

# SPICE Prevention Issues 2012

**Measures in Switzerland in the fight against new drugs such as „SPICE“ and „bath salts“**

Werner Bernhard, Lars Ambach, Wolfgang Weinmann

Institute of Forensic Medicine, University of Bern,  
Switzerland

# Outline

- > Current Situation
- > Legislation
- > Research
- > Prevention
- > Conclusion

## Current situation / Shipments to CH

- > Per week Swiss customs seize between 3 and 10 shipments
- > Every other week these contain a novel substance
- > There are no estimates available regarding the total amount of substance that remain undetected

## Current situation / Prevalence rates

- > Prevalence rates „legal highs“ – Partygoers CH  
Interviews at parties during the years 2010 to 2012
- > 30% have been user
- > 12% have consumed during the last year
- > 7% have consumed during the last month (3% of them more frequent than 3 times)
- > Most often named substances 2C-B, Mephedrone and Spice
- > Mean age at the first time 21 years

Meier Larissa (2012), master thesis, University of Zürich

# LEGISLATION

# Legislation

- > July 2011: new "Schedule e" added to the revised Swiss Controlled Substances Act (BetmVV-EDI)
- > Allows faster listing of generic structures and single substances
- > Managed by Swissmedic, requires approval by the minister of interior
- > 1th updated in December 2011
- > Approx. 90 new substances still pending approval

# New substances in “Schedule e”

Class	Derivatives	
Cathinones		
Naphthylpyrovalerones		
Naphthylindoles and Naphthylmethyloindoles	and some derivatives	
Naphthoylpyrroles	defined by a general chemical description of a variety of substituents	
Naphthylmethyloindanes		
Phenylacetylindoles	(still offering possibilities to circumvent by chemical synthesis of others, e.g., adamantyl- )	
Cyclohexylphenoles		

[http://www.admin.ch/ch/d/sr/812\\_121\\_11/app6.html](http://www.admin.ch/ch/d/sr/812_121_11/app6.html)

# Suggested new substances for “Schedule e”

Class	Common Name	Abbreviation
Amphetamines	2,5-Dimethoxy-4-ethylphenethylamine	2C-E
	2,5-Dimethoxy-4-methylphenethylamine	2C-D
	2,5-Dimethoxy-4-propylphenethylamine	2C-P
	3,4-Dihydroxymethamphetamine (alpha-Methyldopamine)	3,4-DHA
	2-Fluoroamphetamine	2-FA
	3-Fluoroamphetamine	3-FA
	2-Fluoromethamphetamine	2-FMA
	3-Fluoromethamphetamine	3-FMA
	4-Fluoromethamphetamine	4-FMA



# Suggested new substances for “Schedule e”

Class	Common name	Abbreviation
Cathinones	Ethcathinone	
	Buphedrone	
	4-Methylethcathinone	4-MEC
	3,4-Dimethylmethcathinone	3,4-DMMC
	2-Fluoromethcathinone	2-FMC
	3-Fluoromethcathinone	3-FMC
	4-Fluoromethcathinone (Flephedrone)	4-FMC
	Ethylone	
	Pentylone	
	4-Methylbuphedrone	4-MeMABP
	Methylpyrrolidinopropiophenone	alpha-PPP
	Methylpyrrolidinobutiophenone	alpha-PBP
	α-Pyrrolidinopentiophenone	alpha-PVP
	Methylenedioxy pyrrolidinobutiophenone	MDPBP
	Pyrovalerone	
	Naphyrone	O-2482
	N-Benzyl-3,4-methylenedioxcathinone	
2-Benzylamino-1-(3,4-methylenedioxyphenyl)-butan-1-one		
Methyl-pyrrolidinopropiophenone	MPPP	

# Suggested new substances for “Schedule e”

Class	Common name	Abbreviation	
Cannabinoids		JWH-015	
		JWH-051	
		JWH-081	
		JWH-122	
		JWH-133	
		JWH-200	
		JWH-203	
		JWH-210	
		JWH-307	
		1-pentyl-3-(4-methoxybenzoyl)indole	RCS-4
			AM-694
			AM-2201
			RCS-8
	Nabilone		
Indanes	Methylenedioxyaminoindane	MDAI	
	5-Iodoaminoindane	5-IAI	
	2-Aminoindane	2-AI	

# Suggested new substances for “Schedule e”

<b>Class</b>	<b>Common name</b>	<b>Abbreviation</b>
<b>Benzofuranes</b>		5-APB
		6-APB
<b>Benzodiazepines</b>	Phenazepam	PNZ
<b>Piperazines</b>	Parafluorophenylpiperazine	p-FPP
<b>Others</b>	Methiopropamine	MPA
	Methoxetamine	MXE
	Salvinorin A (oder Divinorin A)	
	Dimethocaine (Loracaine)	DIME
	o-Desmethyltramadol	
	Desoxipipradrol	2-DPMP
	Diclofensine	DICL
	Geranamine	
	Dextromethorphan	DXM
	Diphenylprolinol	D2PM
Alpha-Methyltryptamine	AMT	
6,7-Methylenedioxy-aminotetralin	MDAT	

# Scheduling of new compounds via

## «schedule e» of swiss narcotic act

### if suspected pharmacological effects are similar to narcotics

u<sup>b</sup>

UNIVERSITÄT  
BERN

Police, Customs, European Bodies  
(EMCDDA, EFNSI), UK (ACMD) ...

Industry



Swissmedic: **Examination** and Request  
to the Department of Interior EDI

EDI

„adds to the schedule e“

Accelerated  
Procedure

Scheduling of Compounds and Derivatives in Schedule e of swiss narcotic act BetmVV-EDI

## Further legal tools

- > Swiss Customs Law:
  - Swiss Border Guard seize chemicals and medications crossing Swiss border by mail, rail, road and air
  
- > Tobacco Act:
  - Forbids the sale of products intended for smoking that pose *immediate* or *unsuspected* danger to health or have *psychotropic effects*
  - Smoking products containing tobacco substitutes must be approved by the ministry of health
  
- > Federal Commission on Drugs (EKDF):
  - Body of legal, socio-medical and chemical experts to advise government and parliament on questions of drug politics

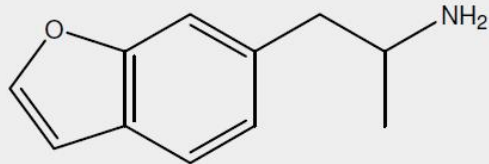


# LAW ENFORCEMENT

# Law Enforcement

- > Forensic Institute Zürich → Leading Routine Laboratory
  - Analyses confiscated material submitted by customs and police
  - New substances and products added to collection of “fact sheets” (available to Swiss law enforcement agencies)
  - Financially supported by federal government

# Law enforcement

## Fact-Sheet Research Chemicals Forensic Institute Zürich

Produktname	<b>Benzo fury, 6-APB</b>	Kategorie	Tablets
Substanz Beschrieb	green tablet	Klasse	Benzofuranes
Inhaltsstoffe	<b>6-APB, 6-(2-Aminopropyl)benzofuran, 5-APB</b> , Succinic acid, palmitic acid, stearic acid	K-Nummer	K111129-077
Verpackung Beschrieb	Plastic bag (welded)	Betm-V	Narcotics (e)
Verpackung Aufdruck	Research chemical pellets Not for human consumption	Nachweis	GC/MS MSTFA
Probenherkunft	Customs (Mail delivery)	Referenz	<input type="radio"/> Pure substance <input checked="" type="radio"/> Mixture
Bemerkungen	Together with Etizolam, Fencamfamin, Methiopropamin	Wirkung	stimulant, entactogenic
Strukturformel		Vorderseite	
Summenformel	C <sub>11</sub> H <sub>13</sub> NO	Rückseite	
Molmasse	175.23	Erstellungsdatum:	05.12.2011
CAS Nummer	286834-85-3	Letzte Änderung:	16.12.2011



# Law enforcement

## Database used at Swiss customs

Example 1: scheduled drug

Example 2: unknown ingredients

# RESEARCH

# Research – IRM Bern

- > Associate partner in EU project
- > Development of analytical methods (cooperation with IRM Freiburg and project partners): LC-MS/MS
  - 57 designer stimulants
  - 31 designer cannabinoids

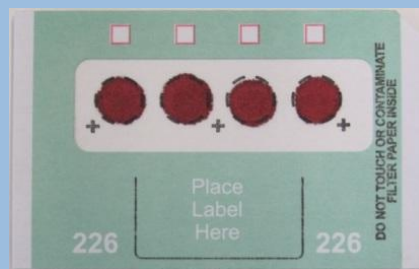
— Blood



Urine



Dried Blood Spots



Tablets/Powders ...



## Research – IRM Bern

- > Mass-spectral library
- > Spreading of methods and library via Workgroup of Forensic Chemistry and Toxicology of the Swiss Society of Forensic Medicine (SGRM)
- > Broadening of detection methods by generation of metabolites by electrochemical oxidation
- > This research is financially supported by the federal government

# PREVENTION

# Prevention - EKDF

## Federal Commission on Drugs (EKDF):

- Body of legal, socio-medical and chemical experts to advise government and parliament on questions of drug politics

## Prevention – Safer Party

Poster „Party Drugs Testing on the Dance Floor“ see website:

<http://www.gef.be.ch/gef/de/index/gesundheit/gesundheit/partydrogentesting.html>

Kantonsapothekeramt Kanton Bern  
Pharmazeutisches Kontrolllabor

# Prevention – Safer Party

Keynote speech of Alexander Bücheli, Wednesday, 26<sup>th</sup>  
September, 10:00



# Conclusion

Uni Bern: Research as associate partner in EU-project

Situation similar to “Doping” in sports

- development of new drugs is faster than legislation
- high dynamic in availability of new drugs

Teamwork (Swiss Departments of Interior and Health, Dept. of Justice and Police, Swissmedic, and cantonal departments).

Switzerland is active in legislation, law enforcement, prevention