

Potent synthetic cannabinoid smoking mixtures

Psyclone and Exodus Damnation

This Briefing was produced by Michael Linnell of Lifeline Publications in association with DrugWatch. A fuller version of this Briefing with references and general harm reduction advice will be available on the DrugScope website and other outlets in due course.



Background:

The market for synthetic cannabinoid smoking mixtures (sometimes called 'spice', 'synthetic cannabis' or 'noids') is well established, although UK prevalence is still largely unknown. The vast majority of the market is made up of pre-packaged branded products. These branded products contain a non-psychoactive dried plant base that has

been dipped or sprayed with one or more of a range of synthetic cannabinoids. Some of these products are marketed as 'ultra potent'.

There are numerous media reports of A and E admissions caused by synthetic cannabinoid mixtures. Although there are no available statistics, these reports often involve brands, such as *Clockwork Orange*, *Sensate*, *Pandora's Box* and others that are known to be highly potent. Recent media reports have associated two products *Psyclone* and *Exodus Damnation* with causing a heart attack and the deaths of two people in the UK, although this has not been confirmed. However, both of these products contain a blend of two synthetic cannabinoids, 5F-AKB48 and 5F-PB22 and both are reportedly highly potent.

Appearance:

Exodus Damnation and *Psyclone* come in 1gm and 3gm sealed packages. *Exodus Damnation* comes with a suitably apocalyptic image, while *Psyclone* comes in a white, pink and green pack. They are both labelled as 'herbal incense'. Smoking mixtures are often made to look like natural cannabis in brands that aspire to be 'cannabis-like', while in high potency brands in particular, they tend to look artificial and are often dyed a bright colour (green, blue, orange, red).

History:

In 2012, the UK-based company 'Mary Joy UK' sold a notoriously potent brand of synthetic cannabinoid smoking mixture called *Annihilation*. *Annihilation*

was associated with numerous hospitalisations and user alerts. It contained the synthetic cannabinoids MAM-2201 and UR-144. Both these compounds were banned by the amendment to the Misuse of Drugs Act introduced on 26 February 2013. This amendment banned all the popular synthetic cannabinoids on sale in the UK market at the time. Despite claims it would take three years before this law would need further amendment, within days the shops were re-stocked with scores of different brands containing one or more of four synthetic cannabinoids missed by the legislation: 5F-AKB48, AKB-48, 5F-PB22 and STS-135.

Both the brands (*Mary Joy*) *Psyclone* and *Exodus Damnation* appeared after the February 2013 MoDA amendment. They have both been tested and both contained a blend of the two synthetic cannabinoids 5F-AKB48 and 5F-PB22.

Cost:

Approximately £25 for 3 grams or £10 for 1 gram.

Route of administration:

Psyclone and *Exodus Damnation* are smoked, often mixed with tobacco in joints, bongs and pipes.

Brain chemistry:

The main cannabinoid in natural cannabis is THC. THC is a partial agonist of CB1, whereas some synthetic

cannabinoids have been shown to be full CB1 agonists and far more potent than THC. They may also have different affinities; binding more selectively to receptors in one part of the brain rather than others. This may go some way to explaining why the effects of synthetic cannabis can seem similar to and/or quite markedly different from natural cannabis, and why some may be much more 'trippy' and powerful than the natural drug.

Potency and blend:

Different brands of synthetic cannabinoid smoking mixtures can have profoundly different effects. Although there are reported differences in the subjective effect of various synthetic cannabinoid compounds, the potency of any brand appears to owe more to the ratio of inert plant material to chemical compounds in the mix, rather than any differences in the compounds themselves. Some packets contain information as to the volume or ratio of chemical compound present in the mixture, with around the 10% range for standard potency brands. However this ratio could be much higher, with one producer estimating that the more potent brands could be up to 45% chemical compound to plant base.

Dose:

Psyclone and *Exodus Damnation* are both reportedly very potent synthetic cannabinoid smoking mixtures, so doses should be much lower than those used for natural cannabis. A pinch the size of a match-head is an active dose and more than enough for any first time users.

Psychological effects:

The psychoactive effects of smoking a pre-packaged synthetic cannabinoid mixture can vary considerably. Effects are dependent on the usual set and setting issues and the potency of the

brand. Some brands produce a 'cannabis-like' dreamy euphoria and 'stoned' feeling while the more potent brands produce both 'cannabis-like' effects and a range of 'un-cannabis' like effects more akin to dissociative or psychedelic drugs. Side effects such as anxiety and panic, disorientation and dysphoria are commonly reported particularly with more potent brands. The duration of effects varies, but synthetic cannabinoid smoking mixtures are generally shorter acting than natural cannabis. Short-term memory can be severely impaired.

Physical effects:

The physical effects of the more potent brands can be quite overpowering, with reports of breathing difficulties, tight chest, racing heart, palpitations, shakes and sweats which can lead to severe panic. With higher doses, balance and psychomotor skills can be severely impaired. Loss of feeling and numbness in limbs, nausea/vomiting, collapse and unconsciousness have also been reported. The eyes take on a pink colour, as when natural cannabis is smoked. Sudden skin rashes have also been reported.

Risks and harms:

Harms associated with synthetic cannabinoids are well documented and include:

- Agitation,
- Seizures,
- Hypertension,
- Emesis (vomiting)
- Hypokalemia (low potassium levels).

Although some of these symptoms are similar to high doses of cannabis, researchers have concluded that synthetic cannabinoids are potentially more harmful than cannabis.

- As with natural cannabis, synthetic cannabinoids are associated with triggering psychotic symptoms in those predisposed to the illness. Whether the more potent pre-

packaged synthetic cannabinoid mixtures are more likely to adversely affect mental health is unknown.

- Tolerance to synthetic cannabinoids develops quickly, with increasing dosage and compulsive use commonly reported. It is not thought that synthetic cannabinoids produce physical dependence, but like natural cannabis some people may become anxious about stopping and may experience mild withdrawal symptoms, such as sweating, insomnia and vivid dreams. It is reported these symptoms generally subside between 7-14 days.
- There is also some evidence that links synthetic cannabinoid use with acute kidney damage.
- There have been numerous reports of non-fatal intoxications and a small number of deaths associated with their use.
- As some of the compounds are very potent, the potential for toxic effects is high, however 'synthetic cannabis' is not a single chemical compound; there are 84 known synthetic cannabinoids on the European market that have been used in smoking mixtures and potentially hundreds more compounds available to manufacturers. Synthetic cannabinoids may or may not have the same potential for harm as each other when smoked on their own or blended with each other.
- Harm may also come from adulterants present as a result of the production process. Manufacturers have reported that current synthetic cannabinoids on the UK market are harder to handle than the compounds available before the February 2013 MoDA amendment, requiring the use of heated solvents in the production process.

Legal Status:

5F-AKB48 and 5F-PB22 are not currently controlled (as of November 2013) under The Misuse of Drugs Act.