also focusing on enforcing laws and regulations to ensure the safety and security of Canada and its borders.

Border Service Officers investigate shipments crossing the Canadian border in many routes of entry, including via international mail centers, air cargo, courier, truck, marine, rail, and travelers at airports and land crossings. Shipments which are suspected to be or to contain unknown drug substances are sent to the CDA section within the CBSA, and the results of the analysis may be used for enforcement-related activities, such as controlled deliveries, search warrants, fines, investigations, and possible prosecution.

Exhibits analyzed by the CDA section typically contain controlled drug substances, prescription drug substances, unregulated drug substances, drug-related substances (such as cutting agents and precursors), and non-drug substances (including products of legitimate international trade).

The CDA section has the capability of complete structural elucidation of unknowns. Methods used within the CDA section for the analysis of unknowns include Fourier Transform/Attenuated Total Reflectance/Infrared (FT/ATR/IR), FT-Raman, Gas Chromatography/Mass Spectrometry (GC/MS), Liquid Chromatography (LC) Orbitrap/MS, Nuclear Magnetic Resonance (NMR), condensed phase Gas Chromatography coupled with Vapor Phase Infrared Detection (GC/IRD), Scanning Electron Microscopy with Energy-Dispersive X-ray Spectroscopy (SEM/EDS), and Energy-Dispersive X-Ray Fluorescence (EDXRF).

In 2015, the CDA section identified more than 40 drugs not previously seen by its lab, including U-47700, W-15, butyryl fentanyl, and N,N-dimethylpentylone. Again in 2016, the CDA section identified more than 40 drugs not previously seen by its lab, including dibutylone, N-ethylpentylone, W-18, carfentanil hydrochloride, furanylfentanyl hydrochloride, furanylfentanyl citrate, 4-fluoroisobutyrfentanyl hydrochloride, and 4-fluoroisobutyrfentanyl citrate.

So far in 2017, the CDA section is on pace to identify an even greater number of drugs not previously seen in its exhibits. Some of the new compounds already identified in 2017 include N,N-dimethyl-lanicemine, propylone, U-51754, benzoylfentanyl, 2-methoxy-furanylfentanyl, 2-methyl-furanylfentanyl, 4-chloro-furanylfentanyl, 2-isopropyl-furanylfentanyl, methoxyacetylphenyl citrate, and cyclopropylfentanyl citrate, with more to come.

Fentanyl, NPS, Import/Export