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Drug Enforcement Administration

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Microgram Bulletin

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- JANUARY 2011 -

- SCHEDULING UPDATE -

[Editor's Preface: The following notice has been edited for Microgram Bulletin. See the Federal Register: November 24, 2010 (Volume 75, Number 226) (Proposed Rules) (Pages 71635-71638) for the complete text.]

DEPARTMENT OF JUSTICE

Drug Enforcement Administration

21 CFR Part 1308

[Docket No. DEA-345N]

Schedules of Controlled Substances: Temporary Placement of Five Synthetic Cannabinoids Into Schedule I

AGENCY: Drug Enforcement Administration (DEA), U.S. Department of Justice.

ACTION: Notice of Intent.

SUMMARY: The Deputy Administrator of the Drug Enforcement Administration (DEA) is issuing this notice of intent to temporarily place five synthetic cannabinoids into the Controlled Substances Act (CSA) pursuant to the temporary scheduling provisions under **21 U.S.C. 811**(h) of the CSA. The substances are 1-pentyl-3-(1-naphthoyl)indole (JWH-018), 1-butyl-3-(1-naphthoyl)indole (JWH-073), 1-[2-(4- morpholinyl)ethyl]-3-(1-naphthoyl)indole (JWH-200), 5-(1,1- dimethylheptyl)-2-[(1R,3S)-3-hydroxycyclohexyl]-phenol (CP-47,497), and 5-(1,1-dimethyloctyl)-2-[(1R,3S)-3-hydroxycyclohexyl]-phenol (cannabicyclohexanol; CP-47,497 C8 homologue). This intended action is based on a finding by the DEA Deputy Administrator that the placement of

these synthetic cannabinoids into Schedule I of the CSA is necessary to avoid an imminent hazard to the public safety. Finalization of this action will impose criminal sanctions and regulatory controls of Schedule I substances under the CSA on the manufacture, distribution, possession, importation, and exportation of these synthetic cannabinoids.

FOR FURTHER INFORMATION CONTACT: Christine A. Sannerud, Ph.D., Chief, Drug and Chemical Evaluation Section, Office of Diversion Control, Drug Enforcement Administration, 8701 Morrissette Drive, Springfield, VA 22152, telephone (202) 307-7183, fax (202) 353-1263, or e-mail **ode@dea.usdoj.gov**.

SUPPLEMENTARY INFORMATION:

Background

The Comprehensive Crime Control Act of 1984 (Pub. L. 98-473), which was signed into law on October 12, 1984, amended section 201 of the CSA (21 U.S.C. 811) to give the Attorney General the authority to temporarily place a substance into Schedule I of the CSA for one year without regard to the requirements of 21 U.S.C. 811(b) if he finds that such action is necessary to avoid imminent hazard to the public safety. The Attorney General may extend the temporary scheduling up to six months. A substance may be temporarily scheduled under the emergency provisions of the CSA if it is not listed in any other schedule under section 202 of the CSA (21 U.S.C. 812) or if there is no exemption or approval in effect under 21 U.S.C. 355 for the substance. The Attorney General has delegated his authority under 21 U.S.C. 811 to the Administrator of DEA (28 CFR 0.100). The Administrator has redelegated this function to the Deputy Administrator, pursuant to 28 CFR, appendix to subpart R, section 12.

Section 201(h)(4) of the CSA (21 U.S.C. 811(h)(4)) requires the Deputy Administrator to notify the Assistant Secretary for Health, delegate of the Secretary of Health and Human Services, of her intention to temporarily place a substance into Schedule I of the CSA. Comments submitted by the Assistant Secretary for Health in response to this notification, including whether there is an exemption or approval in effect for the substance in question under the Federal Food, Drug and Cosmetic Act, shall be taken into consideration before a final order is published.

In making a finding that placing a substance temporarily into Schedule I of the CSA is necessary to avoid an imminent hazard to the public safety, the Deputy Administrator is required to consider three of the eight factors set forth in section 201(c) of the CSA (21 U.S.C. 811(c)). These factors are as follows: (4) History and current pattern of abuse; (5) The scope, duration and significance of abuse; and (6) What, if any, risk there is to the public health.

Synthetic Cannabinoids

Synthetic cannabinoids have been developed over the last 30 years for research purposes to investigate the cannabinoid system. No legitimate non-research uses have been identified for these synthetic cannabinoids. They have not been approved by the U.S. Food and Drug Administration for human consumption. These THC-like synthetic cannabinoids, 1-pentyl-3-(1-naphthoyl)indole (JWH-018), 1-butyl-3-(1- naphthoyl)indole (JWH-073), 1-[2-(4-morpholinyl)ethyl]-3-(1- naphthoyl)indole (JWH-200), 5-(1,1-dimethylheptyl)-2-[(1R,3S)-3-hydroxycyclohexyl]-phenol (CP-47,497), and 5-(1,1-dimethyloctyl)-2- [(1R,3S)-3-hydroxycyclohexyl]-phenol (cannabicyclohexanol; CP-47,497 C8 homologue), are so termed for their THC-like pharmacological properties. Though they have similar properties to delta-9- tetrahydrocannabinol (THC) found in marijuana and have been found to be more potent than THC in animal studies. Numerous herbal products have been analyzed and JWH-073, JWH-018, JWH-200, CP-47,497, and cannabicyclohexanol have been identified in varying mixture profiles and amounts spiked on plant material.

Factor 4. History and Current Pattern of Abuse

The emergence of these synthetic cannabinoids represents a recent phenomenon in the designer drug market. Since the initial identification of JWH-018 in December 2008, many additional synthetic cannabinoids with purported psychotropic effects have been identified in related products. The popularity of these THC-like synthetic cannabinoids has greatly increased in the United States and they are being abused for their psychoactive properties. Primarily found laced on plant material, these synthetic cannabinoids are also being abused alone as

self-reported on Internet discussion boards. This abuse has been characterized by both acute and long term public health and safety problems. Even though there is no accepted use for these synthetic cannabinoids, multiple shipments of JWH-018 and JWH-073 have been intercepted by U.S. Customs and Border Protection in 2010, with one being in excess of 50 kilograms. Additionally, bulk loads of JWH-018 and JWH-200 have been seized by law enforcement in 2010. In Casper, Wyoming, products seized in a raid, which were laced with synthetic cannabinoids, were found in conjunction with illicit drugs.

The products containing these THC-like synthetic cannabinoids are marketed as "legal" alternatives to marijuana and are being sold over the Internet and in tobacco and smoke shops, drug paraphernalia shops, and convenience stores. These synthetic cannabinoids alone or spiked on plant material have the potential to be extremely harmful due to their method of manufacture and high pharmacological potency. DEA has been made aware that smoking these synthetic cannabinoids for the purpose of achieving intoxication and experiencing the psychoactive effects is identified as a reason for emergency room visits and calls to poison control centers.

As of October 15, 2010, 15 states in the United States, European and Scandinavian countries have controlled one or more of the synthetic cannabinoids DEA is temporarily scheduling here.

Factor 5. Scope, Duration and Significance of Abuse

According to forensic laboratory reports, the first appearance of these synthetic cannabinoids in the United States occurred in November 2008, when U.S. Customs and Border Protection analyzed "Spice" products. From January 2010 through September 2010, the National Forensic Laboratory Information System, a national repository of drug evidence analyses from forensic laboratories across the United States, reported over 500 exhibits relating to these synthetic cannabinoids from various States including Alabama, Arkansas, California, Florida, Hawaii, Iowa, Indiana, Kansas, Kentucky, Louisiana, Minnesota, Missouri, North Dakota, Nebraska, Nevada, Oklahoma, Pennsylvania, South Carolina, Tennessee, and Virginia. Additionally, the American Association of Poison Control Centers (AAPCC) has reported receiving over 1,500 calls as of September 27, 2010, relating to products spiked with these synthetic cannabinoids from 48 states and the District of Columbia.

Factor 6. What, if Any, Risk There Is to the Public Health

JWH-018, JWH-073, JWH-200, CP-47,497, and cannabicyclohexanol share pharmacological similarities with the Schedule I substance THC. Health warnings have been issued by numerous state public health departments and poison control centers describing the adverse health effects associated with these synthetic cannabinoids and their related products including agitation, anxiety, vomiting, tachycardia, elevated blood pressure, seizures, hallucinations and non-responsiveness. Case reports describe psychotic episodes, withdrawal, and dependence associated with use of these synthetic cannabinoids, similar to syndromes observed in cannabis abuse. Emergency room physicians have reported admissions connected to the abuse of these synthetic cannabinoids. Additionally, when responding to incidents involving individuals who have reportedly smoked these synthetic cannabinoids, first responders report that these individuals suffer from intense hallucinations. Detailed chemical analysis by DEA and other investigators have found these synthetic cannabinoids spiked on plant material in products marketed to the general public. The risk of adverse health effects is further increased by the fact that similar products vary in the composition and concentration of synthetic cannabinoids(s) spiked on the plant material.

Self-reported abuse of these THC-like synthetic cannabinoids alone and spiked on plant material appear on Internet discussion boards. According to self-reports, these substances are cannabis-like (or THC- like) in their psychoactive effects and are more potent than THC in this regard. The most common route of administration of these synthetic cannabinoids is by smoking, using a pipe, water pipe, or rolling the drug-spiked plant material in cigarette papers.

The marketing of products that contain one or more of these synthetic cannabinoids is geared towards teens and young adults. Despite disclaimers that the products are not intended for human consumption, retailers promote that routine urinalysis tests will not typically detect the presence of these synthetic cannabinoids.

Furthermore, a number of the products and synthetic cannabinoids appear to originate from foreign sources and are manufactured in the absence of quality controls and devoid of regulatory oversight. These products and associated synthetic cannabinoids are readily accessible via the Internet.

DEA has considered the three criteria for placing a substance into Schedule I of the CSA (21 U.S.C. 812). The data available and reviewed for JWH-073, JWH-018, JWH-200, CP-47,497, and cannabicyclohexanol indicate that these synthetic cannabinoids each have a high potential for abuse, no currently accepted medical use in treatment in the United States and are not safe for use under medical supervision.

Based on the above data, the continued uncontrolled manufacture, distribution, importation, exportation, and abuse of JWH-018, JWH-073, JWH-200, CP-47,497, and cannabicyclohexanol pose an imminent hazard to the public safety. DEA is not aware of any recognized therapeutic uses of these synthetic cannabinoids in the United States. As required by section 201(h)(4) of the CSA (21 U.S.C. 811(h)), the Deputy Administrator in a letter dated October 6, 2010, notified the Assistant Secretary of Health of the intention to temporarily place five synthetic cannabinoids in Schedule I.

In accordance with the provisions of section 201(h) of the CSA (21 U.S.C. 811(h)) and 28 CFR 0.100, the Deputy Administrator has considered the available data and the three factors required to support a determination to temporarily schedule five synthetic cannabinoids: 1- butyl-3-(1-naphthoyl)indole, 1-pentyl-3-(1-naphthoyl) indole, 1-[2-(4- morpholinyl)ethyl]-3-(1-naphthoyl)indole, 5-(1,1-dimethylheptyl)-2- [(1R,3S)-3-hydroxycyclohexyl]-phenol, and 5-(1,1-dimethyloctyl)-2- [(1R,3S)-3-hydroxycyclohexyl]-phenol in Schedule I of the CSA and finds that placement of these synthetic cannabinoids into Schedule I of the CSA is necessary to avoid an imminent hazard to the public safety.

Because the Deputy Administrator finds that it is necessary to temporarily place these synthetic cannabinoids into Schedule I to avoid an imminent hazard to the public safety, the final order, if issued, will be effective on the date of publication of the order in the Federal Register. JWH-018, JWH-073, JWH-200, CP-47,497, and cannabicyclohexanol will be subject to the regulatory controls and administrative, civil and criminal sanctions applicable to the manufacture, distribution, possession, importing and exporting of a Schedule I controlled substance under the CSA. Further, it is the intention of the Deputy Administrator to issue such a final order as soon as possible after the expiration of thirty days from the date of publication of this notice and the date that notification was transmitted to the Assistant Secretary for Health.

Regulatory Certifications

[Editor's Note: See the Federal Register for information regarding Regulatory Certifications.]

List of Subjects in 21 CFR Part 1308

Administrative practice and procedure, Drug traffic control, Reporting and recordkeeping requirements.

Under the authority vested in the Attorney General by section 201(h) of the CSA (**21 U.S.C. 811**(h)), and delegated to the Deputy Administrator of the DEA by Department of Justice regulations (28 CFR 0.100, and section 12 of the Appendix to Subpart R), the Deputy Administrator hereby intends to order that 21 CFR part 1308 be amended as follows:

PART 1308--SCHEDULES OF CONTROLLED SUBSTANCES

1. The authority citation for part 1308 continues to read as follows:

Authority: 21 U.S.C. 811, **812**, **871**(b), unless otherwise noted.

2. Section 1308.11 is amended by adding new paragraphs (g)(1), (2), (3), (4), and (5) to read as follows:

Sec. 1308.11 Schedule I.

* * * * *

(g) * * *

(1) 5-(1,1-Dimethylheptyl)-2-[(1R,3S)-3-hydroxycyclohexyl]-phenol- 7297 (Other names: CP-47,497)

(2) 5-(1,1-Dimethyloctyl)-2-[(1R,3S)-3-hydroxycyclohexyl]-phenol- 7298 (Other names: cannabicyclohexanol and CP-47,497 C8 homologue)

(3) 1-Butyl-3-(1-naphthoyl)indole-7173 (Other names: JWH-073)

(4) 1-[2-(4-Morpholinyl)ethyl]-3-(1-naphthoyl)indole-7200 (Other names: JWH-200)

(5) 1-Pentyl-3-(1-naphthoyl)indole-7118 (Other names: JWH-018 and AM678)

Dated: November 15, 2010.

Michele M. Leonhart,
Deputy Administrator

[FR Doc. 2010-29600 Filed 11-23-10; 8:45 am]

BILLING CODE 4410-09-P

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- SCHEDULING UPDATE -

[Editor's Preface: The following notice has been edited for Microgram Bulletin. See the Federal Register: December 20, 2010 (Volume 75, Number 243) (Rules and Regulations) (Pages 79296-79300) for the complete text.]

DEPARTMENT OF JUSTICE

Drug Enforcement Administration

21 CFR Part 1308

[Docket No. DEA-331F]

Schedules of Controlled Substances: Placement of 5-Methoxy-N,N-Dimethyltryptamine into Schedule I of the Controlled Substances Act

AGENCY: Drug Enforcement Administration (DEA), Department of Justice.

ACTION: Final rule.

SUMMARY: With the issuance of this final rule, the Deputy Administrator of the Drug Enforcement Administration (DEA) places the substance 5- methoxy-N,N-dimethyltryptamine (5-MeO-DMT), including its salts, isomers and salts of isomers whenever the existence of such salts, isomers, and salts of isomers is possible, into schedule I of the Controlled Substances Act (CSA). This action by the DEA Deputy Administrator is based on a scheduling recommendation from the Assistant Secretary for Health of the Department of Health and Human Services (DHHS) and a DEA review indicating that 5-MeO-DMT meets the criteria for placement in schedule I of the CSA. This final rule will impose the criminal sanctions and regulatory controls of schedule I substances under the CSA on the manufacture, distribution, dispensing, importation, exportation, and possession of 5-MeO-DMT.

DATES: Effective Date: January 19, 2011.

FOR FURTHER INFORMATION CONTACT: Christine A. Sannerud, PhD, Chief, Drug and Chemical Evaluation Section, Office of Diversion Control, Drug Enforcement Administration, 8701 Morrissette Drive, Springfield, Virginia 22152, Telephone: (202) 307-7183.

SUPPLEMENTARY INFORMATION:

Background

In accordance with 21 U.S.C. 811(b) of the CSA, DEA gathered and reviewed the available information regarding the pharmacology, chemistry, trafficking, actual abuse, pattern of abuse, and the relative potential for abuse of 5-methoxy-N,N-dimethyltryptamine (5- MeO-DMT). On February 21, 2007, the Deputy Administrator of the DEA submitted these data to the Assistant Secretary for Health, Department of Health and Human Services. In accordance with 21 U.S.C. 811(b), the Deputy Administrator also requested a scientific and medical evaluation and a scheduling recommendation for 5-MeO-DMT from the Assistant Secretary for Health.

5-MeO-DMT is related to the schedule I hallucinogens N,N- dimethyltryptamine (DMT), 2,5-dimethoxy-4-methylamphetamine (DOM), lysergic acid diethylamide (LSD) and mescaline in its pharmacological properties and hallucinogenic effects. In animal drug discrimination studies, DOM, LSD, mescaline, DMT, and alpha-methyltryptamine (AMT) fully substitute for the discriminative stimulus cue of 5-MeO-DMT. In in vitro receptor binding studies, 5-MeO-DMT, similar to DMT and other schedule I hallucinogens, binds to central serotonin 2 (5 - HT2) receptors. Anecdotal reports from humans who have used 5-MeO-DMT describe hallucinogenic effects similar to those produced by DMT. 5-MeO-DMT, however, is reported to be 4 to 5-fold more potent than DMT when administered by inhalation, sublingual or oral (if encapsulated) routes of administration.

Evidence of 5-MeO-DMT trafficking was first reported in 1999 by Federal law enforcement officials. Though 5-MeO-DMT is likely to be underreported because it is not a controlled substance, from January 1999 to December 2009, law enforcement officials encountered 23 cases involving 35 drug exhibits pertaining to the trafficking, distribution and abuse of 5-MeO-DMT, according to the System to Retrieve Information from Drug Evidence (STRIDE), a Federal database of drug exhibits analyzed by DEA laboratories. The drug exhibits analyzed by DEA laboratories comprised 89 grams of powder and 10 milliliters of liquid containing 5-MeO-DMT. From January 2004 to December 2009, the National Forensic Laboratory Information System (NFLIS), a database of drug analyses conducted by State and local forensic laboratories, reported 27 State and local drug cases involving 32 drug exhibits identified as 5-MeO-DMT.

The risks to the public health associated with the abuse of 5-MeO- DMT are similar to the risks associated with those of schedule I hallucinogens. There have been reports of emergency room admissions and a death associated with the abuse of 5-MeO-DMT. 5-MeO-DMT has never been approved by the Food and Drug Administration (FDA) for marketing as a human drug product in the United States and there are no recognized therapeutic uses of 5-MeO-DMT in the United States.

Notice of Proposed Rulemaking

On December 18, 2008, the Principal Deputy Assistant Secretary for Health, Department of Health and Human Services (DHHS), sent the Deputy Administrator of the DEA a scientific and medical evaluation and a letter recommending that 5-MeO-DMT and its salts be placed into schedule I of the CSA. Enclosed with the letter was a document prepared by FDA entitled, "Basis for the Recommendation To Control 5-Methoxy-Dimethyltryptamine (5-MeO-DMT) in Schedule I of the Controlled Substances Act." The document contained a review of the factors which the CSA requires the Secretary to consider (21 U.S.C. 811(b)).

After a review of the available data, including the scientific and medical evaluation and the scheduling recommendation from DHHS, the Deputy Administrator of the DEA published a Notice of Proposed Rulemaking entitled "Schedules of Controlled Substances: Placement of 5-Methoxy-Dimethyltryptamine into Schedule I of the Controlled Substances Act" on August 21, 2009 (74 FR 42217), which proposed placement of 5-MeO-DMT in schedule I of the CSA. The proposed rule provided an opportunity for all interested persons to submit their written comments on or before September 21, 2009.

After the comment period closed on September 21, 2009, DEA discovered that the supporting documents referenced in the proposed rule were not posted to the electronic docket, thus not available for review. DEA reopened the public comment period (October 28, 2009, Notice of Proposed Rulemaking) (74FR55502) for an additional 30 days to ensure all interested members of the public had an opportunity to review all the materials and provide comments. Comments submitted on or before November 27, 2009, were considered.

Comments Received

[Editor's Note: See the Federal Register for comments received and DEA's response to said comments.]

Scheduling of 5-MeO-DMT

Based on the recommendation of the Assistant Secretary for Health, received in accordance with section 201(b) of the Act (21 U.S.C. 811(b)), the independent review of the available data by DEA, and after a review of the comments received in response to the Notice of Proposed Rulemaking and the notice reopening the comment period, the Deputy Administrator, pursuant to sections 201(a) and 201(b) of the Act (21 U.S.C. 811(a) and 811(b)), finds that:

(1) 5-MeO-DMT has a high potential for abuse.
(2) 5-MeO-DMT has no currently accepted medical use in treatment in the United States.
(3) There is a lack of accepted safety for use of 5-MeO-DMT under medical supervision.

Based on these findings, the Deputy Administrator of the DEA concludes that 5-MeO-DMT and its salts warrant control in schedule I of the CSA (21 U.S.C. 812 (b)(1)).

Regulatory Requirements

[Editor's Note: See the Federal Register for all regulatory requirements.]

Regulatory Certifications

[Editor's Note: See the Federal Register for all regulatory certifications.]

PART 1308--SCHEDULES OF CONTROLLED SUBSTANCES

- The authority citation for part 1308 continues to read as follows:
  Authority: **21 U.S.C. 811**, **812**, **871**(b) unless otherwise noted.

- **Section 1308.11** is amended by:

- A. Redesignating existing paragraphs (d)(15) through (d)(34) as paragraphs (d)(16) through (d)(35); and

- B. Adding a new paragraph (d)(15).

Sec. 1308.11 Schedule I.

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(d) * * *

(15) 5-methoxy-N,N-dimethyltryptamine 7431. Some trade or other names: 5-methoxy-3-[2-(dimethylamino)ethyl]indole; 5-MeO-DMT

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Dated: December 13, 2010.

Michele M. Leonhart,
Deputy Administrator.

[FR Doc. 2010-31854 Filed 12-17-10; 8:45 am]

BILLING CODE 4410-09-P

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 which is provided by the abstracting service. Patents and Proceedings are reported only by their *Chemical Abstracts* citation number.]

1. Ali EMA, Edwards HGM, Hargreaves MD, Scowen IJ. **In situ detection of cocaine hydrochloride in clothing impregnated with the drug using benchtop and portable Raman spectroscopy.** Journal of Raman Spectroscopy 2010;41(9):938-943. [Editor's Notes: Presents title study. Contact: Raman Spectroscopy Group, University Analytical Centre, Division of Chemical and Forensic Sciences, University of Bradford, Bradford BD7 1DP, United Kingdom.]

2. Awad T, Belal T, Maher HM, De Ruiter J, Clark CR. **GC-MS studies on side chain regioisomers related to substituted methylenedioxyphenethylamines: MDEA, MDMMA, and MBDB.** Journal of Chromatographic Science 2010;48(9):726-732. [Editor's Notes: Presents title study. Contact: Division of Medicinal Chemistry, Harrison School of Pharmacy, Auburn University, Auburn, AL 36849, USA.]

3. Brandt SD, Moore SA, Freeman S, Kanu AB. **Characterization of the synthesis of N,N-dimethyltryptamine by reductive amination using gas chromatography ion trap mass spectrometry.** Drug Testing and Analysis 2010;2(7):330-338. [Editor's Notes: This study established an impurity profile of a synthetic route to N,N-dimethyltryptamine (DMT). The synthesis was carried out under reductive amination conditions between tryptamine and aqueous formaldehyde in the presence of acetic acid followed by reduction with sodium cyanoborohydride. Analytical characterization of this synthetic route was carried out by gas chromatography ion trap mass spectrometry using electron- and chemical-ionization modes. Methanol was employed as a liquid CI reagent and the impact of stoichiometric modifications on side-products formation was also investigated. Tryptamine 1, DMT 2, 2-methyltetrahydro-b-carboline (2-Me-THBC, 3), N-methyl-N-cyanomethyltryptamine (MCMT, 4), N-methyltryptamine (NMT, 5), 2-cyanomethyl-tetrahydro-b-carboline (2-CM-THBC, 6), and tetrahydro-b-carboline (THBC, 7) have been detected under a variety of conditions. Contact: School of Pharmacy and Biomolecular Sciences, Liverpool John Moores University, Liverpool L3 3AF, United Kingdom.]

Additional References of Possible Interest:

1. Hurley JM, West JB, Ehleringer JR. **Stable isotope models to predict geographic origin and cultivation conditions of marijuana.** Science & Justice 2010;50(2):86-93. [Editor's Notes: The study describes stable isotope based models using hydrogen and carbon isotope ratios to predict geographic region-of-origin and growth environment for marijuana, with the intent of applying these models to analyses of marijuana trafficking in the USA. The models were developed on the basis of eradication specimens and border specimens seized throughout the USA. We tested reliability of the geographic region-of-origin and growth environment models with a "blind" set of 60 marijuana eradication specimens obtained from counties throughout the USA. We demonstrate

here that stable isotope ratio analysis of marijuana seizures can significantly improve our understanding of marijuana distribution networks and it is for that purpose that these models were developed. Contact: Department of Biology, University of Utah, Salt Lake City, UT 84112, USA.]

2. Lee EJ, Hwang IK, Kim NY, Lee KL, Han MS, Lee YH, Kim MY, Yang MS. **An assessment of the utility of universal and specific genetic markers for opium poppy identification.** Journal of Forensic Sciences 2010;55(5):1202-1208. [Editor's Notes: Presents title study. Contact: DNA Analysis Sector, Western District Office, National Institute of Scientific Investigation 111 Daeduk-Ri, Seosam-Myun, Jangsung-Gun, Chonnam 515-822, S. Korea.]

3. Mehmedic Z, Chandra S, Slade D, Denham H, Foster S, Patel AS, Ross SA, Khan IA, El Sohly MA. **Potency trends of Δ^9-THC and other cannabinoids in confiscated cannabis preparations from 1993 to 2008.** Journal of Forensic Sciences 2010;55 (5):1209-1217. [Editor's Notes: Presents title study. Contact: National Center for Natural Products Research, School of Pharmacy, University of Mississippi, University, MS 38677, USA.]

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THE JOURNAL/TEXTBOOK COLLECTION EXCHANGE

The Journal/Textbook Collection Exchange is a service intended to facilitate the transfer of unwanted journals and textbooks to forensic libraries or other *Microgram* subscribers. The current donations are listed below. The offers are First Come/First Serve (except libraries have preference). There are no charges to the requestor. Please provide a full mailing address in the request.

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1991: March (#2)
1992: January (#1), March (#2), July (#4), September (#5), November (#6)
1993: January (#1), March (#2), May (#3), July (#4), September (#5)
1998: September (#5)
2000: January (#1), March (#2), May (#3), July (#4), September (#5)
2001: Complete set
2002: Complete set
2003: Complete set
2004: Complete set
2007:January (#1), March (#2), November (#6)

Forensic Science Review:

1999: December (#2)
2000: January (#1-2)

All subscribers are encouraged to donate surplus or unwanted items/collections. Reference texts and long runs of forensic/analytical journals are of particular interest; however, even single issues are worthwhile, and may fill a hole in an existing collection. If interested, please consult the *Microgram* website or contact the *Microgram* Editor for further instructions.

THE DEA FY 2011 STATE AND LOCAL FORENSIC CHEMISTS SEMINAR SCHEDULE

The FY 2011 schedule for the State and Local Forensic Chemists Seminar is as follows:

March 7-11, 2011
June 6-10, 2011
September 12-16, 2011

The school is open only to forensic chemists working for law enforcement agencies. It is intended for chemists who have completed their agency's internal training program and have also been working on the bench for at least one year. There is no tuition charge. The course is held at the Hyatt Place Dulles North Hotel in Sterling, Virginia (near the Washington/Dulles International Airport). A copy of the application form is reproduced on the last page of this issue of *Microgram Bulletin*. Completed applications should be mailed to the Special Testing and Research Laboratory (Attention: J. Head) at 22624 Dulles Summit Court, Dulles, VA 20166. For additional information, call (703) 668-3349.

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SCIENTIFIC MEETINGS

Title: American Academy of Forensic Sciences 2011 Annual Meeting
Sponsoring Organization: American Academy of Forensic Sciences
Inclusive Dates: February 21-26, 2011
Location: Hyatt Regency (Chicago, IL)
Contact Information: See website
Website: www.aafs.org

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MICROGRAM EMAIL ADDRESS CHANGE

Effective January 1, 2011, the email address for the *Microgram* Editor will be:

DEA-Microgram -at- usdoj.gov (Replace "-at-" with "@")

The current email address (dea-microgram-2010 -at- mailsnare.net) will be monitored until January 31, 2011. An automated response will direct senders to the new address until April 1, 2011, at which point the account will lapse.

Important Notes to All Subscribers: All subscribers with filters on their accounts should immediately "whitelist" the DEA-Microgram -at- usdoj.gov email address. In addition, it is recommended that the current and previous email addresses used for *Microgram* (dea-microgram-2010 -at- mailsnare.net) be automatically filtered (blocked) after January 1, 2011. This address will no longer be used by *Microgram* after this date; therefore, any subsequent emails from any previous *Microgram* email address will be spam.

All subscribers should notify their IT security personnel of all the above changes.

Information and Instructions for *Microgram Bulletin*

General Information
Microgram Bulletin and *Microgram Bulletin LE* are monthly newsletters published by the U.S. Drug Enforcement Administration's Office of Forensic Sciences. *Microgram Bulletin* is primarily intended to provide up-to-date content of interest to the forensic community including Drug Scheduling Updates, Safety Alerts, Selective Literature References, Meeting Announcements, Employment Opportunities, The Journal and Textbook Collection Exchange, and Training Opportunities. *Microgram Bulletin LE* is primarily intended to assist and serve forensic scientists concerned with the detection and analyses of suspected controlled substances for forensic/law enforcement purposes. It also features Intelligence Alerts and Briefs, in addition to the content found in *Microgram Bulletin*.

Access to *Microgram Bulletin* and *Microgram Bulletin LE*
Microgram Bulletin is posted at www.dea.gov. *Microgram Bulletin LE* is posted at www.leo.gov in the DEA Special Interest Group (SIG) and the Department of Justice's information exchange website (IDEA). *Microgram Bulletin* and *Microgram Bulletin LE* are available only on the internet. Professional scientific and law enforcement personnel may request email notifications when new issues are posted (such notifications are not available to private citizens). The publications themselves are never sent electronically (that is, as attachments or hyperlinks).

Requests to be added to the email notification list should be submitted via email to the *Microgram* Editor at: DEA-Microgram -at- usdoj.gov. Requests can also be mailed to: DEA Headquarters; Attn: Office of Forensic Sciences/Microgram Editor; 8701 Morrissette Drive; Springfield, VA 22152. All requests to be added to the *Microgram* email notification list should include the following Standard Contact Information:

- The Full Name and Mailing Address of Submitting Laboratory or Office;
- The Full Name, Title (Laboratory Director, Assistant Special Agent in Charge, Librarian, etc.), Phone Number, FAX Number, and Preferred email Address of the Submitting Individual (Note: that email notifications are mailed to titles, not names, in order to avoid problems arising from future personnel changes);
- If available, the generic email address for the Submitting Laboratory or Office;
- If a generic email address is not available, one email address for an individual who is likely to be a long-term employee, who has a stable email address, and who will be responsible for forwarding *Microgram* information to all of the other employees in the requestor's Office (Note that only one email address per Office will be honored).

Requests to be removed from the *Microgram* email notification list, or to change an existing email address, should also be sent to the *Microgram* Editor. Such requests should include all of the pertinent Standard Contact Information detailed above, and also should provide both the previous and the new email addresses.

Email notification requests/changes are usually implemented within six weeks.

Email Notifications (Additional Comments)
The email notification indicates which issue has been posted, and additional information as

appropriate. Note that *Microgram* e-notices will NEVER include any attachments, or any hyperlinks. In order to ensure that the email notifications are not filtered as spam, the DEA-Microgram -at- usdoj.gov email address should be "whitelisted" by the Office's ISP.

Costs
Access to *Microgram Bulletin* and *Microgram Bulletin LE* is free.

Submissions to *Microgram Bulletin* and *Microgram Bulletin LE*
Microgram Bulletin includes Safety Alerts, Selected Literature References, Meeting Announcements, Employment Opportunities, pertinent sections from the Code of Federal Regulations, Columns of topical importance, and similar material of interest to the general forensic community. *Microgram Bulletin LE* will also feature Intelligence Alerts and Briefs, in addition to the content found in *Microgram Bulletin*. Explanatory details for most of the above types of submission are detailed below, and typical examples are published in most issues of *Microgram Bulletin* or *Microgram Bulletin LE*.

All submissions must be in English. Although *Microgram Bulletin LE* is classified as law enforcement sensitive, case sensitive information should not be submitted. All submissions should, whenever possible, be submitted electronically, as straight email or as an PC-compatible Microsoft Word® attachment, to: DEA-Microgram -at- usdoj.gov. *Current* versions of Microsoft Word® (defined as having release dates less than 5 years old) should be utilized. If email submission is not possible, submissions may be mailed to: DEA Headquarters; Attn: Office of Forensic Sciences/Microgram Editor; 8701 Morrissette Drive; Springfield, VA 22152. Hard copy mailings should be accompanied by an electronic version on an PC-compatible standard CD-R. **Note that diskettes should be mailed in an irradiation -proof protective sleeve, and the mailing envelope should be marked: "Warning - Contains Electronic Media - Do Not Irradiate"**. Note also that mailed submissions may be subject to lengthy handling delays beyond the control of the Office of Forensic Sciences, and electronic media sent through the mail may be destroyed en route by sanitizing procedures, despite protective measures and written warnings. All submissions should include the following **Contact Information:** The Full Name and Address of Submitting Laboratory or Office, and the Full Name, Phone Number, FAX Number, and Preferred email address of the Submitting Individual.

Safety Alerts are urgent communiqués to the *Microgram Bulletin* readership which give notice of a specific safety issue of particular interest to forensic or crime laboratory personnel, or to law enforcement personnel dealing with controlled substances. They should include a concise synopsis of the incident(s), recommendations (if any), pertinent literature citations (if any are known), and a mechanism for providing feedback (if appropriate).

Selected Literature References is a monthly compilation of reference citations of presumed interest to the *Microgram Bulletin* readership, derived from approximately 7,500 scientific periodicals. The focus of the Selected Literature References is the detection and analysis of suspected controlled substances for forensic/law enforcement purposes. References from clinical and toxicological journals are included only if the material is considered to be of high interest to forensic chemists (for example, contains the mass spectra of an unusual substance that is not known to be published elsewhere). Note that citations from obscure periodicals may be missed, and all *Microgram Bulletin* subscribers are invited to submit citations of interest if they do not appear in *Microgram Bulletin* within three months of their publication. Of

particular interest are articles from regional forensic science associations that are unlikely to be noted by any abstracting service. Citations should include a summary sentence and the primary author's contact information.

Meeting Announcements list upcoming meetings of presumed interest to the *Microgram Bulletin* readership. In general, only meetings which are dedicated to forensic chemistry/ forensic drug analysis or include a subsection so dedicated will be publicized in *Microgram Bulletin*. Meeting Announcements should include the Formal Title, Sponsoring Organization, Inclusive Dates, Location (City, State, and specific locale), Registration Deadline, Recommended Hotel (include details on special rates and deadlines where applicable), and Contact Individual's Name, Phone Number, and email Address. If available, the URL for the meeting website should also be included in the Announcement.

Employment Opportunities lists job announcements of presumed interest to the *Microgram Bulletin* readership. In general, only jobs with a forensic chemistry/forensic drug analysis focus for Federal, State, or Local Crime Laboratories or Offices will be publicized in *Microgram Bulletin*. Exceptions may be requested and will be considered on a case-by-case basis (for example, an academic position in a Forensic Chemistry Department). Employment Opportunity announcements should include the Formal Title of the Organization, Formal Title of the Laboratory or Office, Position Title, Laboratory or Office Location (City and State), Salary Range, Opening and Closing Dates, Duties, General Requirements, Specialized Requirements (if any), Application Procedures, and the Contact Individual's Name, Phone Number, email Address, and Mailing Address. If available, the URL for the agency's website, and (if available) the specific URL for the job posting should also be included in the Announcement. Employment Opportunities will typically be posted for 3 consecutive months, but not past the application deadline.

The Journal/Textbook Collection Exchange
If any subscriber is interested in donating any forensic or analytical chemistry journal and/or textbook collection to a fellow subscriber or library, *Microgram Bulletin* is willing to list the offered materials and the associated contact information in a future issue. The general format should follow the example in the January 2003 issue, and should be sent via email to the *Microgram* Editor at: DEA-Microgram -at- usdoj.gov. Only items for donation (not for sale) will be considered for publication, and donations to libraries should adhere to journal restrictions and/or time limits (if any) on such offers.

Intelligence Alerts and Briefs (*Microgram Bulletin LE* only) are concise synopses of the physical and chemical characteristics of novel and/or interesting exhibits submitted to law enforcement laboratories involved in the detection and analyses of suspected controlled substances for forensic/law enforcement purposes. Alerts have some unusual aspect, such as a novel drug, an atypical formulation, or a new smuggling technique, whereas Briefs are reports of routine analyses (that is, that confirmed what was suspected/expected). Both Alerts and Briefs should include descriptive details adhering to (as appropriate) the following outline:

- What laboratory did the analysis? (Full Name)
- Where is the laboratory located?
- What agency seized the exhibit?
- Where was the exhibit seized? (If an obscure locale, give distance and direction from the nearest city)

- Were there any interesting (but non-sensitive) aspects of the seizure (traffic stop, unusual smuggling technique, at a "Rave," etc.)
- What controlled substance was suspected upon submission?
- Detailed physical description (appearance, dimensions, logos, odor, packaging, etc.)
- Quantities (numbers of tablets, packages or bricks, average mass, total net mass, etc.)
- Photos (see additional information, below)
- What techniques were used to analyze the exhibit?
- Actual composition of the exhibit?
- Quantitation data? (if not quantitated, provide a qualitative approximation if possible)
- Adulterants and diluents? (if identified, especially if unusual)
- First seizure of this type? (if not, provide brief details of previous examples)
- Editorial comments? (if any)
- Literature references for unusual submissions? (if needed)

In order to avoid confusion, if uncommon controlled substances are identified, the description should use the full chemical name(s) of the identified substances (if desired, acronyms or street terminology (e.g., "Foxy-Methoxy", "Nexus", or "STP") can be included in parentheses after the full chemical name).

Please provide photographs as attachments and not as images embedded in documents. JPEG images are preferred. Photographs should be of reasonable size. Unless the scale is obvious, photographs of subject exhibit(s) should include either a metric ruled scale or a coin or bill (U.S. currency) to place the exhibit's size in context.

Selected Intelligence Briefs (*Microgram Bulletin LE* only) are reprinted (with permission) unclassified intelligence briefs of presumed interest to the *Microgram Bulletin LE* readership that have been previously published in restricted or nonrestricted publications or websites that are also dedicated to the detection and analyses of suspected controlled substances for forensic/ law enforcement purposes. Selected Intelligence Briefs must be unclassified, and should be a minimum of 1 page and a maximum of 10 pages in length (single spaced at 11 pitch Times New Roman font, including photos, tables, charts, etc.). All *Microgram Bulletin LE* subscribers are invited to submit such material, which must include the author's and publisher's contact information.

Requests for *Microgram* and/or *Microgram Bulletin* Archives, 1967 - 2002

All issues of *Microgram* (November 1967 - March 2002) and the first nine issues of its successor *Microgram Bulletin* (April - December 2002) were and continue to be **Law Enforcement Restricted** publications, and are therefore (permanently) unavailable to the general public. [Note that this restriction includes requests made under the Freedom of Information (FOI) Act.]

However, the entire collection, individual issues, or individual sections of issues (e.g., specific articles) are available to law enforcement affiliated offices and laboratories. Requests from such offices and laboratories must be made on official letterhead and mailed to:

DEA Headquarters
Attn: Office of Forensic Sciences/*Microgram* Editor
8701 Morrissette Drive
Springfield, VA 22152.

Requests will be sent either by CD or in hard copy (photocopy), as appropriate.

Note that requests made via email will not be honored.

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DISCLAIMERS

1) All material published in *Microgram Bulletin, Microgram Bulletin LE,* and *Microgram Journal* is reviewed prior to publication. However, the reliability and accuracy of all published information are the responsibility of the respective contributors, and publication in *Microgram Bulletin, Microgram Bulletin LE,* and/or *Microgram Journal* implies no endorsement by the United States Department of Justice or the Drug Enforcement Administration.

2) Due to the ease of scanning, copying, electronic manipulating, and/or reprinting, only the posted copies of *Microgram Bulletin, Microgram Bulletin LE,* and *Microgram Journal* at www.leo.gov, the Department of Justice's information exchange website (IDEA), and www.dea.gov are valid. All other copies, whether electronic or hard, are suspect unless verified against the posted versions.

3) **WARNING!:** Due to the often lengthy time delays between the actual dates of seizures and their subsequent reporting in *Microgram Bulletin, Microgram Bulletin LE,* and/or *Microgram Journal*, and also because of the often wide variety of seizure types with superficially similar physical attributes, published material cannot be utilized to visually identify controlled substances currently circulating in clandestine markets. **The United States Department of Justice and the Drug Enforcement Administration assume no liability for the use or misuse of the information published in *Microgram Bulletin, Microgram Bulletin LE, and/or Microgram Journal*.**

DEA State and Local Forensic Chemist Seminar Application

Name: (PRINT NAME EXACTLY AS IT IS TO APPEAR ON CERTIFICATE)	Title:

Employer:

Your Office Mailing Address (include city, state, and zipcode):	Length of Service:

Business Telephone: ( ) -	Business Fax: ( ) -	Date of Application:

Email Address:

Education

College or University	Degree	Major

Please Check Which Techniques or Equipment Are Used in Your Laboratory

	Color Tests		UV
	Column Chromatography		IR
	Microcrystal Tests		CE
	Thin Layer Chromatography		GC/MS
	GC		Other (please specify)
	HPLC		Other (please specify)

Indicate Analytical Problem(s) Nominee Would Like to Have Covered:

Choice of Seminar Dates:
1st Choice: 2nd Choice:

Laboratory Chief/Director:

Printed Name:_____ Signature: _____

Title: _____ Date: _____

Phone: _____