

2009: New Psychoactive Substances

Every so often the drug scene goes through paradigm shifts. Usually these are heralded by the arrival of a new drug or a new version of an established drug. So in the 1980s, it was smokeable heroin and cocaine, while in the 1990s it was ecstasy. Arguably though, it was technology – the internet and email –

that has enabled the global rise in NPS and changed the game, maybe forever. New technology had allowed for worldwide information exchange, the search for patents from which to develop new drugs and wholesale and retail supply, marketing, distribution and purchase. For the UK, the whole phenomenon

exploded into the headlines with the revelation that a powerful stimulant called mephedrone – later dubbed by the tabloids ‘miaow miaow’ – was legally available. *Druglink* published one of the first articles on the drug in March 2009, written by freelance journalist **Mike Power**.



MEPHEDRONE: THE FUTURE OF DRUG DEALING?

Chemists are staying one step ahead of drug laws by toying with the chemical make-up of illegal stimulants such as ecstasy, speed and crystal meth to make an increasingly popular range of legal highs. **Mike Power** reports on the substances that look set to change the way drugs are bought and sold.

Legality has seldom bothered most drug users and dealers. But a new wave of stimulants sold over the internet could see dealers losing business as users discover cheaper, legal alternatives to cocaine, ecstasy and amphetamines - that actually work.

Bulletin boards and chat rooms worldwide have been buzzing with reports of two chemicals in particular, mephedrone and methylone, which users say offer many of the effects of some illegal counterparts.

Mephedrone, or dimethylmethcathinone to give its chemical identity, sells for around £14 a gram - enough for five oral doses - and has many of the effects of MDMA, amphetamine and cocaine.

Chemically, the compound is two molecular 'tweaks' away from MDMA and methylamphetamine (crystal meth) and even more closely related to cathinone (the active ingredient in khat) - but it's easily available to anyone with an email address and a Paypal account.

Users, who have nicknamed it 'meph', say the drug is like a cross between high-quality cocaine and MDMA, with an almost instant, relaxing, yet stimulated high. They experience a lowering of social inhibitions, talkativeness, and an intense physical and mental euphoria with increased tactile sensitivity.

"I prefer mephedrone to MDMA," says Dave, a 27-year-old Londoner working in the fashion industry. "It's more reliable, cheaper and actually more convenient than going to a dealer. I pretty much stopped buying coke and pills and crystal [MDMA] once I found meph. I'd just make a bulk order and send off the payment and the package would arrive a few days later. I've been doing it for 14 months, and have not experienced any negative effects, except perhaps on my motivation levels."

"It makes me laugh when I see people try it for the first time. Many are sceptical that something that's legal can actually work. But it does," he says.

Mephedrone is being sold online in significant quantities. It is completely legal in the UK because, due to deliberate molecular engineering, it is not covered by either of the government's blanket bans on derivatives of MDMA or cathinone. The compound is custom-

synthesised in Chinese laboratories and imported legally to the UK, where it is sold online, mainly from Austrian and British websites, or in headshops.

It is one of a large group of compounds which are all derivatives of cathinone, which is the active ingredient of khat - controlled under

the 1971 Act as a Class C drug and scheduled under the UN Drug Conventions. Cathinone derivatives are not presently controlled. They are in turn close relatives of the phenethylamine family, which includes drugs such as amphetamine and MDMA, but most are not controlled by the Act.

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The drug is often sold as 'plant food' on websites, with warnings not to consume in a bid by vendors to avoid prosecution under food and medicine law. But many sites that sell them reference rave culture in both their graphic design and imagery, and their use is clearly intended as a narcotic.

Dave has many years of illegal drug experiences to draw on when

comparing the legal high to its illegal derivatives. "After a while MDMA makes me tired and ache, and want to sleep. On meph I can stay up all night, have interesting conversations and still get to work the next day. I don't bother scoring any coke or pills or MDMA. Meph is just better."

Users on a popular online drugs forum which specialises in legal highs agree. One electronic bulletin board attached to an online shop has a mephedrone 'thread', or discussion topic, that has been in progress for over a year

and is currently running at over 620 pages, with thousands of responses.

"This drug is buff, it's shiny and lush. It feels like the rush of coke, the relaxation of MDMA and the calm happiness of alcohol. When a gram binge finishes I feel tripped out and see things," said one poster on the bulletin board.

But mephedrone is not without its dangers. Kenneth Nielson, 18, from

Ullerslev in Denmark, died in May last year and was found to be in possession of mephedrone, although toxicology reports have proven inconclusive. In December, an 18-year-old university student from Stockholm, Sweden was reported to have died after taking mephedrone. Sweden has now outlawed the chemical.

Another popular and easily available legal high on the same websites is methylone, or 3, 4-methylenedioxy-methcathinone, which costs slightly more at £16 a gram, enough for four doses. Described as "ecstasy for grown-ups" or "MDMA-lite" it offers elements of the ecstasy experience - physical and mental euphoria, increased energy levels, emotional insight and a lowering of social inhibitions - but at a lesser degree.

Psychedelic chemist Alexander Shulgin, who was responsible for resynthesising MDMA, has said it has a similar profile to MDMA: "It has an almost antidepressant action, pleasant and positive, but not the unique magic of MDMA."

Drugs similar to mephedrone and methylone, containing cathinone, first appeared in Israel in around 2004, under the local name 'hagigat'. They were outlawed following several hospitalisations in Tel Aviv. But then chemists tweaked hagigat's chemical structure and started selling the new drugs containing other cathinone-related compounds, under the company name Neorganics. Brands included Neo Doves (named after a popular early variety of Ecstasy pill), Sub Coca and Spirits.

These too were subsequently banned in Israel in 2008. But by then a large base of users had developed and gathered in online forums, and demand drove supply. One site in the UK reports that they have just imported 2kg of mephedrone.

Dr John Ramsey, a toxicologist at St George's University London, is also director of Tic Tac Communications, a drug analysis body that studies recreational drugs. It makes test purchases of new chemicals from websites and then analyses them using 'nuclear magnetic resonance spectroscopy'. Tic Tac sells the information it discovers as a database to the police and drug workers. Ramsey says the use of new drugs such as mephedrone is a public health concern.

"They cause effects pretty much like the drugs they are derived from. People end up in A&E because they take stimulants, and they end up in A&E because they take these chemicals. Their acute effects are pretty much indistinguishable from MDMA and amphetamines.

"But we have no information on their toxicity because they have never been used as drugs until recently, so there have not been any formal studies. The only real reports we get are from people who either write them up in chatrooms or discussion groups, or end up in A&E."

Users have also reported that mephedrone can cause compulsive re-dosing, known as 'liending', where users intend to take only a small amount, but end up consuming their entire supply. "I did eight grams of meph over the weekend," reported one user on a chat site. "My heart is still beating strangely and my mouth has all the skin peeled off on the inside."

Other users have reported blueness in the lips and nose area after a heavy snorting session. Sweat can also retain the distinctive fish-like scent of mephedrone for several days, users say.

"I once caned mephedrone all weekend from Friday night straight through til Monday morning, with no sleep," says fashion worker Dave. "But

I was still able to go to work on the Monday, and made a major presentation to international clients. If that had been MDMA, I'd have been like a zombie."

The benefits to vendors are obvious: a drug that can be synthesised for a couple of hundred pounds a kilo and imported legally that can cause compulsive re-dosing is a retailer's dream.

"People are making absolutely huge amounts of money out of these drugs. They are selling at higher prices than tablets of ecstasy at the moment, and their manufacture is straightforward," says Ramsey.

Ramsey believes the drugs have become popularised as a consequence of the government's moves to make the benzylpiperazine (BZP) class of chemicals illegal.

"There will always be something on the horizon that is falling outside the legislation," says Ramsey. "I can name you another five chemicals that are legal, but have similar effects to these analogues of MDMA. The law cannot keep up with what is happening on the street. What we need to do is to explain to users the potential risks they are running."

The Home Office admits that mephedrone is currently legal. "It has not been reported as a problem in the UK to the best of our knowledge. Derivates of cathinone are not presently controlled under the Misuse of Drugs Act and this is also the case with many close relatives of the phenethylamine family such as amphetamine and MDMA. The Advisory Council on the Misuse of Drugs keep these matters under constant review and advises the Government accordingly."

Users collaborate extensively online on the drugs' effects, reliable sources, prices, doses and known dangers. And this latest manifestation of the web's spirit of user-generated content is

WHAT'S IT LIKE?

Melanie, a 30-year-old ecstasy and cocaine user, tried mephedrone for the first time. Here is her report.

0 seconds: Snorting the line, it stings like ground glass on the membranes.

30 seconds: with a sudden and slightly scary rush, the drug is upon me, flooding reward centres with a euphoria that's somewhere between a line of A-grade coke and pure MDMA, but with a subtle twist.

5 minutes: the music I'm listening to has a new urgency and I'm sat grinning at my friend who's in a similar state. Body heat and temperature and heartbeat are all up – this stuff can't be good for you. There's a saturation of the brain with serotonin, like ecstasy.

30 minutes: no sign of the buzz abating. I'm steady on my feet, articulate, not slurring, supercharged and full of energy.

45 minutes: suddenly, dramatically, it stops. Just like that. Instantly back to baseline, with just a slight spaciness in the head and a tightness in the jaw. First instinct: have another line. The second isn't as good – less high, more confused, shorter lasting. It would be so easy to keep going, but my heart and breathing concern me, and so I stop.

undoubtedly helping people to source drugs that can be abused. But fact-sharing could well prove the final coffin in the drug's legality.

