Substances under Surveillance

The following substances are under surveillance by the World Health Organization (WHO) as they are considered to have the potential to cause public health harm. For ease of use, this surveillance list is divided into two sections of substances: New Psychoactive Substances (NPS) and Medicines.

SECTION 1: NEW PSYCHOACTIVE SUBSTANCES

AMPHETAMINE-TYPE STIMULANTS

1. 4-Fluoroamphetamine (4-FA)
   Information has been brought to WHO’s attention that 4-FA is being misused in a number of Member States. 4-FA is clandestinely manufactured and has been identified in seized products. 4-FA produces amphetamine-like effects that include euphoria, increased blood pressure and temperature, decreased appetite, increased wakefulness and physical activity, along with rapid and/or irregular heartbeat. 4-FA has been associated with fatal and non-fatal intoxications. The 37th ECDD (November 2015) reviewed 4-FA and recommended that, due to the insufficiency of evidence required to satisfy the criteria for international scheduling under the Conventions, it not be placed under international control but be kept under surveillance.

2. 5-APB
   Information has been brought to WHO’s attention that 5-APB is being misused in a number of Member States. 5-APB is clandestinely manufactured and has been identified in seized products. 5-APB produces amphetamine-like effects that include euphoria, increased blood pressure and temperature, decreased appetite, increased wakefulness and physical activity, along with rapid and/or irregular heartbeat. 5F-APB has been associated with fatal intoxications. To date, 5-APB has not been pre- or critically reviewed by the ECDD.

3. 5-MAPB
   Information has been brought to WHO’s attention that 5-MAPB is being misused in a number of Member States. 5-MAPB is clandestinely manufactured and has been identified in seized products. 5-MAPB has amphetamine-like effects that include euphoria, increased blood pressure and temperature, decreased appetite, increased wakefulness and physical activity, along with rapid and/or irregular heartbeat. 5-MAPB has been associated with a stimulant intoxication state. To date, 5-MAPB has not been pre- or critically reviewed by the ECDD.
4. **Desoxypipradrol (2-DPMP)**

Information has been brought to WHO’s attention that 2-DPMP is being misused and has been identified in seized products in a number of Member States. 2-DPMP produces amphetamine-like effects that include euphoria, increased blood pressure and temperature, decreased appetite, increased wakefulness and physical activity, along with rapid and/or irregular heartbeat. 2-DPMP has been associated with fatal and non-fatal intoxications. To date, 2-DPMP has not been pre- or critically reviewed by the ECDD.

5. **MDAI**

Information has been brought to WHO’s attention that MDAI is being misused in a number of Member States. MDAI is clandestinely manufactured and has been identified in seized products. This substance has amphetamine-like effects, associated with abuse and adverse effects. MDAI has structural similarities to MDMA (3,4-methylenedioxy-N-methylamphetamine) and shares its behavioural properties. MDAI is likely to have similar adverse effects as MDMA; these include anxiety, restlessness, irritability, sleep disturbances, impulsiveness, nausea, sweating, high blood pressure, hyperthermia and dehydration. MDAI has been associated with fatal and non-fatal intoxications. To date, MDAI has not been pre- or critically reviewed by the ECDD.

**SYNTHETIC CANNABINOID RECEPTOR AGONISTS**

1. **5F-PB-22**

Information has been brought to WHO’s attention that 5F-PB-22 is clandestinely manufactured and has been identified in seized products in a number of Member States. 5F-PB-22 is a synthetic cannabinoid which displays similar effects to tetrahydrocannabinol (THC), one of the main components of cannabis. Adverse effects described after the consumption of synthetic cannabinoids include tachycardia, agitation, hallucinations, hypertension, vomiting, chest pain, seizures, extreme anxiety leading to panic attacks and acute psychosis. 5F-PB-22 has been associated with fatal intoxications. To date, 5F-PB-22 has not been pre- or critically reviewed by the ECDD.

2. **AB-CHMINACA**

Information has been brought to WHO’s attention that AB-CHMINACA is being misused in a number of Member States. AB-CHMINACA is clandestinely manufactured and has been identified in seized products. AB-CHMINACA is a synthetic cannabinoid which displays similar effects to tetrahydrocannabinol (THC), one of the main components of cannabis. Adverse effects described after the consumption of synthetic cannabinoids include tachycardia, agitation, hallucination, hypertension, vomiting, chest pain, seizures, extreme anxiety leading to panic attacks and acute psychosis. To date, AB-CHMINACA has not been pre- or critically reviewed by the ECDD.
3. **AB-PINACA**
Information has been brought to WHO’s attention that AB-PINACA is clandestinely manufactured and has been identified in seized products in a number of Member States. AB-PINACA is a synthetic cannabinoid which displays similar effects to tetrahydrocannabinol (THC), one of the main components of cannabis. Adverse effects described after the consumption of synthetic cannabinoids include tachycardia, agitation, hallucination, hypertension, vomiting, chest pain, seizures, extreme anxiety leading to panic attacks and acute psychosis. To date, AB-PINACA has not been pre- or critically reviewed by the ECDD.

4. **ADB-FUBINACA**
Information has been brought to WHO’s attention that ADB-FUBINACA is clandestinely manufactured and has been identified in seized products in a number of Member States. ADB-FUBINACA is a synthetic cannabinoid which displays similar effects to tetrahydrocannabinol (THC), one of the main components of cannabis. Adverse effects described after the consumption of synthetic cannabinoids include tachycardia, agitation, hallucination, hypertension, vomiting, chest pain, seizures, extreme anxiety leading to panic attacks and acute psychosis. To date, ADB-FUBINACA has not been pre- or critically reviewed by the ECDD.

5. **APINACA (AKB-48)**
Information has been brought to WHO’s attention that APINACA is clandestinely manufactured and has been identified in seized products in a number of Member States. APINACA is a synthetic cannabinoid which displays similar effects to tetrahydrocannabinol (THC), one of the main components of cannabis. Adverse effects described after the consumption of synthetic cannabinoids include tachycardia, agitation, hallucination, hypertension, vomiting, chest pain, seizures, extreme anxiety leading to panic attacks and acute psychosis. The 36th ECDD (June 2014) reviewed APINACA and recommended that, due to the insufficiency of evidence required to satisfy the criteria for international scheduling under the Conventions, it not be placed under international control but be kept under surveillance.

6. **RCS-4**
Information has been brought to WHO’s attention that RCS-4 is clandestinely manufactured and has been identified in seized products in a number of Member States. RCS-4 is a synthetic cannabinoid which displays similar effects to tetrahydrocannabinol (THC), one of the main components of cannabis. Adverse effects described after the consumption of synthetic cannabinoids include tachycardia, agitation, hallucinations, hypertension, vomiting, chest pain, seizures, extreme anxiety leading to panic attacks and acute psychosis. The 36th ECDD (June 2014) reviewed RCS-4 and recommended that, due to the insufficiency of evidence required to satisfy the criteria for international scheduling under the Conventions, it not be placed under international control but be kept under surveillance.
7. **JWH-250**

Information has been brought to WHO’s attention that JWH-250 is clandestinely manufactured and has been identified in seized products in a number of Member States. JWH-250 is a synthetic cannabinoid which displays similar effects to tetrahydrocannabinol (THC), one of the main components of cannabis. Adverse effects described after the consumption of synthetic cannabinoids include tachycardia, agitation, hallucination, hypertension, vomiting, chest pain, seizures, extreme anxiety leading to panic attacks and acute psychosis. The 36th ECDD (June 2014) reviewed JWH-250 and recommended that, due to the insufficiency of evidence required to satisfy the criteria for international scheduling under the Conventions, it not be placed under international control but be kept under surveillance.

8. **JWH-073**

Information has been brought to WHO’s attention that JWH-073 is clandestinely manufactured and has been identified in seized products in a number of Member States. JWH-073 is a synthetic cannabinoid which displays similar effects to tetrahydrocannabinol (THC), one of the main components of cannabis. Adverse effects described after the consumption of synthetic cannabinoids include tachycardia, agitation, hallucination, hypertension, vomiting, chest pain, seizures, extreme anxiety leading to panic attacks and acute psychosis. The abuse potential and dependence potential of JWH-073 seem to be similar to cannabis. The 36th ECDD (June 2014) and the 38th ECDD (November 2016) reviewed JWH-073 and recommended that, due to the insufficiency of evidence required to satisfy the criteria for international scheduling under the Conventions, it not be placed under international control but be kept under surveillance.

9. **UR-144**

Information has been brought to WHO’s attention that UR-144 is clandestinely manufactured and has been identified in seized products in a number of Member States. UR-144 is a synthetic cannabinoid which displays similar effects to tetrahydrocannabinol (THC), one of the main components of cannabis. Adverse effects described after the consumption of synthetic cannabinoids include tachycardia, agitation, hallucinations, hypertension, vomiting, chest pain, seizures, extreme anxiety leading to panic attacks and acute psychosis. The 36th ECDD (June 2014) reviewed UR-144 and recommended that, due to the insufficiency of evidence required to satisfy the criteria for international scheduling under the Conventions, it not be placed under international control but be kept under surveillance.

**SYNTHETIC CATHINONES**

1. **4-Fluoromethcathinone (flephedrone; 4-FMC)**

Information has been brought to WHO’s attention that 4-FMC is being misused in a number of Member States. 4-FMC is clandestinely manufactured and has been identified
in seized products. 4-FMC produces effects similar to psychomotor stimulants such as cocaine and methamphetamine although it appears to be less potent than methamphetamine. 4-FMC has been associated with a few fatal and non-fatal intoxications. The 36th ECDD (June 2014) reviewed 4-FMC and recommended that, due to the insufficiency of evidence required to satisfy the criteria for international scheduling under the Conventions, it not be placed under international control but be kept under surveillance.

**SYNTHETIC OPIOIDS**

1. **Acryloylfentanyl (Acrylfentanyl)**
   Information has been brought to WHO’s attention that acryloylfentanyl is being misused and has been identified in seized products in a number of Member States. Acryloylfentanyl is a potent synthetic opioid that is an analogue of fentanyl, and may have similar abuse liability and dependence potential. Reported adverse effects include unconsciousness, respiratory depression, vomiting/nausea, and dizziness. It has been associated with more than 40 fatalities along with a number of non-fatal intoxications. To date, acryloylfentanyl has not been pre- or critically reviewed by the ECDD.

2. **Carfentanil**
   Information has been brought to WHO’s attention that carfentanil is being misused and has been identified in seized products in a number of Member States. Carfentanil is a very potent synthetic opioid that is an analogue of fentanyl, and may have similar abuse liability and dependence potential. Carfentanil is known to produce the typical opioid effects that include respiratory depression and loss of consciousness. It has been associated with more than 25 fatalities. As it is a highly potent compound, only small amounts are required to cause harm. It is likely that carfentanil is being added to, or substituted for, other opioids in street drugs thereby posing a significant public health risk. To date, carfentanil has not been pre- or critically reviewed by the ECDD.

3. **Furanyl fentanyl**
   Information has been brought to WHO’s attention that furanyl fentanyl is being misused and has been identified in seized products in a number of Member States. Furanyl fentanyl is a potent synthetic opioid that is an analogue of fentanyl, and may have similar abuse liability and dependence potential. It is known to produce the typical opioid effects that include respiratory depression and loss of consciousness. It has been associated with a number of fatalities and non-fatal intoxications. Furanyl fentanyl is being added to other street drugs such as cocaine, as well as being substituted for other opioids thereby posing a significant public health risk. To date, furanyl fentanyl has not been pre- or critically reviewed by the ECDD.
4. **Ocfentanil**

Information has been brought to WHO’s attention that ocfentanil is being misused and has been identified in seized products in a number of Member States. Ocfentanil is a potent synthetic opioid that is an analogue of fentanyl, and may have similar abuse liability and dependence potential. Ocfentanil is known to produce the typical opioid effects that include respiratory depression and loss of consciousness. It has been associated with fatalities and non-fatal intoxications. It is likely that ocfentanil is being added to, or substituted for, other opioids in street drugs, thereby posing a significant public health risk. To date, ocfentanil has not been pre- or critically reviewed by the ECDD.

**TRYPTAMINES**

1. **Alpha-methyltryptamine (AMT)**

Information has been brought to WHO’s attention that AMT is being misused in a number of Member States. AMT is clandestinely manufactured and has been identified in seized products. AMT is a tryptamine derivative that shares several similarities with the Schedule I tryptamine hallucinogens. Adverse effects of AMT include mild increases in blood pressure or respiration rate, restlessness, tachycardia, severe nausea, severe vomiting, impaired coordination, visual and auditory disturbances and distortions. AMT has been associated with fatal intoxications, although other drugs were present. The 36th ECDD (June 2014) reviewed AMT and recommended that, due to the insufficiency of evidence required to satisfy the criteria for international scheduling under the Conventions, it not be placed under international control but be kept under surveillance.
SECTION 2: MEDICINES

The following substances have therapeutic indications in some Member States. These substances have been associated with reports of abuse and dependence and therefore have been placed under surveillance as they may have the potential to cause public health harm.

1. **Etizolam**
   Etizolam is used therapeutically in the treatment of generalized anxiety disorder with depressive symptoms. It has similar pharmacological effects to benzodiazepines such as diazepam and may cause adverse effects such as sedation, sleepiness, muscle relaxation, slurred speech and loss of consciousness. There are very few published cases of etizolam dependence or fatalities associated with etizolam. However, it has been linked to a number of non-fatal intoxications which include cases of driving under the influence of drugs (DUID). The 26th ECDD (1989) and the 27th ECDD (1990) reviewed etizolam and recommended that, due to the insufficiency of evidence required to satisfy the criteria for international scheduling under the Conventions, it not be placed under international control at that time. The 37th ECDD (2015) pre-reviewed etizolam and recommended that a critical review of etizolam was warranted for a future meeting.

2. **Gabapentin**
   Gabapentin is used therapeutically as an anticonvulsant or antiepileptic drug. It may also be used in the treatment of nerve pain. It has been brought to WHO’s attention that gabapentin may be being misused in some Member States. Adverse effects associated with gabapentin include hypoventilation, respiratory failure, myopathy, self-harm behavior, suicidal behavior, somnolence, dizziness and drowsiness. Gabapentin has been associated with several cases of abuse and drug related harm (e.g. suicide). To date, gabapentin has not been pre- or critically reviewed by the ECDD.

3. **Ketamine**
   Ketamine is used therapeutically as an analgesic and anaesthetic in adults and children. It produces a wide range of pharmacological effects including sedation, analgesia, bronchodilation, and sympathetic nervous system stimulation. It has been brought to WHO’s attention that ketamine may be being misused in some Member States. Frequent, high dose abuse of ketamine is associated with adverse physical effects, particularly urinary tract problems. The 33rd ECDD (2003) pre-reviewed ketamine and recommended a critical review which was carried out by the 34th ECDD (2006). The 34th ECDD concluded that there was insufficient information in the critical review to warrant scheduling and requested that the Secretariat produce an updated version of the critical review to present to the next Committee meeting. Critical reviews were undertaken at the following two ECDD meetings - 35th (2012) and 36th (2014), and both times it was recommended that ketamine should not be placed under international control. An update on ketamine was presented to the 37th ECDD (2015) and the Committee unanimously
agreed that it found nothing in the updates that would give it reason to recommend a new pre-review or critical review of ketamine.

4. Phenibut
Phenibut is an anti-anxiety drug which is an improved medicinal product in one Member State. It is currently marketed in other Member States as a nutritional supplement aid for anxiety, insomnia and cognitive improvement as well as a mood enhancer. Phenibut has been associated with intoxications with adverse effects including stupor, dystonia and hypothermia. There is some suggestion that it has abuse potential and may produce dependence. To date, phenibut has not been pre- or critically reviewed by the ECDD.

5. Pregabalin
Pregabalin is an anti-epileptic medication which is also used to treat neuropathic pain and generalized anxiety disorder. It has been brought to WHO’s attention that pregabalin may be being misused in some Member States. There have been reports of abuse, particularly among current or past opioid abusers and it has been associated with intoxications. Effects described by users include sedation, dissociation, numbness, uninhibited behavior and audio/visual hallucinations. To date, pregabalin has not been pre- or critically reviewed by the ECDD.

6. Tapentadol
Information has been brought to WHO’s attention that tapentadol is being misused in some Member States. Tapentadol has structural similarity to morphine and produces analgesia in acute and chronic pain states. The potential for abuse with tapentadol is consistent with currently marketed drugs such as hydromorphone, oxycodone, morphine, and tramadol. The 36th ECDD (June 2014) reviewed tapentadol and recommended that, due to the insufficiency of evidence required to satisfy the criteria for international scheduling under the Conventions, it not be placed under international control but be kept under surveillance.

7. Tramadol
Tramadol is used therapeutically in the treatment of acute and chronic pain of moderate to severe intensity. It produces opioid-like effects with adverse effects including respiratory depression, nausea, dizziness, and vomiting. Tramadol is used world-wide and is listed in many medical guidelines for pain treatment. There is some evidence of abuse and several Member States have reported seizures of illicit tramadol. Fatal intoxications are rare and appear to be associated with large overdoses of tramadol and co-ingestion of other drugs (including alcohol). Tramadol was pre-reviewed at the 28th meeting (1992) and the 32nd meeting (2000) of the ECDD. A critical review was undertaken at the 33rd meeting (2002), however, the Committee decided that the information was not sufficient to recommend international control of tramadol, but was adequate to recommend surveillance. Subsequently, tramadol was pre-reviewed again at the 34th meeting (2006), however, the Committee concluded that there was not sufficient evidence to justify a critical review. An update on tramadol was considered at the 36th
meeting (2014) and once again the Committee concluded there was insufficient evidence to warrant a critical review.