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# MDPV Report

Psychonaut Web Mapping Research Project



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## The Psychonaut Web Mapping Research Group

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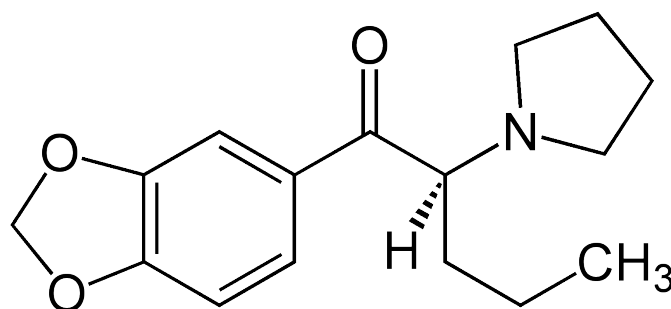
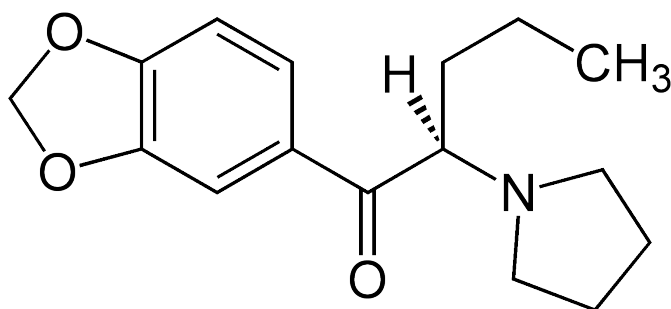
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## THE PSYCHONAUT WEB MAPPING RESEARCH PROJECT

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This report has been prepared as part of the Psychonaut WebMapping Project. This is a European Union funded project with the aim of developing a web scanning system to identify and categorise novel recreational drugs/psychoactive compounds, and new trends in drug use based on information available on the Internet.

Although this publication arises from the Psychonaut WebMapping Project, which has received funding from the European Union, in the framework of the Public Health Programme [2006 348], it represents the views of the authors. These views have not been adopted or in any way approved by the Commission and do not necessarily represents the view of the Commission or the Executive Agency for Health and Consumers.

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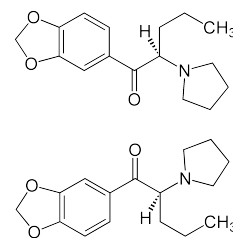
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# MDPV

| OVERVIEW                  |   |
|---------------------------|---|
| Chemical name             | 3,4-methylenedioxypropylvalerone  |
| Synonyms/colloquial terms | MDPK (Methylene Dioxy Pyrrolidin Ketone), Magic, Super coke, peevee   |
| Type                      | Chemical  |
| Origin                    | MDPV is a stimulant drug that acts as a norepinephrine and dopamine re-uptake inhibitor. This compound is used primarily as a stimulant. It has no history of medical use but is sold as 'designer drug' or 'research chemical' (RC) for recreational use. Online discussion appears to have begun in 2005. |
| Active constituents       | 3,4-methylenedioxypropylvalerone  |
| Status                    | Novel   |

## KEY POINTS

MDPV is a highly potent propylvalerone analogue that is part of the a class of compounds referred to as beta ketones sold as a 'research chemicals' . It is a stimulant and has been compared to methylphenidate (at low doses) and cocaine (at higher doses). It has also been associated with increased sexual arousal/aphrodisiac effects in some users. MDPV is not detected via standard drug tests (according to online users).

## CHEMICAL CHARACTERISTICS OF ACTIVE CONSTITUENTS

### 3,4-METHYLENEDIOXYPROPYLVALERONE

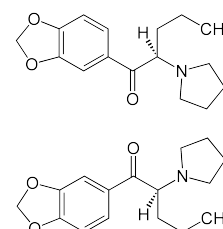
IUPAC Name: 1-(1,3-benzodioxol-5-yl)-2-pyrrolidin-1-ylpropan-1-one

Molecular Formula:  $C_{16}H_{21}NO_3$

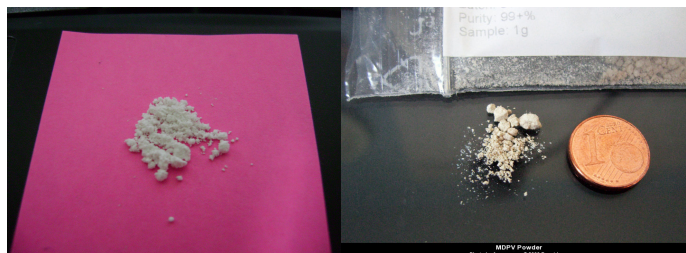
Molecular Weight: 275.34284 [g/mol]

CAS-Number: 687603-66-3

[1]



## APPEARANCE



There have been several ‘batches’ of MDPV that have been identified, each differing in appearance: the ‘dirty’ or ‘tan’ batch (copper coloured powder; possibly the free-base form); the ‘pure’ batch (white powder; possibly the HCl Salt form); and european ‘grey’ batch. This has fueled online discussion about synthesis standards. [2][9]

## APPEARANCE OF COMMERCIAL PRODUCTS

MDPV was also purportedly the main ingredient in the product Ivory Wave (‘bath salts’). It is likely that MDPV was sold in other commercial products as well:



[3]

Ivory Wave Concentrated Bath Salts (<http://www.am-hi-co.com/acatalog/ivory-wave.html>)

PLEASE NOTE: Due to the concentrated nature of this product we strongly recommend that you purchase the 200mg size if you have never purchased this product before and that for the first few hours you only use one application. You will be surprised by how long it lasts - there really is no need for a second application for hours. Once you have experienced ivory wave bath salts you will know hoe to apply in the future.

It is also strongly recommended that you do not mix these bath salts with other similar products and for health and safety reasons its always best to stay away from alcohol and prescription medication, or to be intoxicated when bathing using ivory wave or any other bath salts products sold on this site.

Soothing bath Salts - Relax and soak away IVORY WAVE, Concentrated bath salts, please only use as advised, PLEASE do not use this as SNUFF!!! Add the contents to a hot bath to naturally soften the water which will leave you very soothed and relaxed. This is used to mimic the natural hot springs of the greek sea.

Contains: Epsom Salts, Sodium Barcarbonate, Sodium Chloride, minerals, trace elements and naturally occurring amino acids.

NOT FOR HUMAN CONSUMPTION

## AVAILABLE INFORMATION ON PURCHASE PRICE

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0.5g: 25 GBP or 30 EUR

1.0g: 40 GBP or 47 EUR

2.0g: 70 GBP or 82 EUR

10 g: 300 GBP or 348 EUR

25 g: 700 GBP or 815 EUR

50 g: 1, 200 GBP or 1400 EUR

100g: 2, 000 GBP or 2350 EUR

[4]

Ivory Wave: 200mg = £11; 500mg = £18; 500g = £8,500; 1kg = £17,000 [3]

## MODALITIES OF INTAKE

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Modalities of intake include:

- Oral (capsules, 'bombing' - wrapping MDPV powder in cigarette papers and swallowing, dabbing, dissolved in liquid)
- Insufflation (snorting)
- Smoking (salt or freebasing)
- Rectal (user report: 1mg MDPV mixed with 3mL water)
- IV

Oral and non-oral routes reportedly have the same overall effect, with non-oral routes being faster shorter acting.

Supposedly active at 5mg with typical doses range between 5-20mg. Redosing in a single session is common. With redosing, amount consumed over single session can be greater than 20mg. Moreover, doses upwards of 200mg have been reported. However, most users report a ceiling of around 10-15mg (i.e., higher than this amount makes the come-down more unpleasant).

Come up: @ 1hr      Peak: @ 90mins (lasting 1hr)      Come-down: @ 2.5hr (lasting 1hr)

Effects and length of high vary with dose and individual (reportedly from 0-12+ hours)

[2][6][7][8]

## LEGAL STATUS

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MDPV is controlled in the UK, Denmark, and Sweden.

## CURRENT USE/MEDICINAL USE

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None (research chemical). The compound pyrovalerone (developed in the 1960s), of which MDPV is an analogue, has been used for the treatment of chronic fatigue and lethargy, and as an anorectic. However, its use is limited and it is a controlled substance in Europe and the US due to problems of abuse and dependence (Gardos et al., 1971; Deniker et al., 1975)

## INFORMATION ON RECREATIONAL USE/MISUSE IN THE EU (OR ELSEWHERE)

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MDPV is a relatively strong stimulant sold as a ‘research chemical’ or as an ingredient in party pill type products (e.g., Ivory Wave bath salts). Discussion of MDPV online seems to have started in or around 2005, at which time there was limited information about the compound available.

Some users reported the compound as being ‘very smooth’ with ‘no side effects’ and little come-down effects, with similar stimulant effects to methylphenidate and methylone. Whereas other reports cite unpleasant and noticeable ‘come-down’ effects that make the drug undesirable. As with some of the desired psychoactive effects, it seems that negative side-effects and unpleasant come-down effects are magnified with higher doses.

2005 reports suggested limited experimentation with MDPV by relatively experienced stimulant users. Popularity appears to increase in late 2008 and online discussion in 2009 becomes more frequent - suggesting greater availability and use of the drug by recreational drug users.

At lower doses MDPV appears to produce mild CNS stimulation, but at higher doses the effects appear to be more potent cocaine-type or amphetamine-type effects.

At low doses (and particularly early on in the recreational history of MDPV c. 2005) there were a number of reports of people using the drug as a study aid or to increase concentration for work. The notion of the compound as a ‘tool’ rather than a ‘drug’ further decreased interest in its use recreationally. MDPV has been compared to methylphenidate, Adderall, Ritalin, and Concerta, and suggested as a possible self-medication to ADD/ADHD.

Reports detailing heavier and more frequent use appear around 2006, including warnings about ease of overdose (producing long-lasting panic attacks), potency, and the dangers of regular and/or heavy use (with lasting consequences on cognitive function and affect).

With regards to abuse liability, the short duration of action and ‘rush’ associated with MDPV have led some to suggest that the drug is compulsive, with definite ‘moreish’/‘fiendish’ qualities. Increases in tolerance with use are also reported.

Several online users refer to MDPV panic attacks and prolonged anxiety. These appear to occur with at higher doses and with regular and/or heavy use. As a result, warnings against the notion that ‘more is better’ MDPV are common. There is also much discussion dedicated to drug combinations that might serve to decrease the effects of these attacks e.g., benzodiazepines, GBL/GHB.

There have also been warnings about mistaking MDPV for cocaine (particularly when purchasing it from street dealers) and/or taking MDPV at the same levels as cocaine. “You need at least 20-30 times less per dose and need to re-dose about 6-8 less times as it lasts a lot longer”. Similar warnings were posted regarding the confusion and/or equation of potency of MDPV with either mephedrone or methylone.

[2][5][6][7][10]

## USE IN COMBINATION WITH OTHER COMPOUNDS

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Cannabis

Alcohol

Other research chemicals (AMT, BZP, mephedrone, methylone)

Amphetamine

GHB/GBL/1,4BD (to bring down heart rate)

Kratom

LSD or other hallucinogens

Benzodiazepines/beta blockers (during come-down period)

Opiates

Pregabalin (to stop nausea)

[2][5][7][8][11]

## PHARMACOLOGICAL CHARACTERISTICS

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MDPV is a pyrovalerone analogue that acts as a norepinephrine and dopamine reuptake inhibitor. There is limited information available about the pharmacology of MDPV. The NMR and mass spectroscopic data of MDPV is presented by Westphal et al. 2009. There is some published literature regarding the chemical structure and pharmacology of pyrovalerone and some other pyrovalerone analogues, from which some pharmacological characteristics of MDPV can be inferred (Gardos et al., 1971; Deniker et al., 1975; Meltzer et al., 2006; Springer et al., 2003).



## TOXICOLOGICAL EFFECTS

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There is limited information available about the toxicological effects of MDPV. However, the effects and side-effects of MDPV use appear to be highly dose dependent. Kidney dysfunction, with markers for hemolytic anemia and methhemaglobinemia was reported by one user who was using poppers (amyl nitrite) concurrently. The LD<sub>50</sub> of MDPV is not known, although it is suggested that non-fatal overdose would be possible at relatively low doses compared to other RC stimulants (e.g., mephedrone).

[5]

## DESIRED PSYCHOACTIVE EFFECTS

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Desired psychoactive include:

- Stimulant effects
- Increased energy
- Sociability
- Limited, if any, euphoria
- Mental stimulation, increased concentration
- Sexual stimulation/aphrodisiac effects
- Mild empathogenic effects

[2][5][6][7][8][10][11]

## PHYSICAL/MEDICAL UNTOWARD EFFECTS

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Reported negative side effects include:

- Fatigue
- Insomnia
- Nausea, stomach cramps, and digestive problems
- Muscle twitches, jaw tension
- Increased body temp, sweating, overheating
- Irregular and/or increased heart rate
- Pupil dilation
- Headache
- Lack of appetite/thirst
- Kidney pain
- Tinnitus
- Skin prickles, Numbness
- Dizziness
- Overstimulation
- Problems breathing

[2][5][6][7][8][10][11]

## PSYCHOPATHOLOGICAL DISTURBANCES ASSOCIATED WITH ITS USE

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Psychopathological disturbances and other psychological effects associated with use include:

- Severe and prolonged anxiety attacks, agitation, and panic attacks (anxiety, tremor, physical agitation, irritability, dry mouth, increased heart rate) Depression
- Suicidal thoughts (one report) [6]
- Anhedonia
- Confusion
- Altered vision: “I started to see obvious visual distortions, similar to glowing coloured line going across my entire line of sight...” [5]

[2][7][8][10][11]

## RELATED FATALITIES

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None reported.

## YOUTUBE VIDEOS

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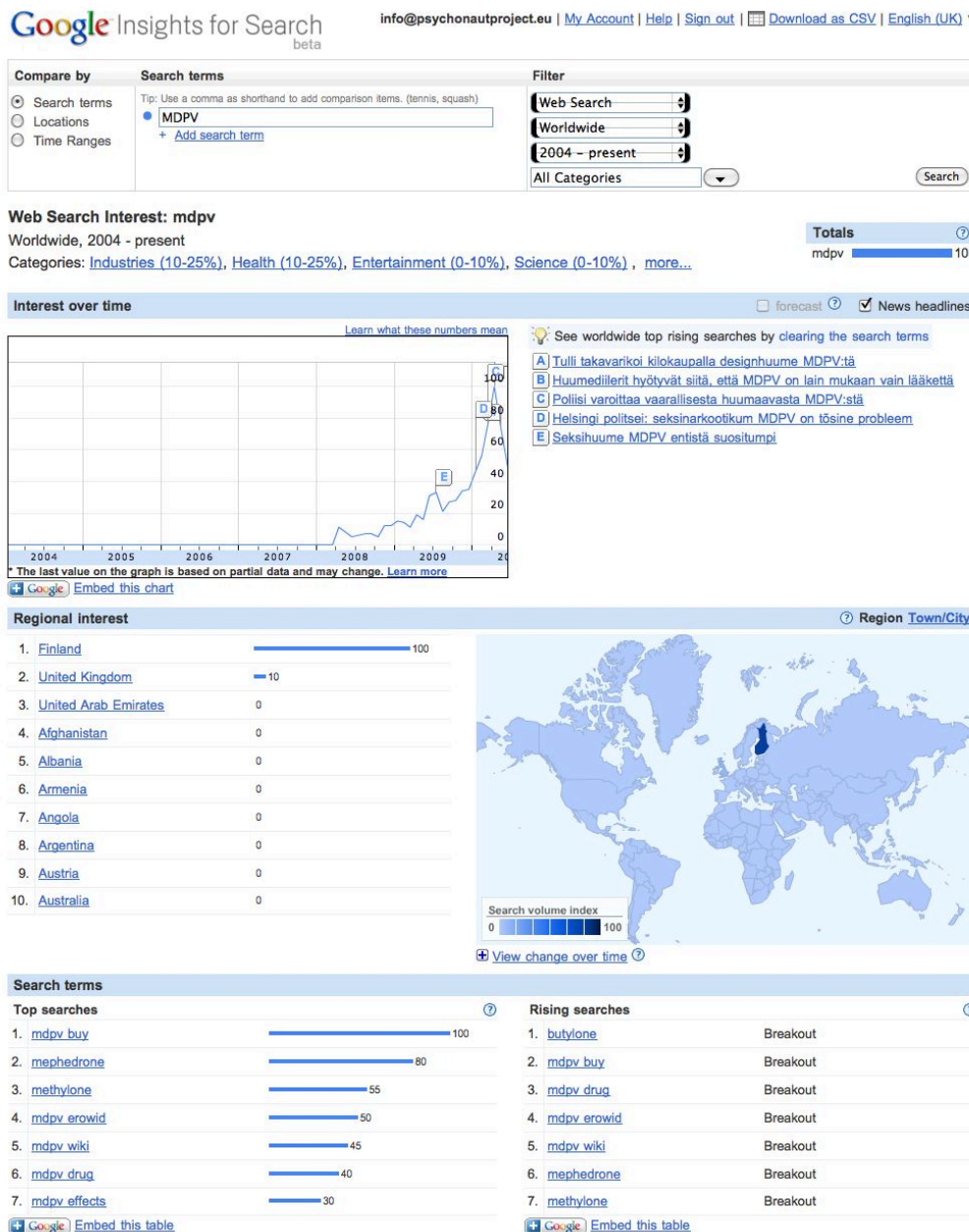
None found

# GOOGLE INSIGHTS

Google Insights for Search shows search volume patterns for specific keywords across specific regions and time frames since 2004. The screenshot below includes a graph with the search volume, indicating interest over time (GMT) for MDPV, plotted on a scale from 0 to 100; the totals are indicated next to bars by the search terms, a breakdown of how the categories are classified, lists of the top searches and top rising searches, a world heat map graphically displaying the search volume index with defined regions, cities and towns.

Google Insights for Search - Web Search Interest: mdpv - Worl...

09/06/2010 15:58



Insights for Search aims to provide insights into broad search patterns. Several approximations are used to compute these results.

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