Drug Status Report

**Drug:** $^{[123]}$Ioflupane

**Drug Name Status:** Ioflupane ($^{[123]}$I) is the proper name (INN).

**Chemical Name:** Methyl 8-(3-fluoropropyl)-3β-(p-iodo-$^{[123]}$I-phenyl)-1α,5αH-nortropane -2β-carboxylate

**Other Names:** [1R-(exo,exo)]-8-(3-Fluoropropyl)-3[4-(iodo$^{[123]}$I)phenyl]-8-azabicyclo[3.2.1]octane-2-carboxylic acid methyl ester; N-(3-fluoropropyl)-2β-carboxymethoxy-3β-(4-$^{[123]}$I-iodophenyl)nortropane; $^{[123]}$I-FP-CIT; DaTSCAN

**Chemical structure:**

![Chemical structure images]

**Molecular Formula:** $C_{18}H_{23}F^{[123]}INO_2$

**Pharmacological class / Application:** Radioactive imaging agent

**International status:**

**US:** The substance is not listed specifically in the Schedules to the CSA and is not mentioned in the DEA website.

**United Nations:** The substance is not listed on the Yellow List - List of Narcotic Drugs under International Control. The drug is not listed on the Green List - List of Psychotropic Substances under International Control.

**Canadian Status:** $^{[123]}$Ioflupane is a radioactive imaging agent that was developed for molecular imaging studies of neurological conditions such as Parkinson’s Disease¹, Alzheimer’s

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disease and dementia\textsuperscript{2} and Creutzfeldt-Jakob disease\textsuperscript{3}. The substance is a structural analogue of cocaine, synthesized from Nor-\(\beta\)-CIT, and demonstrates specific binding to the dopamine transporters\textsuperscript{4}.

Cocaine is currently listed as Sub-item 2 under Item 2 of Schedule I to the CDSA, under the heading “Coca (Erythroxylon), its preparations, derivatives, alkaloids and salts including:”. A recent review of Nor-\(\beta\)-CIT determined the substance to be controlled under Item 2 of Schedule I to the CDSA. While \([^{123}\text{I}]\)Ioflupane is mainly used for the purposes of diagnostic neurological imaging, ioflupane is derived from Nor-\(\beta\)-CIT, which in turn is prepared directly from cocaine, and thus is considered to be included under Item 2(2) of Schedule I under the heading “Coca (Erythroxylon), its preparations, derivatives, alkaloids and salts, including:” Accordingly, the \([^{123}\text{I}]\) radioisotope of isoflupane would also be included under Item 2 of Schedule I to the CDSA.

Recommendation: \([^{123}\text{I}]\)Ioflupane is included in Item 2 of Schedule I to the CDSA and is a controlled substance.

March 19\textsuperscript{th}, 2010.

