



# Microgram

## *Bulletin*

**Published by:**

**The Drug Enforcement Administration  
Office of Forensic Sciences  
Washington, DC 20537**

**The U.S. Attorney General has determined that the publication of this periodical is necessary in the transaction of the public business required by the Department of Justice. Information, instructions, and disclaimers are published in the January issues.**

**- MAY 2009 -**

**- INTELLIGENCE ALERT -**

**ECSTASY MIMIC TABLETS (ACTUALLY CONTAINING N-BENZYLPIPERAZINE (BZP) AND CAFFEINE) IN TUCSON, ARIZONA**

The Tucson Police Department Crime Laboratory (Arizona) recently received several different types of Ecstasy mimic tablets: 5 blue dragonfly tablets (see Photo 1), 2 orange monkey face tablets (see Photo 2), 91 blue Transformers Decepticon shaped tablets (see Photo 3), 232 red, round Buddha tablets (not pictured), and 15 red, round tablets, without an imprint/design of any sort (also not pictured). The tablets were seized by the Tucson Police Department and were submitted as suspected Ecstasy. Analysis of each tablet type by GC/MS identified, not MDMA, but a mixture of approximately 4:1 N-benzylpiperazine (BZP) to caffeine (not quantitated, but a high loading based on the TIC.) There were four separate submissions to date.



**Photo 1**

[Editor's Note: BZP is a controlled substance in the U.S. (Schedule I). It is a stimulant. The



**Photo 2**



**Photo 3**

“Decepticon” tablets first appeared in the January issue; see: *Microgram Bulletin* 2009;42(1)3.]

\* \* \* \* \*

**- INTELLIGENCE ALERT -**

**ECSTASY MIMIC TABLETS (ACTUALLY CONTAINING BZP,  
1-(3-TRIFLUOROMETHYL)PHENYLPIPERAZINE (TFMPP), CAFFEINE,  
AND 1,4-DIBENZYLPIPERAZINE) IN OLATHE, KANSAS**

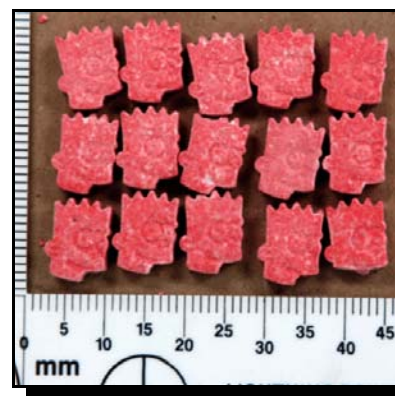
The Johnson County Crime Laboratory (Mission, Kansas) recently received 492 tablets of suspected Ecstasy. The tablets were seized by the Johnson County Sheriff's Office pursuant to a traffic stop in Olathe, Kansas. The tablets were of four types: 175 red tablets with an apple logo, (1 was approximately twice as thick as the others), 166 purple tablets with a Superman logo, 75 blue tablets with a dragonfly logo, and 76 orange tablets with a monkey face logo (no photos available). Analysis of the tablets by GC/MS confirmed, not MDMA, but rather BZP. 1,4-Dibenzylpiperazine, TFMPP, and caffeine were also detected, but not confirmed. Although not quantitated, the ratio of BZP to TFMPP was approximately 2:1 based on the TIC. The loading of both BZP and TFMPP was high compared to the other components in the sample. This is the largest submission of tablets containing BZP and TFMPP the laboratory has received.

\* \* \* \* \*

**- INTELLIGENCE ALERT -**

**ECSTASY MIMIC TABLETS (ACTUALLY CONTAINING BZP, TFMPP, AND  
DEXTROMETHORPHAN) IN TIFFIN, OHIO**

The Ohio Bureau of Criminal Identification and Investigation (Richfield, Ohio) recently received 15 red tablets, suspected Ecstasy (see Photo 4). The tablets were seized by the Seneca County Drug Task Force in Tiffin, Ohio (seizure details not provided). The tablets were inside a plastic bag and were shaped like a “Bart Simpson” face. The tablets resembled children's chewable vitamins in size and shape. Analysis of the tablets (total net mass 4.3 grams) by GC/FID and GC/MS identified not MDMA, but rather BZP, TFMPP, and dextromethorphan (not quantitated). The laboratory has received numerous submissions of tablets containing



**Photo 4**

BZP/TFMPP mixtures, but this was the first submission of Ecstasy or Ecstasy-mimic tablets with this shape and logo to the laboratory.

\* \* \* \* \*

**- INTELLIGENCE ALERT -**

**OXYCONTIN® MIMIC TABLETS (ACTUALLY CONTAINING A MIXTURE OF PHOLCODINE AND ACETAMINOPHEN) IN CHEROKEE COUNTY, GEORGIA**

The Georgia Bureau of Investigation Headquarters Laboratory (Decatur) recently received approximately 30 round, biconvex tablets imprinted with OC/80 (see Photo 5). The tablets were seized in Cherokee County by Cherokee County Sheriff's Office personnel, pursuant to a DUI traffic stop. Analysis by UV and GC/MS identified not oxycodone, but rather a mixture of pholcodine and acetaminophen (not quantitated). Also included with the exhibit were several sealed blister packs of benzodiazepines with European packaging (not pictured). This is the first known submission of OxyContin® mimic tablets containing pholcodine to this laboratory.



**Photo 5**

[Editor's Note: Pholcodine, an opium derivative, is a controlled substance in the U.S. ( Schedule I).]

\* \* \* \* \*

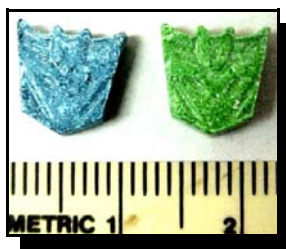
**- INTELLIGENCE ALERT -**

**ECSTASY MIMIC TABLETS (ACTUALLY CONTAINING BZP, TFMPP, DEXTROMETHORPHAN, AND CAFFEINE) IN WEST MONROE, LOUISIANA**

The North Louisiana Criminalistics Laboratory (West Monroe) recently received 200 tablets with various shapes/imprinted logos (see Photos 6-10), suspected Ecstasy. The eight different types of tablets were seized by the Lincoln Parish Narcotics Enforcement Team (no further details). The exhibit included 37 green and 19 pink Homer Simpson tablets, 31 green and 23 blue Transformers Decepticon tablets, 17 white and 20 blue Smurf tablets, 32 green Ninja Turtle tablets, and 21 white Transformers Autobot tablets. Analysis of the tablets by Marquis Reagent



**Photo 6**



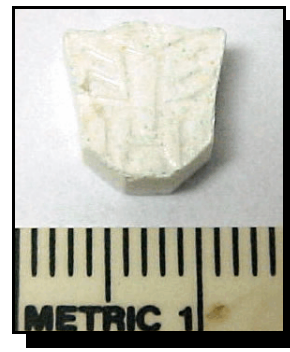
**Photo 7**



**Photo 8**



**Photo 9**



**Photo 10**

and GC/MS indicated that the tablets did not contain MDMA, but rather a mixture of BZP, TFMPP, dextromethorphan, and caffeine (green Ninja Turtle tablets, white Smurf tablets and the white Transformers Autobot tablets). The remaining tablets did not contain dextromethorphan. Although not quantitated, there was a moderate to high loading of BZP and TFMPP and a low loading of caffeine and dextromethorphan, based on the TIC. The BZP and TFMPP were approximately three times more abundant than the dextromethorphan and caffeine. The laboratory has received similar submissions of these types of tablets in recent months.

\* \* \* \* \*

**- INTELLIGENCE ALERT -**

**OXYCONTIN® MIMIC TABLETS (CONTAINING KETAMINE AND CAFFEINE)**

The Sacramento County District Attorney's Laboratory of Forensic Services (Sacramento, California) recently received 98 white round tablets with CDN/80 imprints, suspected OxyContin (see Photo 11).

The tablets were seized in Sacramento by the Sacramento Police Department during a probation search. Marijuana was also seized. The tablets were hard when scraped with a scalpel and appeared homogenous throughout. They were approximately 275 milligrams each and measured approximately one centimeter in diameter. The tablets were presumptively identified by markings using a drug reference guide as containing 80 milligrams of oxycodone manufactured by Purdue Pharma (Canada), however there was an important discrepancy; the seized tablets were white rather than green as listed in the reference guide. Analysis of the tablets (total net mass 26.95 grams) by GC/MS identified a mixture of ketamine and caffeine in an approximate 5:2 ratio based on the TIC. This is the laboratory's first submission of this type of tablet.



**Photo 11**

[Editor's Note: The following additional information was provided by the laboratory. OxyContin CDN/80 mimic tablets were reported by the Westchester County Forensic Laboratory (Valhalla, New York); contained tramadol, dicyclomine and diazepam; see: *Microgram Bulletin* 2009;42(2):15. Green, CDN/80 tablets similar in appearance were also reported by the Canadian Border Services Agency Laboratory in Ottawa; contained nitrazepam, codeine, and chlorpheniramine; see: *Microgram Bulletin* 2008;41(9):77.]



**- INTELLIGENCE ALERT -**

**ECSTASY MIMIC TABLETS (ACTUALLY CONTAINING  
1-(3-CHLOROPHENYL)-PIPERAZINE (mCPP) IN PASADENA, TEXAS**

The Pasadena Regional Crime Laboratory (Pasadena, Texas) recently received a submission of 20 round blue tablets, each with a leaping dolphin imprint (not pictured), suspected MDMA. The tablets were seized by Pasadena Police Department personnel in connection with an on-going investigation (no further details). The tablets were medium blue in color with a granular surface that crumbled easily. Each tablet weighed approximately 150 milligrams. Analysis of the tablets by GC/MS, GC-FID, and UV identified 1-(3-chlorophenyl)-piperazine (mCPP) rather than MDMA. This is the laboratory's first encounter with tablets containing mCPP. Recent similar submissions contained BZP and TFMPP, usually with caffeine and/or procaine.

\* \* \* \* \*

**- INTELLIGENCE ALERT -**

**OXYCONTIN® MIMIC TABLETS (ACTUALLY CONTAINING  
DEXTROMETHORPHAN/LEVOMETHORPHAN, AND DIAZEPAM) OUTSIDE OF  
PHILADELPHIA, PENNSYLVANIA**

NMS Labs (Willow Grove, Pennsylvania) recently received a submission of twelve suspected oxycodone tablets from the Towamencin Township Police Department in Kulpville, Pennsylvania. The round, green tablets had an "OC" imprint on one side and an "80" on the other side (similar to 80 milligram OxyContin® tablets). The tablets were submitted in three separate bags and each tablet weighed approximately 0.36 grams. Upon examination, it was noted that the tablets were not representative of typical OxyContin® tablets received by the laboratory (see Photo 12; mimic tablets are on the left and the licit OxyContin® tablets are on the right). Analysis of the tablets (total net mass 4.44 grams) by TLC and GC/MS identified no oxycodone, but rather methorphan and diazepam (not quantitated). The laboratory has previously received mimic OxyContin® tablets, but this is the first submission to contain these drugs.



**Photo 12**

Mimic tablets on left, licit tablets on right.

\* \* \* \* \*

**- INTELLIGENCE ALERT -**

**TABLETS IN THAI TOOTHPASTE TUBES IN SAN FRANCISCO, CALIFORNIA**

The DEA Western Laboratory (San Francisco, California) recently received 1,987 red and green tablets inscribed with a "WY" imprint, suspected methamphetamine. The tablets were seized in San Francisco by Immigration and Customs Enforcement (ICE) personnel (details sensitive). The tablets were concealed within plastic straws hidden in the actual paste. There were nine



**Photo 13**



**Photo 14**

toothpaste boxes labeled with Thai writing. Each box contained two tubes of toothpaste each with three sealed straws inside (see Photos 13-14). Each straw further contained approximately 36 tablets. Analysis of the tablets (total net mass 176.4 grams) by Marquis Reagent, GC/MS, GC/IRD, FTIR, and HPLC confirmed 7.4 milligrams/tablet of methamphetamine and caffeine. This is the first instance of this type of concealment method seen at the Western Laboratory.

\* \* \* \* \*

**- INTELLIGENCE ALERT -**

**COCAINE CONCEALED IN RELIGIOUS PLAQUES IN MIAMI, FLORIDA**



**Photo 15**



**Photo 16**



**Photo 17**



**Photo 18**

The DEA Mid-Atlantic Laboratory (Largo, Maryland) received two exhibits with a total of six wooden plaques with religious imagery (see Photos 15-18). The exhibits were initially seized in Miami, Florida by U.S. Immigration and Customs Enforcement (ICE) personnel. Each exhibit consisted of three plaques with a compartment behind the image. The compartments were lined with aluminum foil and carbon paper and contained white powder. Analysis of the powder (total net masses 1,488 grams and 1,307 grams) by GC/MS, FTIR, and GC confirmed 70.1% and 76.5% cocaine hydrochloride with levamisole and diltiazem.

\* \* \* \* \*

**- INTELLIGENCE ALERT -**

**FREEZE-DRIED KHAT IN CHICAGO, ILLINOIS**

The DEA North Central Laboratory (Chicago, Illinois) recently received two large plastic bags of dry, crunchy, dark green plant material, suspected khat. The plant material was seized by U.S. Immigration and Customs Enforcement personnel from a mail parcel at a retail parcel store in Chicago. The plant material appeared freeze-dried and was contained in two knotted, plastic

bags. Analysis of the plant material (total net mass 3,707 grams) by GC/MS and GC-FID (with N-trifluoroacetyl-*l*-prolyl chloride (*l*-TPC) derivitization) identified cathinone and cathine in both samples; no quantitation. Freeze-dried khat was analyzed at least one other time at the North Central Laboratory, and is received infrequently.

\* \* \* \* \*

## SELECTED REFERENCES

[The Selected References section is a compilation of recent publications of presumed interest to forensic chemists. Unless otherwise stated, all listed citations are published in English. Abbreviated mailing address information duplicates that provided by the abstracting service. Patents and Proceedings are reported only by their *Chemical Abstracts* citation number.]

1. Abdullah AFL, Miskelly GM. **Formation of trifluoroacetylated ephedrine during the analysis of a pseudoephedrine-formaldehyde adduct by TFAA derivitization followed by GC-MS.** *Journal of Forensic Sciences* 2009;54(2):365-369. [Editor's Notes: Presents the title study. Contact: Forensic Science Programme, The University of Auckland, Auckland, N.Z.]
2. Almirall J, Perr J, Guerra P. **Method and apparatus for extraction, detection, and characterization of vapors from explosives, taggants in explosives, controlled substances, and biohazards.** (Patent) *Chemical Abstracts* 2009:394922.
3. Bennett MJ, Steiner RR. **Detection of gamma-hydroxybutyric acid in various drink matrices via accuTOF-DART.** *Journal of Forensic Sciences* 2009;54(2):370-375. [Editor's Notes: A new screening method for detecting gamma-hydroxybutyric acid (GHB) in drink matrices via accuTOF-DART was validated and compared with the current screening methods. Contact: Department of Forensic Science, Virginia Commonwealth University, Richmond, VA 23284.]
4. Casale JF, Toske SG, Hays PA. **Chlorinated opium alkaloid derivatives produced by the use of aqueous sodium hypochlorite during the clandestine manufacture of heroin.** *Journal of Forensic Sciences* 2009;54(2):359-364. [Editor's Notes: A clandestine chemist produced heroin from crude morphine utilizing a solution of sodium hypochlorite during the process. Numerous chlorinated opium alkaloid derivatives were created when the morphine acetylation reaction was quenched and neutralized with a solution of sodium hypochlorite and ammonium hydroxide. Although no illicit heroin exhibits containing these compounds have been observed in seizures to date, mass spectral data are provided for several of these compounds for their identification should they be seen in the future. Contact: Special Testing and Research Laboratory, Drug Enforcement Administration, U.S. Department of Justice, Dulles, VA.]
5. de Veij M, Vandenabeele P, DeBeer T, Remon JP, Moens L. **Reference database of Raman spectra of pharmaceutical excipients.** *Journal of Raman Spectroscopy* 2009;40(3):297-307. [Editor's Notes: The focus in this field is mainly on the active ingredients and not on the excipients present in the drugs. A collection of Raman spectra of widely used pharmaceutical excipients is presented in this article, which can serve as a reference for the interpretation of Raman spectra during drug analysis. Contact: Department of Analytical Chemistry, Ghent University, Ghent B-9000, Belg.]
6. Kolomiets YN, Pervukhin VV. **Effect of UV irradiation on detection of cocaine hydrochloride and crack vapors by IMIS and API-MS methods.** *Talanta* 2009;78(2): 542-547. [Editor's Notes: Presents the title study. Contact: Nikolaev Institute of Inorganic Chemistry, SB RAS, Novosibirsk, Russia 630090.]

7. Piggee C. **Investigating a not-so-natural high.** Analytical Chemistry 2009;81(9):3205-3207. [Editor's Notes: A review. Researchers identify synthetic cannabinoids in herbal incense. Contact: No additional information was given.]
8. Singh BK, Parwate DV, Shukla SK. **Rapid color test identification system for screening of counterfeit fluoroquinolone.** E-Journal of Chemistry [online computer file] 2009; 6(2):377-384. [Editor's Notes: Presents the title study. Contact: Department of Chemistry, RTM Nagpur University, Nagpur, 440033 India.]

**Additional References of Possible Interest:**

1. Assuncao NA, Bechara EJH, Simionato AVC, Tavares MFM, Carrilho E. **Capillary electrophoresis coupled to mass spectrometry (CE-MS): twenty years of development.** Quimica Nova 2008;31(8):2124-2133. [Editor's Notes: A review of title topic. Contact: Departamento de Bioquimica, Instituto de Quimica, Universidade de Sao Paulo, 05513-970 Sao Paulo, Brazil.]
2. Blitzer H. **Scanning system and techniques for medical and/or forensic assessment using the same.** (Patent) Chemical Abstracts 2009:335631.
3. Zhang C, Johnson LW. **Single quantum-dot-based aptameric nanosensor for cocaine.** Analytical Chemistry 2009;81(8):3051-3055. [Editor's Notes: Recent advances in aptameric sensors hold promise for wide application in forensic analysis, environmental monitoring, and clinic diagnostics. A single-QD-based aptameric sensor that is capable of sensing the presence of cocaine through both signal-off and signal-on modes was developed. In comparison with the established aptameric sensors, this single-QD-based aptameric sensor has the significant advantages of simple sample preparation, high sensitivity, and extremely low sample consumption. Contact: Department of Chemistry, York College and The Graduate Center, The City University of New York, Jamaica, NY 11451.]

\* \* \* \* \*