Europol–EMCDDA Joint Report on a new psychoactive substance: 1-benzylpiperazine (BZP)

In accordance with Article 5 of Council Decision 2005/387/JHA on information exchange, risk assessment and control of new psychoactive substances

Contents

1. Introduction

Article 5.1 of Council Decision 2005/387/JHA ([1]) (hereinafter the 'Decision') stipulates that 'Where Europol and the EMCDDA, or the Council, acting by a majority of its members, consider that the information provided by the Member State on a new psychoactive substance merits the collection of further information, this information shall be collated and presented by Europol and the EMCDDA in the form of a Joint Report (hereinafter the 'Joint Report').' The Joint Report shall be submitted to the Council, the European Medicines Agency (EMEA) and the Commission.

In December 2006, Europol and the EMCDDA examined the available information on a new psychoactive substance, 1-benzylpiperazine (BZP) through a joint assessment based upon the following criteria:

1. the amount of the material seized;
2. evidence of organised crime involvement;
3. evidence of international trafficking;
4. analogy with better-studied compounds;
5. evidence of the potential for further (rapid) spread; and
6. evidence of cases of serious intoxication or fatalities.

The EMCDDA and Europol agreed that the information collected on BZP satisfies at least criteria 1, 3, 5 and 6. The two organisations, therefore, concluded that sufficient information has been accumulated to merit the production of a Joint Report on BZP as stipulated by Article 5.1 of the Decision.

2. Information collection process

In compliance with the provisions of the Decision, on 12 December 2006 Europol and the EMCDDA launched a procedure for collection of further information on BZP, in order to prepare the Joint Report. The information was collected mainly through the networks in the Member States – the Europol national units (ENUs) and Reitox national focal points (NFPs). In addition, the EMEA collected information through the Member States' national competent authorities (NCAs) responsible for medicinal products. The information collection process was largely concluded by 23 January 2007; however, additional information and clarifications from some Member States were received during the following four weeks.

Europol asked the ENUs to provide information on:

- the level of production of BZP in their country;
- the level of distribution of BZP in their country;
- the level of trafficking in their country, both for internal, transit or export purposes;
- the number of seizures of BZP in their country, the total amount of the seizures, country of origin, details on the tablets and logos, including photos;
- the role of organised crime, or criminal groups, in the production, distribution and trafficking of BZP in their country;
- any known aspect of violence and/or money laundering relating to the production and trafficking of BZP.

Europol received responses from twenty-three Member States ([2]).

([1]) OJ L 127, 20.5.2005, p. 32;
([2]) Two Member States, Greece and Italy did not provide information to Europol.

According to Article 5.3, EMEA asked the Member States' national competent authorities (NCA) responsible for human and veterinary medicinal products to provide information on whether:

- the new psychoactive substance BZP has obtained a marketing authorisation;
- the new psychoactive substance BZP is the subject of an application for a marketing authorisation;
- a marketing authorisation that had been granted in respect of the new psychoactive substance BZP has been suspended.

Furthermore, in anticipation of Article 7.3 of the Decision in relation to the manufacturing of medicinal products in the European Union, the EMEA, in consultation with the EMCDDA, requested whether the new psychoactive substance BZP is used to manufacture a medicinal product:

- which has been granted a marketing authorisation; or,
- for which an application has been made for a marketing authorisation; or,
- for which a marketing authorisation has been suspended by a competent authority.

Twenty-two Member States and two Third States ([3]) replied to the EMEA's request.

The rest of the information included in the Joint Report was collected by the EMCDDA through a structured questionnaire from the Reitox NFPs. The EMCDDA received replies from all twenty-seven Member States and Norway. A specific information request on whether or not BZP is under assessment by the UN system was also made to the World Health Organization (see section 3.5). Furthermore, an extensive literature review was carried out by the EMCDDA. To facilitate the reading of the report, the full references of the quoted scientific articles are in general not included in the text; however, a list of the main information sources is annexed (Annex 1).

Thus, information included in sections 3.2.1, 3.3 and 3.6 of the Joint Report was provided by Europol, while the EMCDDA provided information included in sections 3.1, 3.2.2, 3.4, 3.5, 3.6, 3.7 and 3.8. The information included in sections 3.8 (partly), 4.1, 4.2 and 4.3 was provided by the EMEA. The conclusions and recommendations of the Joint Report were prepared and agreed by the two responsible organisations – the EMCDDA and Europol – in consultation with the EMEA.

3. Information requested by Article 5.2 of the Decision

The order and titles of subsections 3.1 to 3.8 and section 4 below are exactly as they appear in Article 5.2(a) to (h) and Article 5.3(a) to (c) of the Decision. Moreover, all sections are cross-referenced with those set down in the Decision.

3.1 Chemical and physical description, including the name under which the new psychoactive substance is known – Article 5.2(a) of the Decision

Chemical description and names

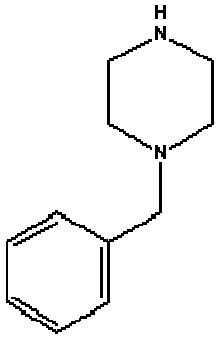
1-benzylpiperazine is a psychoactive substance which belongs to a group of aryl-substituted piperazines that includes, amongst others, 1-(3-chlorophenyl)piperazine (mCPP), m-trifluoromethylphenylpiperazine (TFMPP), 1-(4-methoxyphenyl)-piperazine (pMeOPP), p-fluorophenylpiperazine (pFPP), dibenzylpiperazine (DBZP),

([3]) Austria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Romania, Slovenia, Spain, Sweden and the UK; and Norway and Liechtenstein.

1-(3,4-methylenedioxybenzyl)piperazine (MDBP), etc. The latter two together with BZP form the subgroup of benzylpiperazines, whereas the remaining could be described as phenylpiperazines. Alternative chemical names of BZP are *N*-benzylpiperazine ([4]) and 1-benzyl-1,4-diazacyclohexane.

1-benzylpiperazine is better known by one of its codenames – BZP, which is an abbreviation for benzylpiperazine. Another, less used codename is A2 supposedly after the alternative chemical name 1-benzyl-1,4-diazacyclohexane. However, as use of codenames could be confusing, they should be used only for initial orientation ([5]). Some of the users' and brand names by which BZP is known in the EU Member States are included in subsection 3.8.2 of the Report.

The molecular structure, formula and weight of 1-benzylpiperazine are shown below.



Molecular formula: C11-H16-N2
Molecular weight: 176.26 Daltons (base); 249.19 Daltons (2HCl)

Identification and analytical profile
Chemical Abstracts Service (CAS) registry numbers of BZP: 2759-28-6 (base); 5321-63-1 (2HCl).

Colour screening tests results: BZP does not react to Marquis ([6]) and Scott's; it has a positive reaction to Nitroprusside.

Mass spectral data for BZP (*m*/*z*): 91 (base peak); 134, 56, 176, 65.
(Detailed analytical profiles of BZP and other piperazines are available at the EMCDDA.)

Physical description (general)
1-benzylpiperazine is available as either base or hydrochloride salt (2HCL). The base form is a pale, slightly yellowish-green liquid; the hydrochloride salt is a white solid. The base form of BZP is a corrosive product which can cause burns; the hydrochloride salt is an irritant to eyes, respiratory system and skin. Further indications of the health risks associated with BZP can be found in subsection 3.4.

BZP is commercially widely available from chemical suppliers on the Internet ([7]) where it can be purchased in bulk. Furthermore, Internet sites targeting recreational

([4]) International Union of Pure and Applied Chemistry (IUPAC) name.
([5]) For example, A2 is used also as a brand name, furthermore, the code name A2 has been reportedly mentioned on the Internet in relation to another chemical – 6-triflouro-N-benzyl-methyl piperazine.
([6]) According to erowid.org – BZP gives no colour change, but it causes the reagent to fizz ('looks like when you pour hydrogen peroxide on a cut').

drug users offer shipments of BZP powder in various quantities – 1g, 5g, 10g up to f. e. 200g. The purity of BZP offered on the Internet is supposedly very high (99% - 99.8%).

A more detailed description of the physical form of the BZP seizures in the European Union Member States can be found in subsection 3.2 below. Description of various BZP-containing 'party pills', 'legal highs' etc., sold by online shops can be found in subsections 3.2 and 3.8.2. A full account of the available images of seizures and collected samples is annexed (Annex 2).

3.2 Information on the frequency, circumstances and/or quantities in which a new psychoactive substance is encountered, and information on the means and methods of manufacture of the new psychoactive substance – Article 5.2(b) of the Decision

3.2.1 Information provided to Europol

The level of production, distribution and trafficking
As BZP is legally available via the internet and the chemical industry, processing activities by organised crime are limited to tableting or encapsulating.

Eight Member States reported seizures of BZP to Europol. Denmark, Finland, France, Germany, Malta, Spain and Sweden reported minor seizures, ranging from a seizure of one capsule in France to approximately 170 tablets seized in two incidents in Malta. In Finland, 21 tablets were seized on six occasions. One of these seizures, in August 2006, related to a parcel arriving from the United Kingdom with tablets branded as 'JAX' and 'flying Angel' originating from internet sale. Sweden made 25 seizures of BZP in 1999, in powder and capsules, often mixed with amphetamine or MDMA. In 2006, seven seizures of tablets were made. The United Kingdom, reported four seizures of powder, totalling 995 mg, five seizures of nine capsules in total, and 91 seizures of tablets, including a significant seizure of 64,900 tablets. In the latter case, tablets had a 'Mitsubishi' logo, which suggests that they were intended to be sold as 'ecstasy'.

Two Member States reported on legal importations: in Ireland, limited quantities were imported, mainly from New Zealand, and distributed in local 'smart-shops'. Germany reported on importations from France to a German company, for research and analysis purposes, totalling 15 times 100 ml and 13 times 25 ml.

Germany also reported on an incident in August 2005, in which a small-scale laboratory was found with the seizure of 62 ml liquid 1-benzylpiperazine and 20.18 grams of benzylpiperazinedihydrochloride in powder form.

Apart from a single seizure of 64,900 tablets in the United Kingdom, no Member State provided information that suggests large-scale processing of, and/or trafficking in BZP. The Irish, German and Finnish contributions indicate legitimate distribution in Ireland; small-scale research and analysis use in Germany and availability on the internet via United Kingdom based internet sites.

Fifteen Member States: Austria, Belgium, Cyprus, the Czech Republic, Estonia, Hungary, Ireland, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal,

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([7]) For example, chemical suppliers such as Sigma-Aldrich (UK), Fluka Chemie GmbH, Buchs (Switzerland), etc., as well as various other suppliers many of them reportedly based in China, e.g. Shanghai Everchem Co., Ltd.

the Slovakia and Slovenia reported to Europol that they had made no seizures of BZP ([8]).

3.2.2 Information provided to the EMCDDA

Thirteen Member States and one Third State reported BZP detections ([9]) to the EMCDDA, as follows: Austria, Belgium, Denmark, Germany, Greece, Ireland, Spain, Finland, France, Malta, the Netherlands, Sweden and the United Kingdom; and Norway. The reported BZP detections refer to the following physical forms: tablets of various colours, weight, diameter, thickness, shape, with or without a logo and/or markings – found in Denmark, Finland, France ([10]), Germany, Ireland, Malta, the Netherlands, Portugal, Spain, Sweden and the United Kingdom; powders of various colours – found in Austria, Belgium, Denmark, Finland, Germany, Malta, Netherlands and Sweden; various mono-and bi-coloured capsules – found in Denmark, Finland, France, Greece, Ireland, the Netherlands, Sweden and the United Kingdom; paste and pulp – found in Portugal and Sweden respectively; and yellowish clear liquid – found uniquely in Germany.

Seizures
Most of the Member States reported small seizures, which varied from a single seizure in Belgium and Greece (a small quantity of powder and three capsules respectively), to few seizures of 1 to 10 units (tablets or capsules) or small quantities of powder (Denmark, France, Germany, Finland, Ireland, Malta, Portugal and Spain). Malta also reported two slightly bigger seizures in tablet form (see Europol above).

The Netherlands Forensic Institute (NFI) examines all Dutch drug seizures, except for Amsterdam. In 2006, the NFI examined more than 13,000 'exhibits' ([11]) of which approximately 2,000 concerned tablets. About 200 of these, i.e. 10% of the illegal tablet seizures, concerned tablets containing piperazine derivates ([12]). However, in total, only 11 of all the seizures contained BZP – 3 consisting of tablets and 8 consisting of powders.

The United Kingdom reported seizures by the Police in England, Scotland and Northern Ireland. Apart from the large quantity of 64,900 tablets seized from a car in London (also reported to Europol, see above), two other major cases involved 5,311 tablets seized in Strathclyde, Scotland in December 2006 as well as a seizure of 2,068 tablets. The latter case involved also a small quantity of powder and two capsules. Most tablets also contained TFMPP and most carried either a 'Mitsubishi' or a 'Smiley Face' logo. Occasionally BZP was found as an adulterant in MDMA tablets. BZP tablets sometimes contained DBZP – possibly a synthetic impurity.

In general, it was not uncommon that BZP in the seized units was in combination with other substances of the piperazines group, most notably, TFMPP (Denmark, France, Greece, Ireland, the Netherlands, and the United Kingdom), but also MeOPP (Denmark and the Netherlands), mCPP (the Netherlands), DBZP (the Netherlands and the United Kingdom). Furthermore, various other substances were also encountered in combination with BZP – tripelennamine (Azarone; an antihistamine)

([8]) However, Belgium, Ireland and the Netherlands did report small seizures of BZP to the EMCDDA.
([9]) 'Detections' is an all encompassing term, which may include seizures and/or collected and/or biological samples.
([10]) All tablets reported by France were seized in New Caledonia (Oceania), no further information on quantities has been reported.
([11]) The data are from seizures in the Netherlands during 2006, only part of the December seizures are missing.
([12]) These include 1-(3-chlorophenyl)piperazine (mCPP), for more information on this substance, see Europol-EMCDDA Joint Report on mCPP (14409/05 CORDROGUE 73).

(Denmark and France), cocaine (Malta), caffeine (the Netherlands and Sweden, see below), 2-phenylethylamine (2-PEA) (the Netherlands), MDMA (the United Kingdom), etc.

The Swedish data

The most complete data sets on BZP detections between 2000 and 2006 are available from the Swedish Police, Customs and the National Board of Forensic Medicine – Department of Forensic Chemistry. These data are described in detail since they may illustrate the dynamics of the developing BZP market.

Since the first identification of BZP in 1999, the National Laboratory of Forensic Science which carries out analyses on seizures made by the Police has analysed 118 seizures ([13]). The seizures have mainly been detected in the southern part of the country, but a few seizures have also been made in the north. The first seizure in 1999 consisted of a powder and since then this has been a common form. Since the year 2000, 45 powder seizures totalling 655g have been made. The powders were of white colour as well as different shades of beige and yellow; sometimes pure BZP, sometimes mixed with other substances. Between 2002 and 2004, 305 capsules were found in 23 seizures. Seven different types of capsules were analysed – uncoloured, red, white/red, green and turquoise some of them having a mixture of various kinds of substances. The first tablet containing BZP was seized in 2003. Between 2005 and 2006 nine further seizures of tablets were made. The 197 seized tablets were of seven different types and colours – white, white mixed, light brown, brown mixed and pink. Some were pure BZP and some were mixed with other substances.

In many of the units (tablets or powders) containing BZP, combinations with other psychoactive substances were found. In 2001 ketamine was found in one mixture, TFMPP was found in seizures from 2002 and 2003. For a period of three years caffeine seems to have been the most common BZP adulterant, this combination having been detected between 2002 and 2005. In 2006, combinations with *N*-methyl-*N*-benzylpiperazine were analysed as well as with less common substances such as sildenafil, phenazone and chavicine (a constituent of black pepper).

The Swedish Customs made their first two seizures of BZP in 2002. Both seizures consisted of powders. Since then two more seizures of powders have taken place in 2004 and 2006. The powders were white with no other ingredients. Other powders involved in the same case were dextromethorphan (DXM), TFMPP and cocaine. The latest seizure of BZP powder by the Customs was of 23kg, together with parts of a tableting machine.

In 2003, the first seizure of tablets was found consisting of one white tablet together with steroids and tablets containing ephedrine. In 2006, there were four seizures totalling 2,251 tablets of three different kinds, red, pink and white with different logos such as 'LOVE' and 'PULSE III'. In 99% of all tablets caffeine was detected and in 8 tablets TFMPP (which is a controlled substance in Sweden).

A fatal case associated with BZP in Sweden as well as the identifications of BZP in biological samples ([14]) reported from Malta, Sweden and the United Kingdom are discussed in details in subsection 3.4.1.

([13]) For the year 1999 no specific data is available; furthermore the figures from 1999 and 2000 may not be fully reliable due to a change in reporting system. Data described in the text are from 2000 onwards.

([14]) Biological (human) samples, e.g. body fluids (urine, blood), tissues, hair, etc.

Collected samples, availability and content of BZP products

In addition to the seizures and the identifications in biological samples, three Member States (Austria, Ireland and the Netherlands) reported also collected samples ([15]). In November 2006, in Vienna a small amount of BZP powder was analysed in the framework of the pilot pill-testing project 'ChEckiT!'. Since 2003, the following samples were delivered to the Dutch Drugs Information and Monitoring System (DIMS) – six powders (three in 2003 and three in 2004) and 13 ecstasy-like tablets in 2006. In Ireland, samples were taken from a 'head shop' and analysed by the Forensic Science Laboratory, as follows: 56 pink capsules containing BZP and MPP (methylphenylpiperazine); 100 capsules containing BZP and TFMPP, some of the capsules were white, some pink and white and some orange; 6 red capsules containing BZP and caffeine; 2 round blue half-scored tablets which had a 'lightening flash' design imprinted on them – all tablets contained BZP only.

Despite the various seizures on the illicit drugs market described above, it seems that the main source of BZP-containing products for recreational users is the Internet where it is been widely sold and aggressively marketed by a number of (supposedly United Kingdom-based) online shops ([16]). Such products are also sold in the so-called 'head shops' in Ireland and in the United Kingdom as well as at 'legal high' stalls at clubs and festivals. BZP-containing products are often marketed under the umbrella terms 'legal highs' or 'party pills' (with various brand names, see subsection 3.8.2 below) and are sometimes misrepresented as 'natural' or 'herbal' products.

In order to identify the active ingredients contained in such products, their quantities, and to determine how the actual contents match the listed ingredients, a team from St. George's University of London purchased and analysed different tablets and capsules from three major internet suppliers. The study found that of the 26 tablets and capsules screened, 23 contained one or more of the following piperazines: BZP, TFMPP, pFPP, pMPP, mCPP and DBZP. BZP was present in 21 of the 23 piperazine-containing tablets/capsules. Additional ingredients were nicotineamide in capsules and caffeine in tablets. The most common combination both in the capsules and in the tablets was BZP with TFMPP. The quantification of BZP and TFMPP in tablets and capsules (n=20) gave a mean BZP of 65mg and TFMPP of 22mg. However, the range varied widely between 28–133mg BZP and 4–72mg TFMPP. The content stated on the packaging for BZP ranged from 105mg to 200mg, and for TFMPP from 50mg to 75 mg. (Source Analytical Unit, St. George's University of London, United Kingdom)

3.3 Information on the involvement of (international) organised crime in the manufacture or trafficking of the new psychoactive substance – Article 5.2(c) of the Decision

The United Kingdom provided Europol with information indicating the involvement of organised crime in the acquisition and tableting of, and/or trafficking in, BZP. None of these data source the tablets' origin, whilst the use of logos indicates that they are sold in the user environment as ecstasy.

Money laundering aspects

No information was received on money laundering related to the production and/or trafficking of BZP.

([15]) Samples collected and analysed for monitoring, research or prevention/harm reduction purposes.
([16]) For example, http://www.everyonedoesit.co.uk/, http://www.youknowit.com/, http://www.spiritualhigh.co.uk/, http://www.legal-highs-shop.co.uk/, http://www.wellcoolstuff.com/, etc.

Violence in connection with production, wholesale and distribution

No information was received on incidents of violence in connection with production, wholesale and/or distribution of BZP.

3.4 A first indication of the risks associated with the new psychoactive substance, including the health and social risks, and of the characteristics of users – Article 5.2(d) of the Decision

3.4.1 First indications of health risks

Background information
BZP is a central nervous system stimulant. BZP has a complex action working directly and indirectly on central monoamine receptors. Pharmacological studies indicate a central serotoninomimetic action which involves serotonin re-uptake inhibition and 5-HT1 receptor agonistic effects. Furthermore, it is said that BZP triggers the release of dopamine and noradrenaline and inhibits their synaptic re-uptake.

The peripheral actions of BZP on alpha-2 adrenoceptors mediate reflex tachycardia and hypertension. The pharmacokinetics and human metabolism of BZP are incompletely understood, although BZP is known to be poorly metabolised and is largely excreted unchanged by the kidneys (Gee at al., 2005). There is a possibility that BZP may interact with certain medicinal products and lead to the development of a serotonin syndrome.

Studies in humans compared the physiological and subjective effects of BZP with those of amphetamine, and suggested that these are substantially similar, but that BZP has approximately one-tenth (10%) of the potency of dexamphetamine. A double blind study (Campbell et al., 1973) found that former amphetamine addicts were unable to distinguish between equipotent doses of BZP and amphetamine. The former amphetamine addicts tested with both BZP and dexamphetamine scored BZP higher than dexamphetamine. A more recent study (Bauman et al., 2005) has shown that a combination of BZP with TFMPP mimics the molecular mechanism and some of the effects of MDMA (ecstasy).

In a recent study, BZP functioned as an effective reinforcer in rhesus monkeys (Fantegrossi et al., 2005). BZP maintained i.v. self-administration above rates observed for saline, comparable with cocaine. When evaluated in monkeys trained to discriminate amphetamine from saline, BZP had full amphetamine-like effects. These findings suggest the psychomotor stimulant-like effects of BZP. Previously this has been shown in mice (Miller et al., 1971), rats (Oberlander et al., 1979; Kosóczky et al., 1978) and humans (Campbell et al., 1973; Bye et al., 1973). Moreover, the results of Fantegrossi et al. (2005) support drug discrimination experiments indicating stimulant-like effects of BZP in rats (Jones et al., 1980) and extend them by demonstrating similar effects in primates. These results suggest that BZP may have abuse liability of the amphetamine type.

A 100mg dose of BZP is said to have effects of between 6–8 hours duration. In doses between 75 and 150mg BZP is reported to produce arousal, euphoria, wakefulness, improved vigilance and feeling of wellbeing. Users, however, also describe various negative experiences such as anxiety, vomiting, headache, difficulties to sleep, palpitations, confusion, collapse and seizures. Side-effects may

include dilated pupils, dryness of the mouth, and problems with urine retention. BZP is also said to produce a severe hangover after the drug effect wears off. Some of those symptoms reportedly may persist for up to 24 hours.

In New Zealand, where the longer history and the legal status of the phenomenon allowed it to be better studied, the 2006 National household survey of legal party pill use ([17]) (2,010 respondents, aged 13–45 years old) provides some insight into the harms and problems related to the use of party pills. The psychological problems most often experienced from legal party pill use were 'trouble sleeping' (50.4%), 'loss of energy' (18.4%), 'strange thoughts' (15.6%), 'mood swings' (14.8%), 'confusion' (12.1%) and 'irritability' (11.4%). The physical problems most often experienced from legal party pill use were 'poor appetite' (41.1%), 'hot/cold flushes' (30.6%), 'heavy sweating' (23.4%), 'stomach pains/nausea' (22.2%), 'headaches' (21.9%) and 'tremors and shakes' (18.4%) ([18]).

BZP appears to have a narrow safety margin when used recreationally, possibly because of intrinsic pharmacodynamic properties, self-dosing variability, or genetic polymorphism. Those with seizure disorders or coronary disease should avoid BZP as should those taking prescription sympathomimetics or anticholinergics. Co-ingestion with MDMA or amphetamine should also be cautioned against (Gee at al., 2005).

The risk associated with the use of BZP in humans has not been determined. In terms of toxicity, little is known about the long- or short-term effects of BZP. In New Zealand, where BZP has been recreationally used since 2000, there have been a number of reported incidents of users suffering serious side-effects from legal party pills. Some of these incidents have resulted in medical emergencies and hospital admissions. A recent New Zealand Medical Journal article described 80 BZP-related Emergency Department admissions occurring at Christchurch Hospital over a six-month period in 2005. The authors concluded that BZP can cause unpredictable and serious toxicity in some people. The authors advise that those with seizure disorders or coronary disease should avoid using BZP, as should those taking certain prescription medicines (Gee et al., 2005). Legal party pill use has been linked with one case of drug psychosis requiring admittance to a Christchurch acute psychiatric facility (Saunders, 2005).

Given the physical forms in which BZP is available and the intended users, in the great majority of the cases the substance is taken orally (ingested). However, since BZP in powder form is also widely available, it cannot be excluded that the substance is also snorted or injected by users who usually snort or inject ecstasy. However, no such case has been reported to the EMCDDA so far. According to the above-mentioned 2006 National household survey in New Zealand, nearly all (98.8%) of those who had used legal party pills in the previous year typically 'swallowed' them; only one user (0.6%) reported they typically injected them. The intravenous use of BZP has also been reported by some drug and alcohol practitioners working in New Zealand.

The European data

Most of the data available from the Member States at the time of the preparation of this report show the availability and the use of BZP in Europe, rather than providing conclusive evidence about the risks associated with it. The most valuable information

([17]) Legal party pills are products containing either BZP and/or TFMPP along with herbal stimulants such as guarana and black pepper see subsection 3.8.2.

([18]) All New Zealand data in this section are from 2006 National household survey of legal party pill use (Wilkins et al., 2006).

about the health risks related to BZP is a detailed report from the UK which described toxicologically confirmed (and quantified) and clinically observed intoxications involving BZP as the only consumed psychoactive substance. Evidence on specific social risks associated with BZP is limited.

The first post-mortem identification involving BZP was reported from Sweden as early as 1999. Subsequently, Malta, Sweden and the United Kingdom have reported biological (blood or urine) samples, conclusively demonstrating BZP consumption and providing some insight into the various combinations of piperazines used.

In 1999, the Swedish National Board of Forensic Medicine, Department of Forensic Chemistry, found the presence of BZP in a sample of femoral blood (1.7mg/L) in the autopsy of a 22-year-old male. MDMA, MDA and THC were all present in that case (Wikstrom et al., 2004). Further search of the records of the Department of Forensic Chemistry revealed that a second post mortem identification of BZP in an autopsy case of a 24-year-old male was made in 2002. Amphetamine and THC were also present in this case. However, the extent to which BZP is implicated in these deaths is not known. Furthermore, a report from the University Hospital in Zurich, Switzerland, details the death of a young female user. The exact role of BZP in this case is also not known, as additional risk behaviour as well as other psychoactive substances such as MDMA are reported to have been involved (Balmelli et al., 2001).

In the course of the information collection for the preparation of this report, the United Kingdom reported that BZP was also found in post mortem analyses of two death cases due to road accidents. These cases, involving 26- and 32-year-old males, occurred in England (West Midlands) and Wales respectively. In both cases BZP was quantified in blood and urine samples, but a number of other psychoactive substances were also found e.g. cannabinoids, cocaine, ephedrine, MDMA, ketamine, amphetamine, diltiazem and ethanol. Therefore, it could be assumed with a high level of certainty that the possible role of BZP in these cases was negligible ([19]).

The Swedish National Board of Forensic Medicine, Department of Forensic Chemistry, reported the analyses of 15 blood samples and 50 urine samples from living individuals (ante-mortem) which showed the presence of BZP. The blood samples were analysed between 2000 and 2006 and the urine samples between 1999 and 2006. The blood samples were all from individuals arrested by the Police, whereas the urine samples were taken also from prison inmates. Amphetamine, methamphetamine, THC and benzodiazepines were other substances identified in these samples. The circumstances of the Police arrests were often petty drug offences, but also traffic violations. Geographically, the tested individuals came from 12 different cities in the middle and southern parts of Sweden. The age range of the tested individuals is 15–51 (mean around 25) with males being disproportionately represented.

Between March and December 2006, BZP was detected ante-mortem in fourteen urine samples analysed at the Toxicology Laboratory of the Malta General Hospital (some of these cases had been referred by the emergency department). In three of the cases, BZP was the only substance present; in two other cases BZP was present in combination with MDMA only, whereas in all other cases more than two psychoactive substances were detected e.g. MDMA, cocaine, opiates, ketamine,

([19]) In New Zealand, it has been argued (Candor Trust – road safety group) that party pills enhance driving and are, in fact, 'saving lives' because they provide a legal and safer alternative to controlled stimulants such as methamphetamine.

benzodiazepines, alcohol and THC. Similarly, the UK reported that between May and December 2006, BZP was found in urine samples of five males in England (three of the samples were quantified). In two of the cases the age of the individuals is not known, but the other three are reported to have been 14, 26 and 32. One of the cases involved BZP only, whereas in the remaining four TFMPP was also present, as well as MDMA and methadone and MDMA and quinine in two of the cases.

In May 2006, during a weekend seven patients aged between 18 and 23 presented themselves simultaneously at the emergency department at St. Thomas' Hospital London. All of the patients were at a single club in south London and had ingested tablets, which they believed to be ecstasy or amphetamine. The tablets were purchased from the same dealer. The numbers of tablets ingested per patient ranged from 4 to 9. Two patients had collapsed in the club with witnessed self-terminating *grand mal* seizures. On arrival at the hospital, five of the patients had evidence of sympathomimetic toxidrome with dilated pupils, anxiety, agitation and tachycardia. The patients were admitted for observation and treated with i.v. fluids and *per os*/i.v. benzodiazepines as required. Serum samples were collected from four patients and were analysed by the Toxicology Service at St. George's University of London. After eight hours of observation none of the patients had evidence of ongoing toxicity and all were discharged. All samples were negative for alcohol and controlled drugs, including amphetamines, cocaine, opiates, methadone and benzodiazepines. However, BZP was detected in all four samples. It should be noted that the serum concentrations in three of the cases (1.9, 1.9, and 2.5 mg/L) exceeded those reportedly measured in the Swedish autopsy case (see above). (Source: Analytical Unit, St. George's University of London, Guy's St. Thomas' Poison Unit, London United Kingdom.)

Furthermore, in the United Kingdom there has been an alleged drug facilitated sexual assault case in which BZP and 1-(4-methoxyphenyl)piperazine (pMeOPP) were detected in a urine sample. The concerned individual declared to have taken pills called 'PEP Love'. The empty pill container was labelled as containing 'a piperazine blend' and supplied by www.spiritualhigh.co.uk. No further details about the case are available.

3.4.2 Characteristic of users

BZP tablets are in the great majority of the cases sold/bought as 'party pills' where the content is more or less correctly marked (this is not always the case with the quantity). However, from the appearance of some of the seizures (f. e. in the United Kingdom), it could be assumed that on some occasions BZP may be sold on the illegal market as the popular drug ecstasy ([20]). Therefore, although there have been no specific studies of the characteristics of BZP users in Europe, it can be assumed that they are the same as those of the well-studied ecstasy-using population. In summary, this is predominantly a youth phenomenon, in particular of 15- to 24-year-olds, with rates of drug use higher in males than in females, predominantly from urban areas, who frequent clubs, discos and dance events.

In New Zealand, the 2006 'National household survey of legal party pill use' provides some national population statistics on the prevalence and patterns of legal party pill use (2,010 respondents, aged 13–45 years). One in five (20.3%) of the sample had ever tried legal party pills, and one in seven (15.3%) had used legal party pills in the

([20]) Although a report from Malta and some internet accounts (lyceaum.org) suggest that BZP powder may be sold as cocaine.

preceding 12 months. Levels of last year use of legal party pills were highest among the 18- to 24-year-old age range with 33.9% of 18- to 19-year-olds and 38.0% of 20- to 24-year-olds having used legal party pills in the preceding year. Males were more likely than females to have used legal party pills in the previous year in a number of age groups including among 13- to 14-year-olds (4.4% vs. 0%), 20- to 24-year-olds (48.5% vs. 27.9%), 30- to 34-year-olds (15.4% vs. 6.6%), 35- to 39-year-olds (10.7% vs. 2.2%) and 40- to 45-year-olds (7.6% vs. 2.5%).

3.5 Information on whether or not the new substance is currently under assessment, or has been under assessment by the UN system – Article 5.2(e) of the Decision

The World Health Organisation (WHO) is the specialised UN Agency designated for the evaluation of the medical, scientific and public health aspects of psychoactive substances under the 1961 and 1971 UN Conventions.

The WHO informed the EMCDDA that 1-benzylpiperazine (BZP) is currently not under assessment and has not been under assessment by the UN system.

3.6 The date of notification on the Reporting Form of the new psychoactive substance to the EMCDDA or to Europol – Article 5.2(f) of the Decision

The first official EMCDDA–Europol record of BZP (reported as 'A2') is from late 1999 when Sweden reported a BZP seizure (powder) which was made in September 1999. The analysis was carried out by the National Laboratory of Forensic Science. At that time, Sweden reported that 25 seizures ([21]) and one post-mortem identification of BZP had been made in 1999. At a later stage, the Swedish NFP completed the information, adding that in 1999 there were four more analyses of urine samples of living individuals (ante-mortem) – two of them showing that BZP was the only substance used ([22]). Nevertheless, the first formal notification of BZP to the EMCDDA through a reporting form is of 27 October 2003 from the Belgian NFP. It concerns a single seizure of 3.8g of white powder made by the Police in Turnhout in September of that same year.

At the end of 1999, BZP was added to the list of new psychoactive substances monitored by Europol and the EMCDDA via the Early Warning System (EWS) and further information about detections in seizures, biological and collected samples was amassed by the two responsible organisations and the Member States. Between 2000 and 2006, information about BZP identifications, together with analytical details and background information has been exchanged on various occasions between Europol, the EMCDDA and the Member States. The Commission and the EMEA were kept duly informed. In 2006, the number of notifications to the EMCDDA and/or Europol of encounters of BZP and, in particular, of recent intoxications, increased, thus prompting the production of this Joint Report.

([21]) These figures may not be fully reliable as in 2000 there was a change in the reporting system in Sweden.
([22]) In the information collection process for the preparation of this report, the EMCDDA was informed that in 1999 BZP was also seized in Norway. At that time, however, Norway was not a member of the EMCDDA and, therefore, not reporting via the Early Warning System.

3.7 Information on whether or not the new psychoactive substance is already subject to control measures at national level in a Member State – Article 5.2(g) of the Decision

In twenty-two Member States and in Norway, 1-benzylpiperazine is not controlled under the terms of the 1961 or 1971 UN Conventions.

Five Member States – Belgium, Denmark, Greece, Malta and Sweden – control BZP under drug control or equivalent legislation. In Belgium, as of 18 October 2004, BZP is regulated by the Royal Decree on Psychotropic Substances ([23]). In Denmark, on the recommendation of the National Health Board, the Minister for the Interior and Health amended the Executive Order on Euphoric Substances, adding 1-benzylpiperazine to the list of controlled substances. The Executive Order entered into force on 3 December 2005. Consequently, BZP may only be used for medical or scientific purposes. In Greece, the substance BZP is classified in Table A ([24]) of Law 1729/87 and is, therefore, subject to the same control measures that apply to, for example, cannabis, heroin, LSD or MDMA. In Malta, as of 16 June 2006, BZP is controlled as a psychotropic substance under the Medical and Kindred Profession Ordinance (Chapter 3 – Section A). Sweden controls BZP under the Act on the Prohibition of Certain Goods Dangerous to Health; the regulation entered into force on 1 March 2003.

Furthermore, the Italian Ministry of Health has recently started a procedure to bring BZP under control as a narcotic drug (Table 1). As provided by Law 309/90, the responsible Unit (Central Drug Office – Ufficio Centrale Stupefacenti) has submitted the proposal to the High Council of Health for an opinion.

Two Member States – the Netherlands and Spain – apply control measures to BZP under their medicines legislation. In the Netherlands, BZP is considered to be a medicinal product and is, therefore, controlled under medicinal products legislation. In Spain, BZP is not classified as a drug but it is considered a chemical substance with medicinal features (stimulant and other). Consequently, it is controlled by the Law 25/1990 on medicinal products that controls all chemical substances with medicinal features. The EMCDDA has been informed that in 2006, the Estonian State Medicines Agency under the Ministry of Social Affairs has considered introducing control measures related to BZP.

In March 2004, New Zealand's Expert Advisory Committee on Drugs considered BZP and related substances. The Committee concluded that there was insufficient evidence to control these substances and recommended further research. However, as of July 2005 BZP was classified in a newly created category – Class D of the 1975 Misuse of Drugs Act – restricting the sale and supply to persons who are 18 years of age or older. Similarly, in Ireland, despite the fact that BZP is not controlled as a psychoactive substance under the national drug control legislation or medicines regulations, in the so-called 'head shops' it is sold only to persons 18 years and older.

In the USA, BZP was temporarily placed into Schedule I of the Controlled Substances Act (CSA) on 20 September 2002. On 18 March 2004, the Drug

([23]) Recent information suggests that control measures in one Member State may have certain repercussions on the availability of the product in the other Member States. For example, the EMCDDA was informed by the UK EWS correspondent that Thermo Fisher (ex Fisher Scientific) withdrew BZP from retail sale in the UK, supposedly after it was controlled in Belgium in late 2006.

([24]) Handling of the substances included in Table A is an exclusive right of the state.

Enforcement Administration (DEA), US Department of Justice published a Final Rule in the Federal Register, permanently placing BZP in Schedule I of the CSA. BZP is a controlled substance in all states of Australia as well as in Japan where it is listed as a narcotic in the Narcotics and Psychotropics Control Law.

As of 1 January 2007, BZP is included in the Prohibited List of the World Anti-doping Code as a stimulant substance prohibited in competition.

3.8 Further information – Article 5.2(h) of the Decision

3.8.1 The chemical precursors that are known to have been used for the manufacture of the substance

BZP is a piperazine derivative, and an entirely synthetic substance. Neither BZP nor other piperazines are derived or 'synthesised' from the pepper plant. As stated earlier in this report (see section 3.2) BZP is legally widely available and there seems to be no need for illicit production. The DEA (2001) states that the chemical process to manufacture BZP is straightforward; therefore it can be manufactured without sophisticated laboratory equipment (standard equipment is nonetheless needed). However, BZP and piperazines (in general), are relatively inexpensive, and when clandestinely processed in Europe and the United States, they are usually purchased in bulk (in powder or liquid form) through the internet and/or from chemical suppliers and then processed into tablets

However, it should be noted that a description of synthetic methods for BZP is readily available on the internet and in the specialised literature ([25]). The synthesis of BZP is based on the reaction of piperazine monohydrochloride ([26]) with benzyl chloride ([27]), both of which are relatively simple, easily available chemicals (precursors). This method could be adapted to create other benzylpiperazines. Also, it seems possible that dibenzylpiperazine (DBZP), a chemical closely related to BZP, could form as an impurity in the synthetic process. Furthermore, notes could be found on the internet showing how to convert piperazine citrate (the form used commercially as an anthelminthic) to piperazine monohydrochloride.

3.8.2 The mode and scope of the established or expected use of the new substance

The recreational use of BZP is reported to have first occurred in late 1996 in California. According to the DEA, after 2000 in the United States there has been a growing popularity of BZP, evidenced by the 'increasing encounters of this substance by law enforcement officials'. In its Final Rule (2004) on the placement of BZP into Schedule I of the CSA, the DEA states that 'BZP has increasingly been found in similar venues as the popular club drug MDMA (ecstasy). BZP often in combination with TFMPP, is sold as MDMA, promoted as an alternative to MDMA and is targeted to youth population. BZP (alone or in combination with TFMPP) has been encountered in powder and tablet form and sold on the Internet.'

([25]) For example, J. Cymerman Craig, W. P. Rogers, and M. E. Tate, *Australian J. Chem.*, 9, 397 (1956); R. Baltzly, J. S. Buck, E. Lorz, and W. Schon, *J. Am. Chem. Soc.*, 66, 263 (1944); R. E. Lutz and N. H. Shearer, *J. Org. Chem.*, 12, 771 (1947).

([26]) Piperazine monohydrochloride is the primary precursor; from the viewpoint of a possible precursor control, it would be necessary to specify 'piperazine and its salts' since the various forms of piperazine (salts and/or hydrates) could all be converted to piperazine monohydrochloride without too much difficulty.

([27]) Benzyl chloride is reportedly a carcinogenic substance.

In New Zealand, 'herbal' party pills have been sold without regulation since 2000 and since mid-2004, party pills have become widely available and are commonly used by young people. They have been marketed as 'herbal' and 'safe'. Conservative estimates from 2005 suggest that approximately 150,000 doses of party pills/legal herbal highs are sold in New Zealand every month. These products contain BZP and/or TFMPP along with herbal stimulants such as guarana and black pepper. The individual characteristics of different legal party pill products seem to be achieved largely by varying the ratio and quantities of BZP and TFMPP to achieve the desired level of stimulant versus empathic and hallucinogenic effects.

BZP was first notified via the EMCDDA-Europol EWS back in 1999, but the emergence of piperazines as recreational drugs with potential for rapid spread in Europe lay relatively latent until the second half of 2004, when various mCPP tablets appeared in the majority of the Member States, often designed to look like ecstasy and almost always sold/bought as the popular drug ecstasy. Approximately at the same time, BZP-containing products started to be aggressively marketed in some European Union Member States (for example, in printed media and in various designated shops in the United Kingdom and Ireland) and on the internet as a legal alternative to ecstasy (legal E or legal X), but clearly specified as a piperazine products, often erroneously or intentionally misrepresented as a 'natural' or 'herbal'. Brand names include, Pep pills (Pep original, Pep X, Pep twisted, Pep love, etc); Funk pills (Flying Angel, Twisted), JAX; Red Eye Frog (Californian Sunrise, Strawberry Fields); Triple X (XXX), Efx, etc.

The popularity and legality of BZP and BZP-containing products have resulted in numerous users' names, many of which are in fact brand names. According to some researchers (Gee et al., 2005) there are more than 120 brand names/synonyms. BZP may be sold as ecstasy under the street name of 'Legal E' or 'Legal X', XTC, Herbal ecstasy, etc. Beside 'herbal party pills', 'party pills' and 'Nemesis' in New Zealand, BZP containing products are available as Frenzy, Bliss, Charge, etc. A2, BZP, 'benzylpiperazine', 'piperazine' are all used.

Although not as highly regarded by the users as, for example, ecstasy, the marked psychoactive effects of BZP – stimulant or ecstasy-like when combined with TFMPP – may be contributing to its popularity. For users who are aware of the fact that they consume BZP, i.e. those who purchased it as such, it seems that this drug may have certain appeal. This specific demand or market for BZP-containing products may be, however, also due to their legal status and accessibility. Furthermore, the perceived safety of BZP is fostered by the fact that the products are often sold by designated retailers or in specialised shops, where the content is visibly stated, rather than on the street. All these factors may contribute to the establishment of BZP as a recreational drug of choice in its own right. Currently, BZP seems to be the most popular piperazine derivate in Europe. However, the Dutch DIMS reports that at the moment BZP seems to be less frequently used in the Netherlands than mCPP. The Swedish Poison Information Center reported that in the period from 2000 to 2003, there had been 15 information requests regarding BZP; however, there had been no requests between 2004 and 2006, which may be due to the change in the control status of BZP. A French outreach investigator reported a particular interest for this substance in the context of a festival in the south of France, where the users reported that they wanted to distinguish themselves from traditional synthetic drug users.

Little or no information is available on the price of BZP on the illegal drugs market in the Member States.

3.8.3 Other use of the new psychoactive substance and the extent of such use, the risks associated with this use of the new psychoactive substance, including the health and social risks.

BZP was first synthesised in 1944 by Wellcome Research Laboratories, United Kingdom as a potential anthelmintic (to treat intestinal parasitic worms) for livestock but not used as it was found to be relatively ineffective and caused adverse effects such as seizures in mammals. In fact, apart from the parent compound – piperazine – the piperazine derivatives, which were originally intended as potential anthelminthic agents in humans and animals were actually never licensed ([28]). Benzyl derivatives were further investigated in the 1970's but trials were stopped when it was found out that they had stimulant properties and a potential for misuse.

In anticipation of Article 7.3 of the Decision in relation to the manufacturing of medicinal products in the European Union, the EMEA, in consultation with the EMCDDA, requested whether the new psychoactive substance BZP is used to manufacture a medicinal product:

- which has been granted a marketing authorisation; or,
- for which an application has been made for a marketing authorisation; or,
- for which a marketing authorisation has been suspended by a competent authority

Furthermore, a preliminary search by the EMCDDA revealed that BZP could (theoretically) be used in the synthesis of at least four active substances – Cetirizine, Meclozine, Oxatomide and Trimetazidine (INNs). Therefore, in order to confirm the situation in reality, the EMEA requested information on whether or not BZP is used in the manufacture of medicinal products containing these active substances. In the event of a positive response for any of the four substances, information was requested on:

- the active substance;
- the manufacturer of the active substance;
- the invented name of the medicinal product;
- the marketing authorisation holder (MAH) for the medicinal product.

The above questions were addressed to both human and veterinary agencies. Twenty-two Member States and two Third States, which replied to the EMEA's question answered 'no' or 'not known'.

Furthermore, a literature search revealed that the active substance Piberaline (Rec. INN) (chemical name: 1-(phenylmethyl)-4-(2-pyridinylcarbonyl)-piperazine or 1-benzyl-4-picolinoylpiperazine) had been synthesised in the 1980's by EGYT Hungary ([29]), registered and limitedly marketed as an anti-depressant under the name Trelibet®. Although, it seems that Trelibet® was later withdrawn (1985), the information available at the EMCDDA indicated that the active substance Piberaline metabolises to BZP and that BZP is an intermediate in its synthesis. Therefore, the EMEA also asked the Member States to check if there was more information about the current use of this active substance.

Twelve Member States (Cyprus, the Czech Republic, Denmark, Germany, Hungary, Ireland, Latvia, Lithuania, Poland, Romania, Slovenia and Spain) and one Third State

([28]) Only, diethylcarbamazine (DEC) (4-methyl-*N*,*N*-bis(4-methylpiperazin-2-yl)-piperazine-1-carboxamide) which is effective against certain parasitic filarial worms (human lymphatic filariasis) has found a significant place in human therapeutics.

([29]) Now EGIS Pharmaceuticals.

(Norway) which replied to the EMEA's question gave a 'negative response'. Eight Member States (Austria, Estonia, Finland, France, Malta, the Netherlands, Sweden and the United Kingdom) and one Third State (Liechtenstein) did not answer the question.

The Swedish NFP reported that in 2005–2006 two companies had a permission to use BZP – one of them is a pharmaceutical company which reportedly uses the substance for the development of new potential medicinal products. In Denmark, it is reported that very small quantities of BZP are used in few certified laboratories under supervision of the Danish Medicines Agency.

There is information that piperazine derivatives are being legitimately used as chemical intermediates, for example, in the production of detergents.

4. Information from the EMEA as requested by Article 5.3 of the Decision

4.1 Marketing authorisation

The twenty-two Member States and two Third States which responded to the EMEA's information request (see section 2.) reported that the new psychoactive substance BZP has not obtained a marketing authorisation.

4.2 Application for a marketing authorisation

The twenty-two Member States and two Third States which responded to the EMEA's information request (see section 2.) reported that the new psychoactive substance BZP is not the subject of an application for a marketing authorisation.

4.3 Suspended marketing authorisation

The twenty-two Member States and two Third States which responded to the EMEA's information request (see section 2.) reported that there had been no cases of a suspended marketing authorisation that had been granted in respect of the new psychoactive substance BZP.

5. Summary

5.1 1-benzylpiperazine was first notified via the EWS in 1999, but its emergence as a recreational drug with potential for rapid spread in Europe lay relatively latent until the second half of 2004. In the last two years, BZP-containing products are aggressively marketed by various retailers as a legal alternative to ecstasy, but clearly specified as piperazine products, often erroneously or intentionally misrepresented as 'natural' or 'herbal'. On the illegal drugs market, BZP may also be sold/bought as the popular drug ecstasy.

5.2 Twelve Member States and one Third State (Norway) reported to Europol and/or EMCDDA seizures of BZP in powder, capsule or tablets, ranging from 1 capsule/tablet up to 64,900 tablets.

5.3 There is limited information that may suggest large-scale processing and distribution of BZP, and a role of organised crime. One seizure of a significant amount of BZP suggests the involvement of organised crime in the trafficking and wholesale distribution of BZP.

5.4 One Member State seized a small scale production site of BZP.

5.5 Two Member States reported on the legal importation of BZP.

5.6 The total amount of seized BZP in the Member States is small when compared to overall ecstasy seizures in the European Union (over 15 million tablets annually in recent years).

5.7 The marked psychoactive effects of BZP – stimulant or ecstasy-like when combined with TFMPP – may appeal to users and help create specific demand or market for BZP-containing products. This may be also due to BZP's legal status, accessibility and perceived safety. All these factors may contribute to the establishment of BZP as a recreational drug of choice in its own right.

5.8 There is some evidence about health risks related to BZP use, in particular, its short-term toxicity.

5.9 Five Member States control 1-benzylpiperazine under drug control or equivalent legislation and two Member States regulate 1-benzylpiperazine under their medicines-related legislation.

5.10 1-benzylpiperazine is currently not under assessment and has not been under assessment by the UN system.

5.11 BZP has no known medical use (human or veterinary) in the European Union. There is no marketing authorisation (existing, ongoing or suspended) for 1-benzylpiperazine in the EU or in the Member States which responded to the EMEA.

5.12 There is no information that BZP is used for the manufacture of a medicinal product in Europe. However, in the absence of an EU database on the synthetic routes of all registered medicinal products, the collection of information cannot be exhaustive.

6. Conclusion

The health and social risks, caused by the use of, the manufacture of, and traffic in, BZP, as well as the involvement of organised crime and possible consequences of control measures, could be thoroughly assessed through a risk assessment procedure as foreseen by Article 6 of Council Decision 2005/387/JHA.

Annexes

Annex 1 – Main information sources

Annex 2 – Images of BZP seizures and collected samples