

Technical folder UR-144

This technical folder provides information about UR-144. The information is based on a numerous existing data sources and also works undertaken in the I-Trend project.

Three main tools have been used to fill this folder:

- A monitoring of the online conversation on the French speaking forums of psychoactive drug users,
- A monitoring of the supplies on the online popular web-shops in French language,
- The chemical analysis results of the substances purchased on the same web-shops.

1. General information about the substance

1.1. Chemical group

1.1.1. Classification confirmed by chemical analysis

Synthetic cannabinoid

1.1.2. Classification used by drug users on the forums

Cannabinoid, synthetic cannabinoid, synthetic cannabis

1.1.3. Classification used by online shop

Cannabinoids

1.2. Summary of the effects by classification

Drug users	Online shop	Pharmacological studies
		Cannabinoid receptor CB ₁ and CB ₂ agonist with an higher affinity for CB ₂

1.3. Names

1.3.1. Chemical name

(1-pentyl-1H-indol-3-yl)-(2, 2, 3, 3-tetramethyl-cyclopropyl)methanone

1.3.2. Other name(s) (e.g. popular/street/slangname(s))

1.3.3. Other names

KM X-1, TMCP-018, MN-001, YX-17

1.4. Potential risks

1.4.1. Risks reviewed in scientific literature and national case studies

- Behaviour side effects
 - agitation
 - anxiety, paranoia
 - confusion, panic attack, hallucinations
 - violence
- Physical signs of intoxication
 - tachycardia, palpitations, arrhythmia, blood pressure increased
 - nausea, vomiting
 - headache, convulsions

A 17-year-old male and his friend smoked an herbal mixture ordered via the Internet, assuming that it contained 'salvia divinorum'. Shortly thereafter, the friend left and passers-by found the 17-year-old leaning against a garden fence. He was deeply somnolent. The Emergency Medical Services were called. On arrival in the emergency department vital signs were unremarkable with the exception of a pronounced sinus tachycardia (160 beats/min).

The neurological examination revealed mydriasis, anisocoria, retrograde amnesia, and a mild somnolence. Under suspicion of acerebral haemorrhage, a computer-assisted tomography was performed but yielded unremarkable results. Laboratory results were normal with the exception of a leukocytosis (11,300/ml). All symptoms resolved within 12 h of admission. In blood serum samples obtained 4 h after consumption, MAM-2201 (0.15 ng/ml) and UR-144 (0.24 ng/ml) were detected along with the isomer of UR-144 carrying an unsaturated moiety after thermally induced opening of the cyclopropyl ring (not quantified [13]). In urine samples, metabolites of JWH-122 and UR-144 were identified. In addition, a metabolite of JWH-018 was detected (Table 2). No other intoxicants were found by MTS or immunoassay testing.

Hermanns-Clausen M. et al., Acute intoxication by synthetic cannabinoids – Four case reports, Drug Testing and Analysis (2013), DOI 10.1002/dta.1483.

1.4.2. Potential risks with substances of the same chemical group

Idem

1.5. Legal status in France

Not classified

1.6. List of national focal points of REITOX that identified and reported the substance to the EMCDDA

Country	Date
Poland	February 2012
Finland	February 2012
Norway	May 2012
Sweden	June 2012
Hungary	June 2012
Germany	September 2012
Croatia	September 2012
Turkey	October 2012
France	November 2012
Slovenia	November 2012
Latvia	December 2012
Spain	January 2013
Denmark	January 2013
Belgium	January 2013
Croatia	April 2013
Bulgaria	March 2015

1.7. Substance pictures

1.7.1. Photography of the substance purchased and analyzed in the laboratory



1.7.2. Photography or screen capture of the product as it is sold on the online shop



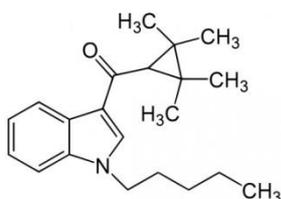
2. Chemistry

2.1. CAS number

1199943-44-6

2.2. Chemical information

2.2.1. Structure



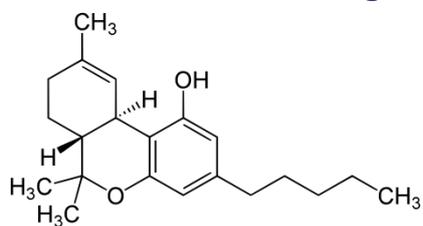
$C_{21}H_{29}NO$

2.2.2. Molar mass

311.461 g.mol⁻¹

2.2.3. Structural comparison with the analogous substance or limited

2.2.4. Structural image of similar substance



Δ⁹-tetrahydrocannabinol

3. Chemical composition: results of the analyzes conducted on products purchased online

3.1. Marketing details

The screenshot shows the BuyAnyChem website interface. At the top, there is a navigation bar with links for HOME, CUSTOMER SERVICE, FAQ, SHOP BY COUNTRY, BLOG, and CONTACT US. A search bar is also present. The main content area is divided into a sidebar and a main product display. The sidebar on the left lists various categories such as Blotters, Research Chemicals, Pellets, Cathinones, Cannabinoids, Herbal Blends, Aminoindanes, Tryptamines, Branded, E-Cigarettes, Benzos, and Liquids. Below these, there is a section for RESEARCH CHEMICALS with a list of products like 1P-LSD (NEW), 2-AI, 2-FA, 2-FMC, 2NE1 + APICA, 3,4-CTMP, 3-FMC, 3-MMC, and 4-FA. The main product display is for UR-144, featuring a large image of the product packaging with the 'BAC' logo. To the right of the image, the product name 'UR-144' is displayed, along with a star rating and a 'Write a review' link. Below this, the availability is shown as 'Out Of Stock'. A dropdown menu for quantity selection is open, showing options from 500mg to 100g with their respective prices. An 'ADD TO CART' button is visible. The description section below the image states that UR-144 is a synthetic cannabinoid derived from incense blends, developed by Abbott Laboratories, and acts as a full agonist to the CB2 receptor. It is noted as suitable for in vitro research purposes only.

3.2. Results of chemical analysis

UR-144 36%

One sample has been analyzed, bought in 27th of May 2014. Out of stock in the selected online shop.

3.3. Results of chemical analysis

UPLC-QToF

4. Data collected on the forums

UR-144 has been selected in April 2013 because it has often been seized by the French Customs services in the mail carriage. The qualitative and the quantitative analyses of the forums show that the discussions about UR-144 are sparse compared to the other synthetic cannabinoids as 5F-UR-144, TR-144 and MAM-2201. At the opposite, AM-2201, AKB-48 and 5F-AKB-48 have a great audience.

UR-144 has been viewed on the francophone forums since 2011. But since the summer of 2012, the users seems to turn away from UR-144 because of their side effects as anxiety (see Effects) and they prefer other synthetic cannabinoids as AKB-48.

More generally, this substance is not appreciated because the similarity of the effects with the cannabis tends to change quickly following dosages and consumption frequencies. Consumers consider that side effects are more important than positive effects, despite of the main interest of this molecule: a weak dissociative effect (see Effects).

Material description:

The three monitored French forums talked at least once about UR-144. From more than 800 threads followed between August 2013 and January 2014, 45 focused on synthetic cannabinoids (SC). In total, 10 discussions are particularly focused on the UR-144 (4 mentions of UR-144 in the titles, one mention the fluorine version, 5F-UR-144). The 5 most recent threads were in February 2013 and talked about the emergence of kidney problems and immunosuppression risks associated with UR-144 consumption.

In total, 34 people participated in writing 42 posts.

4.1. Dosages (21 citations).

For the first taking, the initial dosages range from 1 to 15 mg. The wide gap between the lowest and the highest dosages shows the high variability between the users (see User profiles). Chronic users of cannabis or chronic users of synthetic cannabinoids mentioned usually high quantities.

The majority of users talked more often about quantities by using macroscopic descriptions than dosages in milligrams. Somehow, it has an impact on the way that they prepare their substance for consumption (see Appearance and preparation).

4.2. Duration (5 citations).

The special feature of UR-144 is a plateau divided in 3 distinct phases.

- The first phase (20 minutes) is the most expected phase for the strength of the effects with a physical stimulation as a “slapping” sensation. This sensation is estimated as very positive by the users. It is called a “cold” phase by some users to make the difference with the effects more like those of the cannabis (trigger, mild euphoria).
- The dissociative phase is shorter (less than 5 minutes). It is also sought by users and happens whatever dosages or tolerance.
- The effects which are felt during the third phase (40 minutes) are more like the cannabis effects. It seems that those effects depend on the dose and/or the tolerance.

Finally, the UR-144 effects have a short duration.

The coming-down is not well-described, which is very peculiar to UR-144 and not true for all the synthetic cannabinoids. By oral route administration, the coming-down is non-existent. Only one user has consumed benzodiazepines to decrease the side effects of the coming-down.

Users experienced tiredness with a regular use. It has an impact on the everyday life.

4.3. Effects (24 citations).

Among the most desired effects, the similar effects of the cannabis are on the top. Users try to find a truly substitute or something stronger.

Among the side effects, the most described are: tachycardia, stress, anxiety.

UR-144 is like most of the synthetic cannabinoids with a wide range of effects but with some special features:

- 4 people in 34 spoke about powerful effects and a short duration.

- Most of the users don't feel sensations similar than with cannabis, except a mild euphoria. It is the main reason of the lack of interest.

- **The dissociative effect.** Known by the users, it is a good motivation to consume this substance. But it depends on the route of administration:

- weak if the substance is ingested
- too strong if consumed with a vaporizer

Negative effects:

- chronic exhaustion
- unable to think or to act

4.4. Tolerance (8 citations).

2 chronic cannabis users think that their tolerance to cannabis has been transposed to the synthetic cannabinoids. They need important doses to obtain the desired effects. It could be explained like a cross-tolerance.

3 synthetic cannabinoid users declared they don't feel physical dependence but they need higher and higher doses to feel something or to increase the duration of the feelings.

4.5. Routes of administration (14 citations)

- Inhalation

The most important route of administration for UR-144, essentially with tobacco (10 citations). Only one citation of vaporizer consumption but the power of this method of consumption is discussed (3 citations).

- Ingestion

Effects are weaker and the users don't feel the "shock". Dosages usually used are higher than for inhalation (5 to 10 mg).

- Nasal route

Not used because synthetic cannabinoids leads to burn and mucous injury. One reference to the "nasal spray". More raised on the English forums

No topic about injection or rectal administration.

4.6. Appearance and preparation (5 citations).

- Powder: most important shape
- Grains: one user seems to be able to count some units between 10 and 20, it means that the particles are large enough

The consumption is made by mixing the powder with tobacco. It exists a technic called *eyeball* which corresponds to smoke with a pipe.

In these two cases, the powder is sampled with the tip of a knife (no quantification) or they used a balance to know the quantity. After the powder is dusted on the tobacco.

Only two users mix UR-144 with hemp to eliminate the bad taste of the powder.

4.7. Consumption frequency (14 citations).

The consumption frequencies are rather high among the synthetic cannabis users which are all cannabis users. In two weeks, they can consumed 2 to 5 mg and sometimes more (until 7 mg).

4.8. Sources and information mentioned (17 citations).

- Articles about immunosuppression linked to the synthetic cannabinoids consumption
- <http://www.ncbi.nlm.nih.gov/pubmed/18656454>
- <http://www.sciencedirect.com/science/article/pii/S0171298509000709>
- <http://msj.sagepub.com/content/10/2/158.short>
- <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1864948/>
- <http://www.ncbi.nlm.nih.gov/pubmed/21475304>