

## Fact Sheet

### Alcohol

**AKA:** booze, bevvie, juice, sauce, alcopops, beer, wines, spirits, The alcohol found in alcoholic beverages is ethyl alcohol (ethanol).

**SOURCE:** Alcohol is easily produced through fermentation of fruit or grain mixtures or the distillation of fermented fruit or grain mixtures (Spirits such as whiskey, rum, vodka and gin are distilled.)

Alcohol is sold via licensed outlets such as supermarkets, off licenses and bars.

**APPEARANCE:** Ethanol is a clear liquid which will have a distinctive smell. Once combined with flavourings and colours, it can take many forms - familiar to most people from the supermarket shelves and pubs. These include a vast array of alcoholic beverages and jellified products such as vodka jelly.

**COSTS:** Alcoholic drinks range in price from under £1 for cheap lagers through to many thousands for expensive wine.

**Strength:** Alcohol strength is measured as ABV (alcohol by volume), by the 'Unit.' The older measure of "proof" has largely been phased out. ABV is the most frequent form of labelling and is shown as a percentage. So a drink that is marked as 5% ABV means that 1000ml of the drink would contain 50ml of alcohol.

A Unit of alcohol is equal to 10ml of pure ethanol. In practice the number of units quoted in a drink is an approximate figure based on the approximate size of the drink and the strength of the ingredients used. The figures below look at the most common drinks. Where a person is pouring or mixing their own drinks, it becomes much harder to accurately count units.

Product	ABV(%)	Volume	Units (approx)
Wine	12%	Standard Glass (125mls)	1.5 Units
	13%	Bottle (750mls)	10 Units
Spirits	37.5%	25mls (small single)	.9 Unit
	40%	35ml (large single)	1.4 Units
Alcopops	5.5%	275ml	1.5 Units
Beer	3%	1 Pint	2 Units
	5%	1 Pint	2.8 Units
	9%	440ml can	4 Units
Cider	5%	1 Pint	2.8 Units
	8.5%	275ml bottle	2.3 Units
		2 litre bottle	17 Units
To accurately estimate drink strengths by unit use the amazing Unit Calculator at <a href="http://www.cleavebooks.co.uk/scol/ccalcoh2.htm">http://www.cleavebooks.co.uk/scol/ccalcoh2.htm</a>			

**Patterns of use:** Both constant drinking and binge drinking are unhealthy. It is safer to aim for at least two alcohol-free days per week; a person who is finding it difficult to achieve this may want to seek assistance to moderate their drinking.

Binge drinking (more than eight units for men and six units for women is a UK interpretation) is associated with heart and circulatory problems such as high blood pressure.

### **Safe(r) Drinking Limits:**

The current safe drinking levels are as follows:

Women:	2-3 units a day or less:	14-21 units/week	no significant risks
	3-5 units per day:	21-35 units/week	moderate risk
	5+/day	35+	high risk
Men:	3-4 units a day or less:	21-28 units/week	no significant risks
	4-5 units per day:	28-35 units/week	moderate risk
	5+/day	35+	high risk

**The Liver and Units of Alcohol:** The liver of an average healthy male can remove approximately one unit of alcohol from the blood stream. While this alcohol is being metabolised, the rest remains in circulation. This means that if, between 8 and 12pm a person drank two bottles of wine, it would take at least twenty hours for all the alcohol to be metabolised out. Drinkers may well have excessive levels of alcohol in the blood-stream the day after a heavy nights drinking.

Women, people with impaired liver function and people of small build will generally metabolise alcohol more slowly, get drunk faster and sober up more slowly. Women may also find that tolerance to alcohol decreases during just prior to the start of menstruation.

**METHODS OF USE:** Alcohol is generally drunk in liquid form; it is also eaten and used in cooking. When heated, most alcohol is evaporated away; however, alcohol can be eaten in cold products such as jelly.

Alcohol is also sometimes used in other ways such as via snorting it, injecting it or attempting to absorb it via the eye. These methods are invariably painful, and while young people may attempt to snort alcohol or eyeball it, such efforts are rarely pursued. Recently, companies have tried to promote 'alcohol with oxygen' a machine that allows alcohol to be breathed in via a face mask and absorbed in the lungs. Such a method means that alcohol initially bypasses the stomach and the liver, so gets intoxicated more quickly. However, such equipment in bars falls foul of licensing laws and so has not become more widespread.

Injecting alcohol is quite unusual. Young people in the course of drugs experimentation sometimes do it. Otherwise it is users with long injecting habits who may undertake this painful activity.

**EFFECTS:** Onset of alcohol will depend on the strength of the drink, previous food intake, other substances used and the user's general build and metabolism.

Alcohol is primarily a depressant drug - making the person more drowsy and moving them towards sleep and unconsciousness.

However, early on it can act as a euphoriant, elevating levels of the brain chemicals serotonin and dopamine. This makes the person more animated, lively and talkative. As more alcohol is taken in, the depressant effects can become more marked as reactions and muscular control are impeded.

At higher doses, the drinker may become more drowsy, with slurred speech, difficulty standing and stupor. Finally, the person may become unconscious.

People experience a wide range of different moods when drinking; some people describe feeling happier, while others become less happy and more withdrawn; others may become aggressive. To some extent, alcohol may act as a mood amplifier, exacerbating a mood or state that was already there. Others would argue that alcohol reveals underlying personality traits, and the rest argue that different drinks affect people in different ways.

Alcohol can also cause nausea, vomiting, excessive urination, impaired memory and judgement.

Drinking too much can also lead to alcohol poisoning, which can be fatal, and according to the National Drugs Helpline, over 1,000 people under the age of 15 are admitted to hospital each year with alcoholic poisoning and all require emergency treatment.

Many alcohol users will be familiar with the 'hangover' which is a symptom of excessive alcohol use. The symptoms tend to include nausea, aches in the lower back, headaches, sensitivity to light and sound and a general sense of feeling unwell. These symptoms result from high levels of dehydration, brain chemistry adjusting to absence of alcohol, irritation of stomach, swelling of the liver and removal of toxins from the blood.

**HEALTH IMPLICATIONS:** Excessive use of alcohol can have a devastating impact on health. Alcohol is associated with:

- Stomach problems: cancers of the stomach, ulcers, gastritis
- High blood pressure, weight gain, circulatory and nervous system problems
- Brain damage, heart disease, damage to the liver, cancers of the mouth and throat.

High levels of alcohol use in a single session can lead to unconsciousness, coma and possibly death. The risk of dangerous alcohol overdose is increased by mixing alcohol with other drugs. Key risks come from mixing alcohol with stimulants (such as cocaine) which allow people to drink larger amounts in the short term, but leave the person dangerously intoxicated once stimulants have worn off. The other key risks come from mixing alcohol with sedating drugs, especially opiates and benzodiazepines. The combined effect of alcohol with these drugs significantly increases the risk of fatality.

Because alcohol can have a significant disinhibiting effect, it may be a factor in reckless behaviour including episodes of unplanned drug taking, unsafe sex, offending or other risk taking.

Alcohol use during pregnancy can damage the foetus and, exceptionally, can lead to a set of birth defects known as "foetal alcohol syndrome."

Alcohol use can lead to physical and psychological dependency. Regular use leads to tolerance where more alcohol is required to achieve intoxication.

Withdrawal from alcohol can be physically and mentally difficult; given its high social acceptance, remains a hard drug to avoid in daily life. It can cause serious physical symptoms in withdrawal.

Alcohol is also a key factor in many social and industrial accidents, and a contributory factor in many fights and domestic incidents.

Alcohol is directly associated with between 50-70,000 deaths per year.

**LEGAL STATUS:** Alcohol is covered by licensing laws and other regulations as follows:

Under 5: It is illegal to give alcohol to a child under five years old in any circumstances excepting on the orders of a doctor.

5+: It is legal for children over the age of five to drink alcohol on private premises, such as in the home.

14+: Young people between the ages of fourteen and seventeen may be in a bar during opening hours but may not buy, be bought or drink alcohol on the premises.

16+: Young people sixteen and seventeen years of age may buy or be bought certain drinks in licensed premises but only in a separate eating area and only for consumption with a meal. The permitted drinks in England and Wales are beer, cider and perry. In Scotland, they may also purchase and consume wine with the meal.

Under 18: It is illegal for any person under eighteen years of age to buy any alcohol from an off licence, attempt to buy alcohol or for someone else to buy it in order to supply it to someone under the age of 18.

Confiscation of Alcohol (young Persons) Act 1997: Empowers police to require under 18-s to hand over alcohol in a public place. Failure to do so (without reasonable cause)

and give name and address when requested summary offence and carries power of arrest.

Other: Local by-laws re. Public drinking; many areas prohibit this and this can lead to a fine. Drunk and disorderly, Drink driving, Drunk in charge of a vehicle.

**OTHER INFORMATION:** Alcohol is a widely used drug, and there is increasing concern about the impact that excessive drinking, especially binge drinking amongst young people is likely to have.

While there is a great deal of attention paid to drugs like heroin, it should be stressed that far more people will become ill or die due to alcohol than to all the controlled drugs put together.

## Amphetamines

**AKA:** Amphetamine Sulphate, *speed, wizz, sulph, billy, phet, pink champagne*. Base Amphetamine: *base, base speed* Dexedrine, *dexies, dex* Methamphetamine Sulphate, *Crystal Meth, meth, ice, shad, glass, Tina, Shabu, Yabba, crank* Methylphenidate "Ritalin"  
The amphetamine "family" contains a number of prescribed and non-prescribed stimulant compounds. Methylphenidate is related to amphetamines (though not strictly an amphetamine).

**SOURCE:** Most Amphetamines available on the street are illegally produced in laboratories. However, Dexamphetamine Sulphate is still available on prescription and so leaks onto the streets from legitimate sources though is increasingly rare. Ritalin is prescribed to children with ADHD and some of this is diverted to illicit use.

**APPEARANCE:** The main form of amphetamine sold in the UK has up until recently, been Amphetamine Sulphate powder. Colour ranges from white, off-white, grey, yellow, and pink. It is usually sold by weight, in small rectangular wraps of paper. It is a sour-tasting, water soluble powder.

Increasingly commonly available is base-speed, a grey paste similar in consistency to putty. It is a non-soluble base drug often smelling strongly of ammonia. Dexedrine tablets are usually circular and are white or yellow. Methylphenidate (Ritalin) comes as scored tablets.

Methamphetamine comes in the form of white powder or clear crystals, but is also sold in tablet form.

**COSTS:** Speed is usually sold by weight, at a cost of around £5 per gram. Base is more expensive, typically £20-30 a gram. Prices for Methamphetamine in the UK are the source of much speculation but allegedly range from £35-75 a gram.

**QUALITY:** Speed sold on the streets is usually of very poor quality, and is usually between 5% and 10% pure. Base-speed is far stronger, between 50% and 70% pure. Some so-called 'base' is low grade amphetamine powder mixed with oil and or similar to give it a base-like consistency.

**METHODS OF USE:** Amphetamines in powder form can be swallowed, snorted, dabbed onto the gums, or injected. Methamphetamine is usually smoked, though it can be injected. Base speed is non-soluble making it useless for snorting and dangerous to inject. It is usually swallowed or can be smoked.

**EFFECTS:** Amphetamines are stimulant drugs that work on the central nervous system. They start working within fifteen minutes (faster if injected or smoked.) They cause an increase in heart rate and blood pressure. They make the user feel more alert, confident and give a sense of increased energy. They reduce the desire for sleep and suppress the appetite. They can cause tension in the muscles, and cause tightness of the jaw, which leads some people to grind their teeth and chew constantly. Users tend to talk a lot, and pupils may become dilated.

Other less popular effects are anxiety, paranoia, irritability. Amphetamines elevate levels of dopamine and adrenalin. This causes intense euphoria and feelings of well being, but also puts significant strain on the cardiovascular system. Methamphetamine is also associated with elevating sexual arousal and can lead to long bouts of unsafe sexual behaviour.

Depending on the drug and route, the duration of effect varies massively. This could range from an hour or two for injected amphetamines, to over twelve hours for methamphetamine.

**HEALTH IMPLICATIONS:** Amphetamine use does not provide the body with any extra energy nor does it remove the need for sleep. It simply allows the body to access existing reserves of energy faster, and prevents, rather than removes, the need for sleep.

There is an inevitable comedown after the amphetamines have worn off - tiredness, depression, loss of self-esteem, hunger, and achiness. There may be a temptation to alleviate some of these symptoms by using some painkilling or tranquillising drug, or alternatively using more speed. Neither option is ultimately beneficial, and it would be better to allow the body to recover naturally, through eating and sleeping to recuperate lost energy.

Use of amphetamines can cause weight loss, which, if extensive, could be dangerous and damaging. Historically Dexamphetamine was prescribed as an aid to slimming though this practice is now seriously frowned upon.

Amphetamines are usually "cut" with other substances to increase the profit when sold; these adulterants can cause damage and illness, especially when they are toxic substances. Regular snorting of amphetamines can cause damage to the nasal passages; rubbing speed onto the gums can cause gum and tooth damage. Swallowing amphetamines can cause stomach irritation and nausea. Injecting speed carries all the risks attached to intravenous drug use.

Smoking methamphetamine is associated with damage to teeth and gums, leading to a dental syndrome dubbed "meth mouth."

Methamphetamine is also thought to affect the Immune System and amongst people with HIV may accelerate the deterioration of health.

Psychologically, regular and frequent speed use can cause a condition called Amphetamine Psychosis, typified by intense paranoia and anxiety. While the condition usually abates after the amphetamine use is discontinued, medical assistance may be helpful.

Deaths do occur, and risks of death are exacerbated amongst people who have heart conditions.

Amphetamines are not physically addictive, but there is a significant risk of psychological dependency, especially amongst frequent regular users. The compulsion to use Methamphetamine appears to be especially strong.

**LEGAL STATUS:** Most amphetamines are Class B, Schedule 2 drugs. This means that, unless produced, supplied or possessed under Home Office licence, offences would be committed under the Misuse of Drugs Act 1971. Amphetamines, like other class B drugs, are counted as Class A drugs when prepared for injection. Pharmaceuticals such as Dexamphetamine Sulphate are legal if prescribed and used by the person to whom they were prescribed. A small number of weaker amphetamine-based (e.g. Benzphetamine) are Class C drugs. Methamphetamine was made a Class A drug in 2007.

**OTHER INFORMATION:** Despite their poor quality, amphetamines are widely used in the UK. Much of this use is club-related, with people taking speed to dance or party all night. It is also used by anyone needing to stay up for long periods - students revising, long distance lorry-drivers, security guards and so on. While it can improve concentration on repetitive tasks, it tends not to make people more creative or imaginative.

Amphetamine use can make people more aggressive. It may inhibit erection in male users, but this does not appear to be true for methamphetamine.

Amphetamines do not mix well with alcohol. They can give the illusion of sobriety, and prevent the full effects of the alcohol becoming apparent until the speed has worn off. People can drink dangerous amounts, only realising that they have done so when the speed has gone.

Police and drugs professionals have become increasingly concerned about the growth of Methamphetamine. This has become a widely used drug in the USA, Australia and a number of Asian countries. It is relatively easy to make, and has a long period of effect.

This means that it brings with it greater physical and mental health risks than other amphetamines. As yet, its use in the UK is not very widespread though there is fear that this situation could change.

## Fact Sheet

# Anabolic Steroids

**AKA: General:** Steroids, anabolics, Anabolic and Androgenic Steroids (AAS), Performance Enhancing Drugs, *Juice, Roids*

**Specific Products:** Many hundreds with a Chemical Name, Product name, slang names: Testosterone Propionate, *Prop, Test. Enanthate, Test. Cypionate, Cyp, Sustanon, Sust, Nandrolone, Deca Durabolin, Deca, Primobolan, Primo, stanozolol, Winstrol, Winny, methandrostenolone, Dianabol, Trenbolone, Trenobol, Tren*

**Other products:** Adjunct compounds including Human Chorionic Gonadotrophins (HCG), Proviron, Clomid, Arimidex, Tamoxifen. These are used to help manage side effects of Anabolic Steroids or restore natural function at the end of usage.

**SOURCE:** A small number of anabolic steroids are legitimately prescribed in the UK. They may be used to treat wasting illnesses, dwarfism, gender reassignment and other conditions. Most of the Anabolic Steroids used in the UK are manufactured abroad and imported in the UK. Some are purchased on-line; others are purchased abroad by users and imported back in to the UK for personal use. The rest are illegally imported in to the UK and then sold on by suppliers, especially through Gym circles.

**Quality:** Some anabolic steroids are legitimately manufactured abroad under license; others are manufactured illicitly in underground labs. A large number of products are counterfeits of these products, which may not be sterile or of the same quality as more legitimate products.

**APPEARANCE:** Appearance varies according to products; products intended for injection will generally come in a glass ampoule or vial. These may have a snap-off top or a rubber stopper. Vials will generally have an adhesive label or be etched with details, and distributed in printed boxes. Some of the tablet forms may come in foil packaging, in printed boxes like "normal" medicines. However, other tablets may well be sold simply in plastic bags, with no additional packaging to assist with identification.

**COSTS:** Cost is hugely variable, depending on the type of steroid bought, the quality and the quantity. Single tablets are ineffective – so people will tend to use a combination of drugs over a period of time (a cycle.) A simple, short cycle that may only last a few weeks and using basic, easily sourced compounds, could cost only a couple of hundred pounds or less. Longer cycles using larger combinations could cost many times this. The cost of special diets and additional compounds can make things more expensive.

**METHODS OF USE:** Some Anabolic Steroids are sold in tablet form, and are intended for oral use. However, this route tends to be more liver-toxic and so is not

popular with some users. Other anabolic steroids come in oil-based preparations for intramuscular injection. They are exclusively used through this route and injection in to a vein would be highly dangerous.

Injecting alcohol is quite unusual. Young people in the course of drugs experimentation sometimes do it. Otherwise it is users with long injecting habits who may undertake this painful activity.

**PATTERNS OF USE:** Depending on knowledge, experience, resources, and the latest "fad" doing the rounds, people will use various combinations of anabolic steroids over periods of time. Often combinations will be taken at the same time – "stacking," and over a number of weeks different substances will be used at different points – a "cycle." At the end of a cycle, experienced users will use additional compounds to restore normal function – "post-cycle treatment," then rest for a number of weeks or longer, before considering another cycle. For some people, cycles may be very infrequent, while others may undertake two or three cycles a year.

**EFFECTS:** Unlike most other drugs, Anabolic Steroids don't provide a sudden change of mental or physical state, so don't provide a "rush" in the classic sense. Most anabolic steroids work by providing a massive external source of the hormone "testosterone" or closely related compounds. This compound, at high doses, triggers processes of anabolism in the user – increased growth and development of muscles being the main sought-after effect. So they help users develop larger, stronger muscles more quickly. However, they do also provide a psychological lift – increased libido, drive, feelings of confidence and assertiveness.

**HEALTH IMPLICATIONS:** The use of Anabolic Steroids brings with it a large number of potential health risks, and these will vary according to the compounds being used, the quantity and route, and the age and gender of the user, and how many safety precautions they take.

Some Anabolic Steroids are 17-Alpha-Alkylated, which means that they have had their molecular function changed to reduce metabolism by the liver. However, this makes the compounds more liver toxic and so heavy or sustained use of 17AA compounds increases the risk of serious liver damage.

In male users, the use of testosterone-based compounds can in turn lead to interruption of the users own testosterone production. This can mean that when use of anabolic steroids stops, the person has low levels of testosterone, and may experience testicular atrophy, reduced libido, impotence, depression and loss of muscular development.

Conversely, male users using some anabolic steroids may experience symptoms of gynecomastia – development of breast tissue – as the excess of testosterone in the body

is converted into the hormone oestrogen. Through the careful use of post cycle treatment and oestrogen-inhibitors, these risks can be reduced.

More generally, male users may be at risk of accelerated male-pattern balding, acne, water retention, kidney problems, high blood pressure, heart problems, damage to joints or ligaments, and increased aggression or mood swings.

Women who use anabolic steroids may experience some distinct and different problems including development of facial or chest hair, lowering of the voice, changes to jaw line and throat, reduction in breast tissue, over-development of the clitoris (clitoral hypertrophy), reduced or absent periods.

Young people who use steroids may experience premature sealing of the long bones which could result in restricted height. It may also interfere with the completion of pubescent development.

**LEGAL STATUS:** Class C: Schedule 4ii. Most anabolics are in this unusual position. This makes it a criminal offence to supply anabolic steroids without authority and this offence carries a maximum of 14 years. But no authority is required to possess anabolic steroids so no offence is committed for personal possession of anabolics in medical form.

**OTHER INFORMATION:** Thanks in part to the internet and also due to the social "norms" about male physique, there has been a significant increase in Anabolic Steroid use in the UK. However, as users do not typically present to addiction services or come through criminal justice routes they are probably under-represented at services. Some steroid injectors will use needle exchange services, but tend to want specific combinations of equipment and out of hours service so may under-use pharmacy exchanges or generic provision.

Steroid use has often been associated with athletics and competitive body builders. Increasingly, it is being used by people outside of these settings, including young people wanting to "bulk up," people in jobs where size and strength is helpful such as doorstaff, and men who feel the need to look more muscled.

Some steroid use may stem from underlying psychological issues such as body dysmorphia. Steroid use can lead to dependency – the elevation of performance and mood during use, the crash and loss of bulk afterwards, routine, ritual, companionship and lifestyle that comes with steroid use and training can make it a difficult habit to break.

It is likely that, over the next few years, anabolic steroids will be one of the most significant issues that drugs agencies will need to address.

## Benzodiazepines

**AKA:** Medically, drugs in the benzodiazepine group (benzos) are used for a number of purposes. They are often lumped together as MINOR TRANQUILLISERS (tranx). Drugs in this group include:

Name	Brand	Slang
NITRAZEPAM	Mogadon	moggies
LORAZEPAM	Ativan	
FLURAZEPAM	Dalmane	
CLONAZEPAM	Rivotril	
OXAZEPAM		
TEMAZEPAM	Normison	temazies, jellies, eggs
DIAZEPAM	Valium	Vallies, blues
CHLORDIAZEPOXIDE	Librium	
BROMAZEPAM	Lexotan	
ALPRAZOLAM	Xanax	
LORMETAZEPAM		
FLUNITRAZEPAM	Rohypnol	Rohies, rufies

**SOURCE:** Benzodiazepines are widely prescribed as sedatives, to combat anxiety, as skeletal muscle relaxants, anti-epileptics and anti-convulsants. However, some benzodiazepines leak onto the street, and are quite widely misused.

More recently, benzodiazepines, especially diazepam, have been illicitly imported in to the UK. Some have been entering from Eastern Europe and sold on the illicit markets. Others have been ordered on-line from one of the many Internet Pharmacies. Some of these tablets are fake, or of variable quality. However, these imported tablets have meant that benzodiazepines remain widely used and available, even though the number of prescribed drugs has decreased in recent years.

The most frequently available drugs are those with italicised slang names above. Valium, Temazepam and Rohypnol are the most commonly available on the illicit market.

**APPEARANCE:** The appearance of each drug varies widely from drug-company to drug-company. Most come as tablets, in a variety of shapes, colours and strengths. A few also come in preparations for injection, such as Valium ampoules, which command a higher street value.

The main-stay of the UK benzodiazepine market is diazepam (Valium). These are typically 5mg or 10mg tablets: 10mg tablets are generally blue, the 5mg tablets are white

or yellow, though this is not always the case. Temazepam often comes in small egg-shaped caplets, or as tablets.

**COST:** At a street level, benzodiazepines have a very low value, typically around 50p per tablet. Ampoules can cost a pound or two.

**QUALITY:** Assuming that the pills are correctly identified and genuine, quality is assured. However, it is difficult to correctly identify all of the drugs in this family by eye, let alone assay the strength, so mistakes in strength and name are frequent amongst those purchasing outside medical spheres. Some illicitly produced, imported benzodiazepines are of variable strength.

**METHODS OF USE:** Tablets are designed for oral use, though some users crush and inject tablets.

**EFFECTS:** They induce physical relaxation, and reduce stress and anxiety. Drowsiness and sleepiness are often present. In addition, they may cause forgetfulness, slurred speech, clumsiness and confusion. Some users experience depression and, paradoxically, a few users become over-excited or violent.

Some users gain a feeling of invulnerability or invisibility when using benzodiazepines. Some people find this useful when, for example, shoplifting.

**HEALTH IMPLICATIONS:** When used within a supervised medical regime, benzodiazepines should not be used for extensive periods as tolerance develops rapidly and withdrawal can be an unpleasant and, in some cases, dangerous process. After a few weeks, and certainly within a few months, they cease to be effective at promoting sleep and subsequently cease to be effective in reducing anxiety. Indeed, the converse becomes true; without increasing the dose, a user is liable to experience insomnia, anxiety, tremors and, in severe cases convulsions.

Current prescribing practice is to prescribe at the lowest doses possible for the shortest period possible, and discouraging long-term prescribing. People who have been on long-term prescriptions should be having their prescriptions reviewed and, where feasible, reduced.

Withdrawal from Benzodiazepines, especially when they have been used for more than a month, should only be done under medical supervision. IT IS POSSIBLE TO DIE DUE TO SEVERE BENZODIAZEPINE WITHDRAWAL.

There is a low risk of fatal overdose; this risk is raised through ignorance as to the strength of various tablets. Risks are exacerbated when benzodiazepines are combined with other depressant drugs such as alcohol or heroin. The presence of benzodiazepines is a significant factor in opiate-induced overdoses.

When tablets are crushed for injection, this brings with it a range of associated health risks. Of specific concern are Temazepam Capsules. These capsules were originally introduced as a response to growing concern over Temazepam tablets being crushed for injection. The capsules contained a viscous jelly that was intended to discourage injecting. However, users found that heating the jelly made it become liquid, and so injected it. However, at lower temperature, such as at body temperature, the gel solidifies, and a large number of gruesome injecting injuries were reported. Gel capsules were withdrawn in the UK, but reports suggest that these capsules are still imported in to the UK illicitly.

**LEGAL STATUS:** Benzodiazepines are Class C drugs. Most of them are Schedule 4i drugs, meaning that they can only be supplied and produced by those authorised to do so. Since February 2002 it has been an offence to possess Schedule 4i drugs without possession. Temazepam and Rohypnol, are Schedule 3 drugs; it is also an offence to possess these without authorization, such as a prescription.

**OTHER INFORMATION:** Benzodiazepines were introduced and have largely supplanted the BARBITURATE group of drugs, which were widely prescribed and widely misused in the seventies. They were seen as preferential to barbiturates as the risks of overdose, dependence and side-effects were thought to be less. They are very widely prescribed; some critics argue that they are over-prescribed, and do not tackle the causes, merely masking symptoms temporarily.

They are used recreationally in a number of settings. Some people combine benzodiazepines with alcohol to enhance and increase intoxication. Some stimulant users take benzodiazepines to alleviate the "come-down" from speed, Ecstasy or cocaine, and to promote sleep.

It is not uncommon for dependent heroin users to use benzodiazepines when heroin is unavailable, or to use them to help offset some of the symptoms of withdrawal. The use of benzos on top of prescribed opiates - such as with methadone or subutex - is also common as it can make the effects of the opiates feel stronger. Such use increases risk of overdose.

A few people self-medicate with benzodiazepines to alleviate mental discomfort caused by mental health problems, painful memories, or to escape unpleasant circumstances. For such users, where unsupervised use may be long-term and extensive, careful assessment of needs, of underlying reason for the drug use, and comprehensive care plans are likely to be needed to achieve reduction and cessation of drug use.

The increased availability of benzos in the UK, thanks to the Internet and other illicit routes, has meant that the level and extent of benzo use has probably increased lately. Workers have reported people entering treatment with staggeringly high levels of benzodiazepine dependency, built up exclusively using street benzos.

## Betel Nut

**Terms:** **Areca Palm** (*areca catechu*), betel nut, catechu, katha  
**Betel Creeper** (*Piper Betle*), betel leaf

### About Betel nut and Betel leaf:

The Areca palm is a tall palm, which produces seed pods. These seed pods are cropped and used as a stimulant. These are variously called Areca, Catechu or betel nuts. The Betel creeper is a slim vine with dark green, glossy, heart-shaped leaves. These are grown as a crop for their leaves and are often used alongside betel nuts.

The Hindi word for betel is *paan* and this term is also used for the preparation of leaf and nut widespread across India.

Increasingly popular, preparations of betel nut are also chewed with tobacco, both in India and elsewhere. These colourfully-wrapped packages are sold from numerous shops and stalls and has increasingly replaced traditional betel stalls. This 'smokeless tobacco' is called Gutkha in India and is known as Mawa and other names elsewhere. Repeated allegations are made that the products, with their packaging, sweet flavourings and images, are targeted at young users, and some Indian states have restricted their sale.

### Appearance:

Betel nuts are hard, brown seeds; whole seeds are about the size of a walnut. Leaves from the betel vine are glossy green, heart-shaped leaves. Prepared paan will take the form of a mixture of spices, betel nut and lime in a folded leaf.

### Methods of Use

Betel nut is chewed, on its own, with herbs and spices, or with tobacco. Generally some sort of lime is added as this makes the active compounds far more effective. Without the use of lime, betel can still be chewed for its taste and mouth freshening properties but will have a less marked stimulant effect.

### Effects:

The active compounds in betel nut act as a mild stimulant. The effects include increased alertness, greater energy, reduced fatigue, talkativeness and excitability. Some users also report euphoric feelings.

Side effects include perspiration and increased salivation. Betel chewing tends to stain lips and teeth reddish-black.

After the effects of the drug have worn off, users are liable to feel tired and experience low mood, especially if use has been prolonged or extensive.

## **Risks**

Betel use has a number of health benefits attributed to it; it is reputed to assist digestion, reduce flatulence and freshen the breath. However there is growing recognition internationally that betel use can have a damaging effect on health.

Research has suggested a high correlation between betel nut chewing and oral cancers and the risk is increased when betel is chewed alongside tobacco.<sup>1</sup> Other problems related to chewing include damage to teeth and gums and cavities. Betel use causes distinctive staining to lips and teeth, and the combined use with tobacco can cause unsightly brown staining to teeth.

Use of betel nut can lead to dependence, with similar symptoms to stimulant comedown – depression, feeling tired, restlessness and mood swings.

## **Availability In the UK:**

100g of Betel Nut can be purchased from on-line sellers for around £2. It is not illegal to possess and supply and is widely available from shops serving Indian, Pakistani and Bangladeshi communities. Both whole nuts and prepared paan can be purchased. Packaged betel/tobacco is sold in the UK and is lawful provided that they are not sold to under 16s and they bear statutory warnings related to tobacco products.

## **Use in the UK:**

Betel is legal in the UK, and is widely used amongst populations from India, Pakistan, Bangladesh and other countries where betel use is indigenous. There has been little research in to extent or problems relating to betel use in the UK.

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<sup>1</sup> Areca nut use: an independent risk factor for oral cancer : <http://bmj.bmjournals.com/cgi/content/full/324/7341/799>

## Fact Sheet

**Cannabis**

**AKA:** MARIJUANA, HASH, POT, WEED, BLOW, BLACK, SHIT, DRAW, HERB, and at least 100 other different slang names. Increasingly common are cultivated strains such as SKUNK and SUPER SKUNK.

**SOURCE:** Cannabis primarily comes from the plant Cannabis Sativa, a plant that grows wild in any warm or modestly warm conditions. By cross-breeding between different 'landrace' strains of cannabis plant, a large number of hybrid strains have been created with different ratios of active compounds, growing characteristics and appearances.

Historically, UK cannabis was primarily imported, mostly in the form of resins, especially from North Africa the Middle East and Asia. A smaller amount of herbal cannabis was imported, primarily from the Carribean.

Increasingly, UK cannabis is the result of cultivation within the UK or mainland Europe. Smaller amounts of resin, mostly low-quality are imported from North Africa.

Cannabis contains a number of psychoactive compounds, the most significant of which are THC (tetrahydrocannabinol) and CBD (cannabidiol). The amount of THC and CBD in a plant is partly determined by its genetics, but also about how it is grown and tended.

The amount of active drugs in the end product will be further influenced by how the plant is processed and stored.

**APPEARANCE:** Cannabis comes in two common and one more rare form. The commonest forms are RESIN or HERBAL. Less common is OIL.

**RESIN:** Cannabis plants, especially the flowers, contain and exude resin which, when collected and compressed, forms hard blocks. These may range in colour from black, dark brown, through to light brown. Size will vary as to the quantity being sold, e.g from a block over a foot long, weighing a kilo, down to small lumps measuring a few centimetres. Cannabis resin may have a distinctive sweet, cloying smell. It may be soft and malleable, crumbly, or very hard.

Unfortunately, most of the resin sold in the UK as "soap-bar" is a low-quality product, extracted from plant material using solvents and often adulterated with binding and bulking agents and with other psychoactive compounds such as ketamine.

**HERBAL:** Herbal cannabis is composed of either small dried leaves, dried flowering heads, or a mixture of the two. Dried leaves look much like dried herbs. Flowering parts

are often either light green, yellowish or purple, and may be dusted with white crystals. Theoretically these should be THC but in practice may be an adulterant added to make the plant look "crystally" and therefore potent.

"WEED" or "HERB" usually refers to leafy matter only, while "BUSH" or "SENSIMELIA" refers to flowering parts. Sensimellia refers to a female plant that has not been pollinated, and so has no seeds in it. Most UK-grown cannabis will be grown like this.

**OIL:** much less common in this country, pure cannabis oil is very strong and contains no solid matter. It usually comes in small vials, and is light brown, golden colour.

**COSTS:** Cannabis pricing has been relatively stable for a long time, though does experience wild fluctuations at times of shortage ("droughts.") Cannabis pricing is usually by weight, though small amounts may be sold in £5 or £10 deals. Often sold by imperial measures, weights are based on ounces, and divisions of an ounce. Typically, an ounce of resin sells for between £80 and £120, often dependent on quality. After this, prices become relatively higher; half-ounces are usually around £50, quarters are around £30, eighths are around £20, and the smallest amount sold are £12-15. Herbal cannabis, and, from time-to-time, resin, are sold by the gramme. Prices are broadly equivalent, at a rate of roughly 28 grammes to the ounce. Good quality strains are more expensive.

**QUALITY:** Two main factors are of concern. THC is one of the active chemicals in cannabis, and the more of this that is present, the stronger the cannabis. Some strains and batches of cannabis can be very strong whilst in others, the THC content is negligible. The heavily cultivated strains such as Skunk can be very high in THC.

The other major concerns are products that have been cut, and contain little or no cannabis at all. Dried leaves, mixed herbs or any other leafy produce may be passed off as herbal cannabis. Mixtures of wax, henna, plastic or liquorice have been passed off as cannabis resin. However, most people buy off people they know rather than dealers on the street, so these risks are reduced.

The low grade "soap-bar" resin sold in the UK is almost invariably low quality and contains potentially dangerous additives, including plastic and paraffin wax.

Herbal cannabis buds have also been contaminated, increasingly with small glass beads that have been sprayed on to the buds. There has been concern that inhalation of these beads can cause respiratory problems.

**METHODS OF USE:** Cannabis is primarily either SMOKED or taken ORALLY (eaten or drunk). Smoking can be done in JOINTS, PIPES, or through paraphernalia such as HOT KNIVES or BOTTLES. Cannabis in joints is often smoked with tobacco, though herbal cannabis can be smoked on its own. The cannabis is placed in cigarette papers,

and, if used, tobacco is added. A cardboard cylinder ("a roach") is added, and the prepared joint is smoked.

Some people prefer to use small PIPES, in which a small amount of cannabis resin or herbal cannabis is placed and smoked. Alternatively water pipes (bongs) may be used. Here, the smoke passes through water, removing some of the toxins and carcinogens.

Other methods such as hot-knives or using bottles are less widespread, and tend to be more wasteful. For example, with hot-knives, a small pellet of resin is placed between two kitchen knives which have been heated up, and the vapour inhaled.

A high-tech method of smoking cannabis is a vapouriser, which heats up the cannabis to the point where the active compounds can be inhaled. This is reputed to be a less hazardous way of smoking cannabis.

Cannabis can be mixed into food or mixed into drinks. It may be made into cakes ("hash cakes") or tea-like drinks.

When smoked, the effects of cannabis take effect within a few minutes. Absorption through the stomach is slower and can take up to an hour. The effects of eating cannabis can last several hours, while they tend to wear off within an hour when smoked.

**EFFECTS:** The effects of cannabis are not always very clearly defined. Some users report little or no effects, and others experience very intense effects. Certainly, the effects of cannabis use are often dependent on the experience and expectations of the user, and the setting and mood at the time of use. The following symptoms are most frequently recorded at moderate dosages; some may or may not be present:

Relaxation, tiredness, light-headedness, hilarity, excitability, nausea, euphoria, anxiety, redness of the eyes, enhanced appreciation of sound and colour, increased appetite, paranoia.

Unwanted side effects such as nausea, palpitations and anxiety are sometimes made worse by alcohol.

**HEALTH IMPLICATIONS:** Smoking cannabis, especially with tobacco, carries health risks. These relate to lung damage, especially bronchial problems, and an increased risk of lung and throat cancers. These problems are not removed by smoking without tobacco, and some studies indicated that cannabis smoke is more carcinogenic than tobacco. Certainly, people smoking cannabis tend to hold the smoke in their lungs longer, and this means more damage can occur.

Using cannabis regularly can cause short-term memory loss, and apathy or listlessness. While it is not PHYSICALLY addictive, people can and do become psychologically dependent, and find stopping smoking difficult.

Many sources argue that cannabis is linked to the development of mental health problems, most notably "cannabis psychosis." It is also claimed that cannabis can trigger underlying mental health problems. These various arguments are hotly disputed by pro and anti cannabis lobbyists. However, there is increasing evidence that the heavy use of strong cannabis amongst young people increases the risk of serious mental illness.

**LEGAL STATUS:** Cannabis was reclassified back to Class B in 2008. This effectively meant that the maximum penalty for possession went back up to a maximum of seven years. The maximum penalty for supply remains at 14 years. Cannabis is a Schedule 1 drug meaning that it is illegal to produce, possess and supply without a Home Office licence. Such licenses are only granted for research purposes. While possession of seeds is not illegal, the cultivation of plants is. Allowing premises to be used for the consumption of cannabis is an offence.

Possession of cannabis is an arrestable offence though most people over the age of 18 will get a "cannabis warning" for their first cannabis offences. For a second offence, adults are likely to be offered a PND (Penalty Notice for Disorder) which will result in a fine but not a Criminal Record. Subsequent offences will result in police charges and a criminal record.

For more information on changes to cannabis policing, please consult separate KFx briefing.

**OTHER INFORMATION:** Cannabis is the most widely used illegal drug, and is popular across age, class, gender and race. It is widely available.

Cannabis metabolites can be detectable in urine for as long as thirty days, far longer than most other drugs.

In the Netherlands, cannabis has NOT been legalised, but has been decriminalised, and is openly sold in coffee-shops.

Much attention has been paid, of late, to the perceived health benefits attached to cannabis use. It has been indicated for a wide range of illnesses and diseases. In 2010 the medicine Sativex received its licence allowing it to be used as a medicine in the UK. It is an extract from hybridised cannabis plants, and has a ratio of THC to CBD of almost 1:1 making it very different in composition to recreational strains of cannabis.

## Cocaine and Crack

**AKA:** COCAINE: cocaine hydrochloride (cocaine HCl) coke, charlie, snow, Columbian Marching Powder, white, Gianluca, C, nose-candy, nose-powder. CRACK: base, freebase, rocks, stones, white, bones

**SOURCE:** Cocaine is derived from the naturally occurring COCA bush (*Erythroxylon Coca*), a native species of South America. While the leaves of the bush can simply be chewed, or mashed with lime to form a paste, cocaine undergoes extensive processing in laboratories before reaching the streets.

Initially, a crude chemical extraction process takes place to form a smokeable base (alkaline) form of the drug sometimes called basa, basuco, or pasta, paste, pitillo. This base form of the drug is extensively used in South America as a cheap, potent form of the drug usually smoked with tobacco.

The base cocaine produced in the preceding stage is refined and acidified using a variety of chemicals including kerosene, potassium permanganate and hydrochloric acid. The end product at this stage is a highly pure form of cocaine hydrochloride, a soluble salt (acidic) form of the drug. This is then exported.

This form of refined, water-soluble cocaine is then bulked out with adulterants, and sold on. Some of this will be sold as cocaine powder. However, some of this cocaine powder will be converted in to crack cocaine. By dissolving cocaine powder in water, and heating it with an alkaline substance, the acidic salt drug is converted back in to being a base form of the drug.

**APPEARANCE:** Cocaine HCl: white crystalline powder. High quality cocaine HCl will be in the form of larger crystalline flakes which will give the cocaine a more 'fluffy appearance.' Lower quality cocaine will be in much finer powder form. Cocaine powder has a sharp, acidic taste and will rapidly the tip of the tongue if dabbed against it. Freebase cocaine: depending on the production method used, could take the form of crystals of base cocaine or a malleable pasty mixture. This may smell of ammonia if this chemical was used in production.

However, in the UK the main form sold at a street level will be rocks of "crack" cocaine, small hard lumps of the drug which may be white or off white, and around the size of a raisin.

### Methods of Use

Cocaine HCl is water soluble and can be absorbed across a mucous membrane (e.g. nose, gums). It is often snorted, or rubbed in to gums. Typically, when snorted, the powdered drug is placed on a flat surface; the crystals are made as fine as possible by chopping them with a credit card. The resulting powder is then snorted, often through a tube of rolled-up paper in to the nostril. It dissolves, enters the capillaries and then passes in to the circulatory system.

Cocaine HCl can also be injected. It does not lend itself to smoking as the heat of a cigarette or pipe will cause the cocaine to breakdown, rather than vapourising. Hence this is an inefficient method of use.

Crack cocaine has a lower melting point (95C) than cocaine HCl and so it can be smoked. This is usually done through a pipe, though some people flake crack in to spliffs and smoke it this way. As crack is not water soluble it cannot be snorted or injected. In order to inject it, some users will acidify crack cocaine, turning it back in to water-soluble salt.

**COSTS:** Cocaine is typically sold by weight, crack by the rock. A single rock of crack-cocaine can cost as little as £5 or as much as £20, but a great deal is sold at around £10 a rock. Price varies with size of the rock, quality, availability and region. A gramme of cocaine costs between £40 and £80, though cocaine is sold at higher and lower prices.

**QUALITY:** While cocaine powder is easily cut with other adulterants, purity tends to be higher than, for example, speed. Adulterants include mannitol, sorbitol, amphetamine, lactose, caffeine, lidocaine, benzocaine.

Crack purity will depend on the strength of the cocaine used and the process used. Much literature claims that crack is a purer drug than cocaine HCl and this is not always the case.

Crack can be made in a one-stage or two stage process. A one stage process simply converts the drug from a salt to a base, but does not make it any purer. A two-stage process will convert the drug from salt to base but also refine it.

Most mass-produced crack is produced in a one-step process and so the crack will be of a similar (or lower) purity than the cocaine from which it was manufactured. The crack will only be purer if adulterants present in the cocaine were removed. Regardless, crack will inevitably feel stronger due to the route of administration. Drugs which are smoked deliver more of the drug to the brain more rapidly than drugs which are snorted.

**EFFECTS:** Cocaine is a powerful stimulant; it offers an intense impression of power and control, combined with heightened energy and awareness. Users can feel euphoric, sexually aroused, confident and egotistical.

It is, in some respects, similar to speed, but offers a more euphoric and less "harsh" experience. Effects also include increased heart-rate and blood pressure, and pupil dilation. Users are apt to become restless and talkative. When cocaine is injected, snorted, or rubbed onto the gums, it causes numbing of the site.

Cocaine also alleviates the need for sleep, and acts as a powerful appetite suppressant.

Duration of effects depends largely on what is being used and how it is used. Cocaine which is snorted takes longer to act than cocaine injected, but the effects last longer.

Crack, on the other hand, takes effect almost immediately when smoked, but the effects wear off rapidly, typically within 15 minutes. This rapid up-and-down encourages users to take the drug again straight away, and can lead to binges, where a user will take rock after rock, postponing the comedown, until they run out of money and drugs.

**HEALTH IMPLICATIONS:** With short-term use, cocaine users can experience anxiety, paranoia and disrupted sleep. The suppression of appetite can lead to weight loss, and users will experience exhaustion and fatigue.

Snorting of cocaine can lead to perforation of the septum, and rubbing cocaine into the gums can cause gum disease and cavities.

Crack smokers often experience bronchial problems, exhibited by coughing and black phlegm. Regular use can cause anxiety, depression and ultimately psychosis. Deaths do occur, predominantly through heart failure or haemorrhages.

Cocaine used in conjunction with alcohol forms a compound called cocaethylene; this compound increases the strain on the liver and regular use of cocaine with alcohol increases the risk of liver damage.

Cocaine used in combination with other drugs that elevate blood pressure increases the risk of serious health problems. Some users end up using other drugs such as benzodiazepines to offset the come-down caused by excessive cocaine use.

An increasingly large population is using cocaine alongside heroin, sometimes smoked but increasingly injecting both drugs together (snowballing). This brings with it the risks of dependency associated with heroin use alongside the risks and costs of a cocaine habit.

Cocaine is not thought to be physically addictive. However, the intensely pleasurable high and the less pleasurable comedown can lead to regular and **increasingly** problematic use. The very rapid high and comedown from crack increases the likelihood of dependency.

**LEGAL STATUS:** Cocaine is a Class A, Schedule 2 drug; some derivatives of cocaine are still used as local anaesthetics.

**OTHER INFORMATION:**

Cocaine HCl has been one of the few illicit drugs to buck the trends in the UK and increase in popularity over the past few years. Cocaine currently enjoys a relatively low cost, high availability and an unrivalled "popular" profile and so has achieved a relatively high level of social acceptability. It is used across a wide range of social demographics, enjoying popularity amongst people in the manual trades, clubbers, media, city, young people, and professionals from a range of backgrounds.

At present the glamour and acceptability of cocaine appears to have the upper-hand and concerns around dependency, physical or psychological harm or the problems associated with the international cocaine trade appear to have little deterrent effect.

Crack use on the other hand has not enjoyed the same level of acceptability. Crack use has become more widespread in the UK and over the past ten years, availability and use has increased significantly. Much of this expansion has been within existing heroin markets, so markets which were once exclusively heroin markets are now heroin and crack markets.

Effectively the cocaine market is fairly polarised in the UK now, with cocaine powder use becoming relatively socially accepted and widespread, whilst crack use is relatively restricted in its usage and acceptability.

Strictly speaking, crack is not a new drug, nor is it a different drug from cocaine. It has been chemically treated to "free the base from the salt," which allows it to be smoked. Freebasing, which was a low-scale cottage industry in the States in the Seventies really took off with the development of crack production and sale in the 90s.

The processing of cocaine into crack is very simple. It is not true to suggest that crack is cheaper than cocaine. Weight for weight, crack is more expensive than cocaine powder. In addition, smoking crack is a more wasteful method of use. However, its rapid, intense rush and relative cheapness per rock makes it more appealing to new users. This relative cheapness however is offset by the short duration for which the effects last, and the strong compulsion that many users experience to have another rock. Anecdotes are legion in the drugs field of users spending thousands of pounds in binges lasting several days, and of people becoming rapidly involved in crime, dealing or the sex-industry to pay for their crack.

Drug services have been slow in creating effective services for people with cocaine, and especially crack-related issues.

## Fact Sheet

## Ecstasy

**AKA:** MDMA, 3-4 Methylenedioxy-n-methylamphetamine, *Tabs, Pills, E's, Eccies, E, XTC*

Branded Tablets including: *apples, doves, killers, mitsubishis, ferraris, crowns, Euros, motorolas, VWs* and numerous others

Ecstasy was originally the 'street' name for the compound 3-4 Methylenedioxy-n-methylamphetamine (MDMA). MDMA is part of a large group of drugs - the Phenylethylamines (which relates to their core molecular structure). Related products include MDA, MDE, MDD, DOM. Several hundred phenylethylamines have been synthesised.

**SOURCE:** Ecstasy is derived from naturally occurring chemicals found in trees *Sassafras Albidum*, or *Ocotea Pretiosa*. While the processes involved are well documented, they are beyond the means of most amateur chemists, requiring both equipment and chemicals that are expensive or subject to licence. UK-bought Ecstasy is produced both in the UK and mainland Europe, in illegal laboratories.

**APPEARANCE:** Pure MDMA comes as a white powder. However, due to the number of different labs and different processes that produce Ecstasy, appearance is very varied. Most commonly, Ecstasy comes as tablets or capsules. Ecstasy is also supplied as a powder, in wraps or bags. Tablets may be white, off white, yellow, speckled, rough, smooth, scored, imprinted with designs or plain.

Capsules come in many colours, including plain white, black and red, yellow and purple. The appearance of tablets or capsules often gives rise to their names; tablets imprinted with pictures of apples are called APPLES, those imprinted with doves were called DOVES and so on. This sort of branding, initially designed to make good E's distinguishable from bad ones, is no guide to quality. Once a brand is established, other producers copy the design, but may not copy the content.

**COSTS:** Ecstasy was initially a relatively expensive drug in the UK, selling for between £10-20 per tablet. But over the past few years, cost has dropped massively, with most tablets selling for £1-2 or less. MDMA powder can be more expensive, selling at between £30-50/gm.

**QUALITY:** The quality of all drugs is variable and nowhere is this truer than with Ecstasy. Ecstasy users were always at risk of buying low quality tablets. However, as cost dropped, so has quality and so pills now often contain little or no MDMA. Some will contain other psychoactive substances there is a chance that any old tablet finds its way onto the streets - headache tablets, other medications, veterinary supplies, old capsules filled with any white powder. Stories are rife of dog worming tablets being sold, or capsules full of ground glass being flogged, but these are generally urban myths.

Even if the tablet or capsule contains a genuine illegal, psychoactive drug, it may not be true Ecstasy. Combinations of speed, Acid, heroin, tranquillisers, Ketamine, and other drugs have been passed off as Ecstasy. And even, should the drug be an Ecstasy-related compound, it is as likely to be MDEA, MDA or some other variant as it is to be true Ecstasy (MDMA).

Increasingly, those who want good-quality MDMA will try and source MDMA powder, and many will steer clear of pills.

At one stage, there were reasonably reliable sites with UK-specific Ecstasy purity reports. However, few of these sites are adequately maintained or moderated and so are not a reliable indicator of UK ecstasy quality.

**METHODS OF USE:** Ecstasy is usually swallowed, though it is theoretically injectable. MDMA powder is often snorted. Pills and powders have also been used rectally.

**EFFECTS:** Ecstasy starts working approximately half-an-hour after it has been swallowed. Users may initially experience a warm glow spreading rapidly through the body, and experience some slight dizziness, disorientation, breathlessness and exhilaration. Nausea may be present.

For the next 3-5 hours, or possibly slightly longer, the user may experience some of the following: sense of wellbeing and contentment, intense happiness, increase in pulse-rate, feeling warm or flushed, feeling restless, anxiety and paranoia, feeling increasingly friendly to other people, and a sense that this friendliness is reciprocated, tightness and clenching of the jaw muscles, dilated pupils, an increase in energy, suppression of the appetite and no desire to sleep, enhanced appreciation of visual and auditory stimulation, some mild visual distortion, a decreased desire to urinate.

Of course, any individuals experience of Ecstasy depends on the strength and quality of the drug, and the users mood and environment. In some settings, such as when Ecstasy is used to explore self-awareness, the restlessness and anxiety is less pronounced. The cumulative effect of Ecstasy, especially when seen in the context of club drugs, is of increased appreciation of music and light shows, the energy to dance all night, and a sense of unity and friendship with other clubbers.

**HEALTH IMPLICATIONS:** Much has been made of the health risks attached to Ecstasy use, especially of Ecstasy-related deaths. While much research is still on going, the following health risks are apparent:

- toxic or allergic reactions to Ecstasy itself; some people are sensitive or allergic to Ecstasy; such sensitivity can result in illness or death.
- a toxic or allergic reaction to substances that have been sold in place of Ecstasy; this includes reactions to both similar substances (e.g. MDA) but also to other substances such as penicillin or other substances.
- injury or fatality caused by the effects of Ecstasy; examples include people with heart conditions who have heart-attacks as a result of taking Ecstasy.

- Heat-stroke: a risk especially when Ecstasy is taken in a hot night-club, especially if the user is dancing a lot. Heatstroke can cause death as internal organs cease working.
- water intoxication; in an attempt to reduce the risks of heat-stroke, a user may drink lots of water. The combination of drinking too much water and restricted kidney function due to Ecstasy can cause levels of fluid within the brain to increase, leading to unconsciousness, coma, and possible death.
- the triggering of other conditions: Ecstasy has been linked to a number of conditions which may have previously been latent, and triggered by taking Ecstasy. Evidence is strong, for example, that Ecstasy can trigger Epilepsy in some individuals.
- long-term psychiatric damage: some users have experienced long-term depression after using Ecstasy; this is more common in regular users. There is some evidence that ecstasy use, especially long-term use, adversely affects neurotransmitter transmission systems in the brain.
- long-term damage to internal organs has not been discounted; organs considered, by some, to be at risk include the liver, the kidneys, the heart and the brain.

**LEGAL STATUS:** Ecstasy is a Class A, Schedule 1 drug, and currently has no medical or therapeutic use in this country.

**OTHER INFORMATION:** Ecstasy is erroneously described as a new drug, but it was first produced as long ago as the 1930s. Having been used as an appetite suppressant, and a military brainwashing drug, Ecstasy experienced a renaissance in the sixties and seventies as a tool for psychotherapy, and then made the jump into the club scene. It was only made illegal in the USA in 1985, though had been illegal in the UK far longer.

Alexander Shulgin is credited with "rediscovering" MDMA and synthesised this along with many other phenylethylamines. His accounts of this and other drug manufacture and sampling in his book *Pikhal* and its sequel *Tikhal* brought awareness of the compounds and their manufacture to a wider audience.

MDMA was initially popular in the US Gay club scene, in the early '80s came back to the UK and whilst initially primarily popular in the UK Gay music scene, rapidly spread to other club-goers, fusing with the emergent Acid House scene. It rapidly increased in popularity across many music scenes, including the rave and free party scenes, the Manchester music scene and then on in to other cultural settings.

Some commentators dubbed 1988 the Second Summer of Love, and for the next two or three years Ecstasy maintained high levels of popularity.

Things started to change around the time of the Castlemorton Free Festival (1992) and went in to decline as legislation and enforcement impacted both on the rave/festival scene and the manufacture of MDMA.

The golden-age of Ecstasy seems to be on the wane, as some users, concerned about over-priced drugs of disputable quality, have turned to other products such as low-priced cocaine instead.

## Fact Sheet

**GHB**

**AKA:** Gamma Hydroxybutyrate, *GBH*, *Liquid Ecstasy*, Gamma Butyrolactone, *GBL*

**SOURCE:** GHB is mostly manufactured and distributed illicitly. UK sources may originate in Europe or further afield. GBL is currently found in a number of products including stain and glue removers, and industrial solvents. Most of the GBL currently used in the UK is sold in this form.

GBL is a pro-drug and converts in the body to GHB. Alternatively it is converted to GHB by processing with Sodium Hydroxide. GBL is also present, in small quantities, in some food and drinks as a natural product. It is present, in low levels, in many wines.

**APPEARANCE:** GHB is a white crystalline powder. The powder is rarely sold on at a street or club level. Instead the salt is mixed with water to produce a clear liquid sold in small plastic bottles. GBL is typically sold in plastic bottles, sometimes labelled but often unmarked.

**COST:** Widely variable; large bottles of GBL sell for around £40 for 250ml.

**QUALITY:** Highly variable; as GHB is illegally manufactured strength can vary widely from brand to brand and batch to batch. Likewise, concentrations of GBL can vary massively.

**METHODS OF USE:** Swallowed, usually taking a small capful.

**EFFECTS:** Effects vary greatly according to users and the dose taken. At low doses, the effects are similar to alcohol, making users feel relaxed, chatty, flirtatious and slightly dizzy. With higher doses, users may feel happier, more tactile, but also more drowsy. With still higher doses, users are more likely to feel dizzy, nauseous and risk seizures or blacking out.

**HEALTH IMPLICATIONS:** There have been fatalities related to the use of GHB but usually where alcohol has been consumed as well. Users run the risk of becoming unconscious; breathing may stop or be prevented by aspirating vomit. Users may enter a coma-like state for several hours.

Regular and frequent use of GHB can lead to physical dependency, with severe withdrawal symptoms akin to those from Alcohol or Benzodiazepines. These could include shakes, tremors, spasms, panic, hallucinations or delusions. While such dependency will not develop with infrequent users, anyone using GHB for a sustained period of time should seek expert drugs advice before discontinuing use abruptly.

**LEGAL STATUS:** GHB was added to the list of controlled drugs in July 2003. It is a Class C Schedule 4.i drug, making it illegal to produce, possess or supply unless authorised to do so. A person can be arrested for possession of GHB, though such arrests are not common.

GBL was, until 2009, not illegal to possess or supply and was widely sold over the Internet. After growing concern the Government decided to make GBL a controlled drug and added it to Class C, alongside GHB. However, there was extensive lobbying by industry who argued that their need for the product, the lack of alternatives and the prohibitive costs of making it a controlled drug would make outright prohibition detrimental.

The Government therefore decided not to add GBL to the Schedules, making it an offence to supply only if intended for ingestion other than as a food flavour. This means that on-line supply in the form of alloy cleaner and other industrial uses is largely unaffected.

**OTHER INFORMATION:** GHB has been used in a variety of medical and non-medical contexts for several decades. It has been used medically for the treatment of insomnia, as an anaesthetic and to relieve symptoms of alcohol withdrawal.

There is also a persisting belief amongst body-builders that use of GHB stimulates release of Human Growth Hormone (HGH) during sleep and so GHB became popular amongst body builders and was initially classed as a "dietary" supplement.

GHB became increasingly popular in the dance and club scene – somewhat bizarrely as many people found that a night on GHB left them unable to dance or communicate, and all too often left them unconscious. Prior to 2003 GHB was not a controlled drug and it was widely sold in sex shops and on-line. Some commentators linked the increased use of GHB with a downturn in availability of Ecstasy. Some users took GHB with stimulants, others mixed it with alcohol; the results were frequently messy.

GHB was widely considered to be a culprit in Drug Assisted Sexual Assaults ("Date Rapes"). It has proved very hard to establish, with any certainty, the extent to which GHB has genuinely been used as a drink adulterant. Some sources argue that GHB's distinctive strong, salty taste makes it easily detectable as a drink-spiking agent. Further, it has a relatively short, 12 hr detection window making it a hard drug to test for.

GHB was made a controlled drug in 2003, rapidly reducing its availability and use. However, availability of the prodrug GBL was not restricted and use of this compound has become much more widespread.

## Fact Sheet

**Heroin**

**AKA:** Diamorphine Hydrochloride, Diacetylmorphine Hydrochloride, *Brown, Skag, Smack, Junk, Gear, Shit, Dope, H, Horse*

Related products include OPIUM, and a range of pharmaceutical products including Morphine, Codeine, Dihydrocodeine, Buprenorphine. Related synthetic compounds include methadone. See DRUG-FACTS sheets on METHADONE and other OPIATES for further information about related compounds.

**SOURCE:** Heroin is manufactured from the sap of the Opium Poppy, *Papaver Somniferum*. Raw opium is extracted from the poppies. This contains a mixture of opiate alkaloids, including morphine, thebaine, codeine, noscapine and papaverine.

If this raw product were to be used for pharmaceutical purposes, the crude opium resin would be refined to isolate the individual alkaloids, which form the basis of numerous medicines.

For illicit production, the raw opium is treated with lime and other compounds to leave partially-refined morphine; this is reacted with acetic anhydride to produce a base form of diamorphine. This crude base form of the drug is what is primarily exported to the UK, and makes up the bulk of the UK market. It typically doesn't undergo further refinement, or acidification before export.

Other forms of illicit heroin, especially more refined white heroin does still appear on the UK market but infrequently.

Raw opium is also occasionally offered for sale in the UK; most of this is imported though a small amount is also grown in the UK.

Pharmaceutical Diamorphine Hydrochloride is still prescribed in the UK, and a small number of people who are opiate dependent are prescribed the drug on the NHS (or by private prescription). Historically, some of the prescribed Heroin in the UK leaked on to the streets but this is seldom the case now.

**APPEARANCE:** Heroin is usually sold as a powder; colour ranges from white, off-white, yellowish, to reddish brown, the most prevalent type now on the market. A few years ago, there was a wider availability of brands such as CHINA WHITE, but Afghan-sourced brown heroin is the mainstay of the UK market. Crude opiate extracts such as Black Tar Heroin don't occur in the UK.

**COSTS:** Heroin is usually sold in small quantities, typically £10 bags. By weight, Heroin costs between £40 and £60 a gramme.

**QUALITY:** Street heroin is invariably heavily adulterated, but the extent of this varies wildly from area to area and dealer to dealer. Cutting of heroin ranges from 40% to 70%, though far lower (and higher) purities are reported.

Common adulterants include caffeine, lactose, and benzodiazepines. Reports in the media of other, dangerous adulterants are widespread and but rarely substantiated. However, compounds including builders plaster, brick dust, talc. In 1993, Paracetamol

was the most widely-reported adulterant according to research by the University of Greenwich.

Periodically, very pure heroin is sold on the street, potentially causing fatalities as people overdose on exceptionally strong gear.

**METHODS OF USE:** Heroin is usually smoked or injected; due to its poor solubility, brown heroin is a poor option for sniffing. Few people swallow the drug due to its inefficient delivery. A small number of people take the drug rectally, as a harm reduction measure.

Smoking is often called "*chasing the dragon*," or more recently *booting*. A small line of heroin is placed on a piece of silver foil, and heated from below. The heroin runs into a liquid, and gives off a curl of smoke, which is inhaled through a rolled tube of paper or foil.

For injection, heroin is acidified, using citric or ascorbic acid, heated with water, and then filtered prior to injecting.

**EFFECTS:** Heroin is a powerful painkiller, and the absence of pain that it offers is combined with euphoric qualities. The combined effects are a sense of well being, feeling warm and content, drowsy and untroubled.

The sense of calm, pleasure, profound well-being and the absence of worry, anxiety or pain makes heroin a very effective escapist drug.

At higher doses, the user may become heavily sedated, be sleepy, unable to talk, and appear to fall asleep for a few minutes at a time. This is referred to as "gauching" or "nodding."

Users often experience nausea or vomiting on the first occasions that they use heroin, or when returning to use after a period of abstinence.

**HEALTH IMPLICATIONS:** The health problems attached to heroin use are numerous and complex. Some are related to the drug itself, some related to the drugs legal status, and others due to lifestyle attached to regular heroin use.

Heroin is physically addictive. Regular use of heroin leads to an increase of tolerance to the drug. Initially, this means that one needs to take increasingly large amounts to achieve the same sense of euphoria and well being. Subsequently, it means that users find they need to use increasingly large quantities to prevent going into withdrawal, or just to feel "normal." This alone means that spending on heroin inevitably escalates with regular use.

The flip side of this is that, when heroin use is discontinued (for example after a spell in prison), tolerance drops. A user whose tolerance has dropped and who attempts to use the amount they were using when their tolerance was higher, stands a good chance of overdosing.

Overdosing on heroin is quite a frequent occurrence; amongst other effects, heroin can depress breathing, and in overdose, breathing can cease altogether ("having a bluey.") The risk of overdose is exacerbated by the variable quality of street heroin, and hospital

admissions for overdose are common. Death through overdose remains a significant cause of mortality amongst heroin users.

While pure heroin is not especially toxic to human organs, contaminants in street heroin way well cause more damage, especially when they are injected.

Injecting brings with it the risks of vein damage and collapse, local infections, abscesses, circulatory problems, ulcers, thrombosis, infections in heart valves, and systemic infections. It also exposes users who share injecting equipment to blood-borne viruses including Hepatitis B and C, and HIV.

Needle exchanges in the UK offer sterile equipment to reduce the incidence of sharing and infection caused by injecting.

Heroin causes severe constipation amongst regular users. In addition, it acts to suppress the cough-reflex, leaving users at risk of chest and bronchial problems.

Further problems relate to heroin-lifestyle, and the need, especially with large habit, to raise in excess of £150 a day to pay for drugs. This can lead to poor diet, poor accommodation, and a host of resultant illnesses.

After a period of regular use, there is an unpleasant period of withdrawal (often called "cold turkey,") as the drug is cleared from the body and the body adjusts to functioning without the presence of heroin. While unpleasant, sometimes lasting for a fortnight or more, withdrawal is not a life-threatening process. Far more difficult is to resist the psychological temptation to use during this period, in the knowledge that it would instantly alleviate the symptoms of withdrawal. While the drug is actually cleared from the system relatively quickly, reverse-adapting can be a slow process, with users experiencing low mood, disrupted sleep and anxiety for weeks, and possibly months after cessation of use.

A range of treatments are available to assist the physical and psychological aspects of heroin dependency; this can include prescribing substitute drugs such as methadone or buprenorphine, from which the user can then gradually be reduced. Counselling, residential treatment and self-help groups are also available to assist people stopping.

**LEGAL STATUS:** Diamorphine is a Class A, Schedule 2 drug. It can legally be produced, supplied and possessed under Home Office Licence. Pharmaceutically pure diamorphine hydrochloride is used for pain relief in medical settings, but is illegal to possess without authority. It is lawfully prescribed to dependent heroin users, by Doctors who hold a Home Office licence to prescribe the drug to addicts.

**OTHER INFORMATION:** Heroin remains one of the most problematic illicit substances in the UK. Despite law enforcement efforts, it is widely available and remains cheap and plentiful. Production in Afghanistan remains high, and so there is little prospect of a shortage in the UK at present.

While heroin was once concentrated in inner-cities it's use and availability has spread and so it now affects all towns and cities in the UK and has impacted on rural areas too.

## Fact Sheet

**Ketamine**

**AKA:** *K, Special K, Super K, Vitamin K, Ketalar, Ketaset*

**SOURCE:** Imported from Asia and increasingly the Middle East. A small amount is diverted from hospital or veterinary supplies. Some European manufacture alleged.

**APPEARANCE:** White powder or ampoules for injection. Branded vials may be marked "Ketalar" or "Ketaset." Also appears in many tablets passed off as Ecstasy.

**COST:** Highly variable; £10-40/g reported

**QUALITY:** Variable; when sold in tablets it is often mixed with a stimulant to give an ersatz ecstasy-like effect (speedy and trippy). Powders may well have been adulterated, though often this will have been with an inert bulking agent.

More often than not, it is other products which have been adulterated with ketamine, rather than ketamine itself being adulterated. So low grade cannabis resin (*soap*), heroin and Ecstasy is sometimes cut with ketamine,

**METHODS of USE:** Ketamine powder is usually snorted or swallowed though some people do inject it. Ampoules are typically injected.

**EFFECTS:** Ketamine is described as a "disassociate anaesthetic." It interferes with signalling between brain and body, reducing awareness and sensitivity to pain, but also inhibiting movement.

At lower doses, users report feeling disorientated, with some hallucinogenic experiences such as distorted senses of the body and limbs feeling longer or shorter. Some people feel euphoric, Limbs may feel heavy and increased effort is required to move or speak,

At higher doses, hallucinations are much more pronounced. People describe an experience that has been dubbed "k-holing:" a feeling as though travelling along a tunnel towards a white light. Perceptions can become very altered with intensely altered awareness of sound and vision. Some users report intense "out-of-body" experiences which can be profound and a small number of ketamine users seek out this aspect of ketamine use.

People can feel very paralysed and find movement difficult or impossible. Some people report that the hallucinations experienced on Ketamine feel far more "real" than with LSD or magic mushrooms.

Effects are highly dose-dependent and also by other substances taken.

**HEALTH IMPLICATIONS:** There is a lack of definitive evidence relating to long term mental, but as with other psychoactive substances, their use by people concerned about their mental health should be approached with caution.

Of great concern has been growing evidence that ketamine is linked to bladder damage. A number of regular users of ketamine have presented to medical services with symptoms of bladder problems. These have included difficulty in holding urine, pain on urinating, blood in urine and bladder pain. In some people this has resulted in severe bladder damage and scarring to the bladder. This has meant some people have had to have catheters fitted and a small number of people have had complete cystectomies (removal of bladder).

It is not clear if bladder damage is caused by ketamine itself, a metabolite of ketamine, or a contaminant in ketamine. Anyone who uses ketamine and experiences any problems relating to bladder health should seek medical help promptly.

**HARM REDUCTION STRATEGIES:** Ketamine is liable to cause disorientation and could leave people vulnerable. So if it is going to be used, it would be better to avoid unfamiliar, crowded or hazardous environments. Use in club settings, squat parties or festivals are especially risky in terms of injury or risk of assault. Given the risk of injury, falls, or becoming nauseous, having a trusted friend to act as a sitter is a useful risk-reduction strategy. They should be able to put the person in the recovery position and if necessary call an ambulance.

Some ketamine users find the hallucinatory experience enthralling, while others may find it scary. It may act to exacerbate fears and low moods so is best avoided if the person is feeling anxious or depressed. Should the user experience panic or anxiety, the presence of a reassuring sitter who can calm the user may help.

Unlike most other hallucinogens, lots of people find the Ketamine experience more "immersive" in that it feels very real at the time. While for some this is part of the appeal, for others this makes the experience more scary.

Unfortunately, a lot of people first take Ketamine accidentally. Typically this is from taking powder or pills, thinking it is MDMA (or cocaine.) The real clues that this has happened are the heaviness of the limbs and difficulty in talking described above. If you think that you have had ketamine in error, get yourself in to an environment where you feel safe, with a trusted friend as soon as possible or seek medical help.

**LEGAL STATUS:** Ketamine has been a Controlled Drug (Class C, Schedule 4i) since January 2006. This makes unlawful possession and supply a criminal offence, carrying a maximum of 14 years for supply.

**OTHER INFORMATION:** Ketamine is not a new drug, nor is it a "horse tranquilliser" as it is often dubbed by the media and users. It is an anaesthetic and it is

used for animals, very young children and patients where there is a high risk of respiratory failure.

Ketamine is similar in effect to Phencyclidine (PCP, angeldust, Sernyl).

Ketamine grew in popularity in the club scene. Some relate this to a decline in the quality of Ecstasy; clubbers in search of an Ecstasy-like buzz used combinations of Ketamine with other drugs to get a hallucinogenic, speedy effect. Ketamine reached relatively high levels of popularity in 1999-2000, especially in squat/warehouse scenes.

Since then its popularity has waned somewhat. Probably because of too many parties where people lay around paralysed, unable to walk or talk.

However, despite being less popular in the club scene, and changes to the law making it a controlled drug Ketamine has remained stubbornly popular, and shows no signs of vanishing from the drug scene altogether.

## Fact Sheet

**Khat**

**Aka:** Chat, Qat, Miraa, and numerous other names

**SOURCE:** Khat is one of the many names for the plant *Catha Edulis*. The plant is grown extensively in Sub-Saharan Africa, especially Eritrea, Ethiopia, Somalia, The Yemen and Kenya. In addition to use in-country it is imported into the UK, and sold here or may be exported to other countries including the United States. The plant is openly sold in the UK, from street markets in London and other city centres.

**APPEARANCE:** Bundles of twigs, with leaves attached.

**COST:** £3-5 per bunch

**QUALITY:** Variable: Chat varies in strength, and its strength also deteriorates after the plant is picked.

**METHODS OF USE:** Khat is usually chewed. The leaves and soft pulp are placed in the mouth and masticated for a long period of time. Khat chewing is frequently treated as a social activity, taking place in small groups and lasting for several hours at a time.

Leaves can also be stewed and made in to a tea.

**EFFECTS:** The active constituents of khat are cathinone and cathine. These are stimulants and the effects are similar to those of amphetamines, but milder.. They increase energy, reduce appetite, and cause users to become talkative and animated, followed by drowsiness, sleep or depression.

Some users claim that they can enhance sexual arousal and performance.

**HEALTH IMPLICATIONS:** Excessive use can cause a range of symptoms including irritability, paranoia, insomnia and weight loss. Unless discontinued, it can, in extreme case, lead to psychosis. Frequent chewing can cause tooth and gum damage, and jaw problems. Chewing in unhygienic settings can lead to health problems.

**LEGAL STATUS:** Possession or use of Khat is not presently restricted in the UK. However, it is illegal in some other countries such as the USA and people are arrested and prosecuted for carrying the drug into other countries. Extracted cathinone is a Class C drug.

**OTHER INFORMATION:** Chat use is common in certain cultural settings, and has been practised for many centuries in certain areas of East Africa and the Arab Peninsula. Use in-country is the source of much controversy and debate. Khat use has been a significant issue during armed conflict, increasing anxiety and energy amongst soldiers and used to embolden and desensitise child soldiers.

Khat use in the UK has been the subject of ACMD scrutiny who explored whether or not it should be made a controlled drug. This was in light of escalating and problematic UK use, especially amongst young Somali men. Whereas use of Khat had traditionally taken place in social settings and was often generally not sustained for long periods, young Somali khat users were reported to be chewing daily, for extended periods of time. Such heavy use brought with it higher levels of physical and psychological risk.

However the ACMD has, to date, declined to advocate adding Khat to the list of controlled drugs, fearing that to do so would drive the drug, and problems related to use, deeper underground.

Khat use has not been taken up beyond it's cultural users, and is not popular with other stimulant users.

Extracted cathinone cannot be sold, and whole-plant forms are not popular as a recreational drug.

Khat and cathinone should not be confused with Methcathinone, a synthetic stimulant produced from ephedrine. While both are stimulants, methcathinone has more in common with methamphetamine than khat.

Fact Sheet  
**LSD**

**AKA:** Lysergic Acid Diethylamide, LSD-25, *acid, tabs, trips, microdots, 'cid, blotters*

**SOURCE:** LSD is derived from the fungus ergot through a series of complex chemical processes. While various internet sources profess "easy" manufacturing processes, production of LSD is not straightforward and requires specialist resources and knowledge. UK heroin is produced within the British Isles or imported from Mainland Europe

**APPEARANCE:** LSD, in its pure state, comes as crystals that can be dissolved in distilled water to make a clear, odourless liquid. This is usually soaked into sheets of paper ("blotters") which are cut into small squares ("tabs") for sale at a street level. The square may be plain paper or thin card, or may be over-printed with a design. These are many and varied, and include cartoon characters, ("Bart Simpson," "Batman,") new-age symbols ("Ohm"-designs), or just about anything else - strawberries, penguins, smiley faces and so on. Microdots are small dark brown/black pellets, slightly larger than a pin-head.

**COSTS:** £2-4 per tab.

**QUALITY:** It is impossible to predict the strength of LSD on the street. While it is possible to get sold a piece of cardboard soaked in nothing, this is less common than one might suppose. However, LSD is not a very stable compound, and degrades in sunlight or warm conditions. So LSD ranges from being very weak to very strong. For guidance, a strong dose could be 100-150 microgrammes, and a weak, but still effective dose as little as 20 microgrammes (20 millionths of a gramme.) While impossible to predict, much acid available on the streets contains between 50 and 75 microgrammes.

**METHODS OF USE:** LSD is usually taken orally, and can just be chewed or actually swallowed. Sources argue about the risks of LSD absorption through the skin. This mainly seems to be a risk for those handling significant quantities but also could apply where LSD remains in prolonged contact with the skin, especially if it is damp, or thin. LSD takes between thirty minutes and an hour to take effect, and the effects, or "trip" can last between eight and twelve hours.

**EFFECTS:** The effects of LSD use are usually called "Tripping." These effects are unpredictable and vary hugely from person to person. The drug works on the brain and causes changes to thoughts, senses and perceptions. Visual disturbance can range from the very slight, such as seeing traces off lights and moving objects, through to hallucinations which may be visual or auditory. Most common, especially at lower doses, is visual distortion of real objects, such as walls becoming distorted, changes in the way people or objects look, and floating patterns in the air. The effects on a user's thought

processes are also very pronounced. Users can enter a dream-like state, become very self aware, and feel as though they are experiencing moments of enlightenment, or having mystical experiences. However, users can also experience high levels of anxiety, dizziness or disorientation.

Generally, pleasant and enjoyable experiences on LSD are called "good trips" and those that are frightening are called "bad trips." The actual nature of the LSD has no influence over whether a trip is good or bad - indeed there is ultimately no way to predict whether one will have a good or bad trip. However, some factors, such as taking LSD only when you are in an environment where you feel safe, with people that you trust, at a time when you feel content and relaxed, may lessen the chance of having a very bad trip. The way that LSD works is only poorly understood, but it is evident that it has a capacity to exacerbate underlying fears, tensions, or memories. So it is possible that LSD could trigger anxiety or unhappy thoughts, even if the user wasn't aware of them prior to using.

**HEALTH IMPLICATIONS:** The most common health risk attached to LSD use is causing either short or long term psychological damage. LSD can trigger a range of psychiatric problems, and hence anyone with a history of mental health problems, would be advised to avoid LSD. Frequent long-term use can leave people seeming disorientated for quite a long time; such cases were known, especially through the sixties as "acid casualties." Some studies suggest that LSD use can cause permanent eye damage, and suggestions have been made as to links with long term brain damage. There is a risk that someone using LSD could injure themselves while delusional; many such cases have been reported in the media, though very few have been substantiated.

Some users report experiencing "flashbacks," reliving a few seconds or minutes of an LSD-induced trip, weeks, months or rarely years after taking the drug.

LSD is not physically addictive; indeed, if used every day for 3 or 4 days, it would cease to be effective, unless the user abstained for a further few days.

LSD interacts badly with both alcohol and cannabis; while not dangerous, the risks of unpleasant side effects, especially nausea and anxiety, seem to increase.

**LEGAL STATUS:** LSD is a Class A, Schedule 1 drug, and currently has no medical or therapeutic use in this country.

**OTHER INFORMATION:**

LSD enjoyed high levels of popularity during the sixties and seventies. After waning popularity it experienced a resurgence in the late 80s. Since then however it has dropped massively in popularity, having been supplanted by stimulants like cocaine, other hallucinogens like magic mushrooms, and ecstasy of various qualities.

People using LSD are often quite suggestible; so if someone is having a bad trip, it is often possible to talk them out of it, by being calm and reassuring. Orange juice, though alleged to bring people off a trip, is more placebo than medical fact.

There were suggestions that LSD was being sold to school-kids in the form of tattoos; this was more likely to be ignorance of the form that LSD is sold in, i.e. squares with cartoons or pictures on them.

LSD remains in the urine for 2 to 3 days.

LSD has been tried in the past as a truth drug, a tool for psychotherapy and for the treatment of alcohol and heroin dependency.

## Hallucinogenic Mushrooms

**AKA:** Psilocin, psilocybin, Liberty Caps, *Psilocybe semilanceata*, Mushrooms, Shrooms, Mushies, "Mexicans"-*Stropharia Cubensis Mexican*, "Philosophers Stone, Truffle" - *Psilocybe Tampanensis*, Fly Agaric, and others

**SOURCE:** The Fly Agaric and Liberty Cap mushroom (along with some related species) grow wild in the UK. Until recently other strains were cultivated in the UK commercially or imported from mainland Europe. Some home-grown production still takes place, clandestinely, in the UK.

**APPEARANCE:** Varies according to type of mushroom, and the state of the mushroom. Accurate identification requires a good mushroom field guide and experience is valuable. Some UK mushrooms are highly toxic and so correct identification is essential.

**QUALITY:** Variable; mushrooms vary in strength. It can be very difficult to titrate dose, especially when mushrooms have been dried, or cooked. A moderate dose range of 10 to 30 could prove very strong or very weak depending on the quality and size of the mushrooms, and way they are taken.

**METHODS OF USE:** Mushrooms can be eaten raw, but are more often dried, made into drinks or eaten with food.

**EFFECTS:** Hallucinogenic, similar to LSD though typically milder and more manageable. Effects start working between 30 to 60 minutes, and last for 5 to 7 hours. Many users experience some nausea.

**HEALTH IMPLICATIONS:** Can cause lasting psychological impact in sensitive individuals. The risk is low for most users; however, people with a history of mental illness should steer clear of hallucinogens including Magic Mushrooms.

There is also a risk of poisoning, possibly fatal, where poisonous mushrooms are taken in error.

Fly Agaric mushrooms contain Ibotenic Acid which is toxic and causes unpleasant side effects such as nausea. These mushrooms are heated to break down the toxic compounds before consumption.

**LEGAL STATUS:** As part of the Drugs Act (2005) the possession of any mushrooms containing the chemicals Psilocin or Psilocybin is now illegal. Previously it had only been illegal to possess such mushrooms if the mushrooms had been prepared in some way. Exception has been made for those who may unknowingly have them growing on their land.

The legislation does not apply to mushrooms which do not contain Psilocin, such as the Fly Agaric mushrooms.

Spores do not contain the drug and so are legal to possess and supply. However, possession of growing kits could result in prosecution,

**OTHER INFORMATION:** The use of hallucinogenic mushrooms has been a feature of the UK drug scene for many years. The popularity of mushrooms increased massively as commercially grown mushrooms were legally sold in the UK exploiting a loop-hole in the Misuse of Drugs Act 1971 that viewed possession of fresh mushrooms as lawful.

However, legal changes in 2005 ended this quasi-lawful sale, and the popularity of mushrooms has dropped off accordingly. However, the collection of wild-growing mushrooms in the UK, although illegal, is still reasonably popular.

## Drug Facts

### MMCAT [Mephedrone]

#### **Which drugs is this briefing about?**

This briefing is about the chemical 2-methylamino-1-p-tolylpropan-1-one which is also referred to as 4-methylmethcathinone.

The drug has been named "mephedrone" in a lot of discussion boards, and by a lot of retailers. The chemical name is often shortened to MMCAT or 4-mmc.

Some retailers and the media have been calling it Miaow or Meow.

Other 'brand' or slang names includes 'Bubbles.' This is sometimes (but not always) a combination of Mephedrone and Methylone (see below).

In this briefing it will just be referred to as MMCAT

#### **Mephedrone? Any relation to Methadone?**

None at all; methadone is a synthetic opiate; MMCAT is a synthetic stimulant. The name mephedrone could also be confused with methedrine. Methedrine is the brand name for the stimulant methamphetamine. While both drugs are made by processing ephedrine, there are big differences in terms of effect and risk.

#### **Is MMCAT the same as methylone?**

No, though there is a fair bit of confusion about this. Methylone is 3,4-methylenedioxy-N-methylcathinone. It was, until 16th April 2010 also a legal high sometimes sold or used in combination with mephedrone.

Confusingly there is a less common drug called Methedrone (bk-PMeoMA, 4 meo methcathinone, 530-54-1) which is very similar but is reputedly more cocaine-esque than Mephedrone. But it doesn't seem to crop up as much in the UK at the moment.

#### **Where does MMCAT come from?**

A few sources suggest that MMCAT is processed from the African plant khat. Khat does contain the chemical cathinone and this could be used as a starting point for MMCAT production. However it is more likely that MMCAT is produced synthetically using ephedrine or pseudo-ephedrine as a starting point. While synthesis may be taking place in the UK, it is more likely that the bulk of production is taking place in China.

One suggested production method converts ephedrine in to methcathinone, and then in to MMCAT.

### **How long has it been around?**

MMCAT first cropped up in 2007 in a pill called Neodoves, manufactured by a company in Israel. The drug was made illegal in Israel on 2008. Discussion groups in the UK started to pick up on it during 2008 and it became a bigger and bigger subject of discussion. The 2009 festival season was the first year in the UK where MMCAT was both widely available and widely publicised. Availability and use has increased ever since. With increased media reporting interest in MMCAT continued to increase, culminating in it being added to the list of CDs on 16th April 2010.

### **What is the current legal status of MMCAT?**

Mephedrone is now a Class B drug. It was added to the list of Controlled Drugs in April 2010. A collection of other chemicals structurally related to Mephedrone were also made in to Controlled Drugs at the same time.

### **Is it really a plant food?**

No. Before April 2010 it was not controlled under the Misuse of Drugs Act 1971. But if it were sold for human consumption as a psychoactive substance, it would have fallen within the terms of the Medicine Act. This would have made it illegal to supply it without a licence. To get round this problem and to avoid risks of legal action if people became ill after consuming it, it was often labelled "Plant Food" and "Not for Human Consumption."

It was just a legal get-out. And now that it is a controlled drug such measures are no longer required.

### **What does MMCAT look like?**

MMCAT is supplied a crystalline powder. Early UK supplies tended to be a drier white, fluffy powder but a lot of present supplies are more crystalline. Colour is very variable, from white, through off white to yellow or brown. Crystals may have a damp consistency making the drug harder to divide in to lines.

Some MMCAT has a noticeable and unpleasant aroma - a mixture of crab/shrimp smell with a sweeter, coconut scent. A cross, perhaps between a glass of Malibu and a pot of anchovy paste.

There is argument as to whether this aroma is from a chemical used in manufacture, the smell of MMCAT degrading, or some contaminant. The only consensus seems to be that it is not pleasant and some people find it makes snorting MMCAT very difficult.

### **How pure is MMCAT?**

Prior to the prohibition, purity of 95% was widely claimed by retailers. With it being made a controlled drug, it is likely that purity levels will drop rapidly as remaining stocks are run-down.

**How much does MMCAT cost?**

Prior to the ban, it retailed for around £10/g. Costs are likely to go up as it becomes more scarce.

**What sort of doses do people use?**

A typical dose range would be between 75 and 200mg. Experienced users in some drug forums suggest that keeping doses below 250mg is probably sensible to reduce unwanted side-effects.

**How is it taken?**

It can be snorted or swallowed. Snorting hurts the nose and may taste unpleasant. Swallowing seems to hurt the stomach and again, there may be an unpleasant taste. It would typically be put in a capsule or wrapped in cigarette paper. It lasts longer than snorting but needs to be taken on an empty or near empty stomach as eating first seems to reduce the effects substantially. It will take longer to come on when swallowed.

A survey by Bluelight found slightly more people swallowing than snorting.

**How quickly does it work and how long does it last?**

Snorting comes on quickly and effects are usually felt within 15 minutes and peak within half an hour. Effects fade after around an hour. When swallowed it can last for two or three hours.

**What does it feel like?**

Everyone's subjective opinions are different but the overall impression is that MMCAT is like a cocaine version of MDMA (Ecstasy). User reports indicate some of the same "loved-up" feeling of MDMA - but not to the same extent, with the euphoria, reward and ego of cocaine - but again not to the same extent. Alongside all this, some significant stimulant effects including increased energy, restlessness, increased heart-rate and jaw-clenching.

Some people feel increased libido while using but others report reduced erectile function.

**What are the downsides?**

At this stage it is impossible to state with any great confidence the nature and level of risk with MMCAT. It's a new drug, it hasn't had the same long period of experimentation that most other drugs have so there may be risks that only become apparent over the next months and years. Everyone using MMCAT at the moment is taking part in a big, uncontrolled experiment. The problem with the experiment is that users can't be sure what they are taking, everyone is using different quantities, some people are mixing it with other drugs and patterns of use are very variable. However, some risks are becoming apparent.

- Heart/circulatory problems: MMCAT appears to cause significant vasoconstriction - where blood vessels in the body get narrower. This pushes up blood pressure and can reduce blood flow to parts of the body.
- Some users have reported coldness and numbness at extremities (hands/feet) suggesting reduced circulation. A small number of people have reported pallor and discoloration of knees, legs and feet, and blotches appearing on skin. This may be related to circulatory problems but the exact cause is not clear.
- MMCAT increases heart rate and blood pressure, putting increased strain on the heart. Some users have reported chest pains, palpitations, and irregular heart beats. There have been fatalities where MMCAT had been used prior to death.
- Convulsions: There have been a small number of reports of people having convulsions following administration of MMCAT.
- Mood/comedown: Some people have reported low mood, depression and irritability following use, especially extended periods of use.
- Nose damage: irritation to lining of nose, burning sensation in nose, nose bleeds, scabbing of inside of nose.

### **Mixing MMCAT**

As we don't currently know exactly how MMCAT works, it is difficult to say which combinations are more or less risky. But as a general set of pointers, the following risks may be present when mixing MMCAT:

MMCAT and Cocaine: this mixes two stimulants both of which cause significant vasoconstriction. They are both putting a significant extra strain on the heart. This combination increases the risks of anxiety, paranoia, panic, and the risks of convulsions and cardiac problems; almost certainly a risky combination.

MMCAT and Methylone: This is popular in some quarters but it's not easy to say how risky it is. Methylone is reputed to be more Ecstasy-like and serotonergic than MMCAT and by taking both, users are seeking a more E-like, less Cocaine-like high. However, this combination could be highly risky. Both drugs probably elevate serotonin, and at high levels, excessively high serotonin could cause unpleasant and at worse dangerous symptoms. Anyone considering such a combination should think very carefully about the risks and take far lower doses than they would of either drug on its own.

MMCAT and Ketamine: This is a fairly popular combination but needs to be treated with caution.

Part of the reason that people like this combination is that the ketamine (a) makes the experience more hallucinogenic and (b) buffers against the comedown from the MMCAT. But as Ketamine is an anaesthetic, there are risks of injury using this combination. Given the widespread popularity of Ketamine in the UK, it seems likely that this combination will become more widespread.

Mephedrone and cannabis: some users report that using strong cannabis with mephedrone increases anxiety. Others have reported that, rather than making a comedown easier it can increase anxiety and paranoia during the comedown

Mephedrone and alcohol: lots of mixed reports on this one. Some people find low levels of alcohol use with mephedrone pleasant. Others find it very unpleasant. The key risks seem to include increased dehydration and nausea, bad hangovers, significant amnesia. The additional risk is that the disinhibiting effect of alcohol will make it harder to moderate use of MMCAT increasing the risk of bingeing. Probably a combination best avoided.

### **So is MMCAT 'safe?'**

MMCAT is certainly not a 'safe' drug. As the number of users has sharply increased, so the number of stories about the risks has gone up.

With any new and relatively unknown substance there is a level of risk. However, the risks will almost certainly be greater where people use large doses, use for extended periods of time, combine MMCAT with other drugs especially other stimulants, or drugs that elevate serotonin or dopamine.

Unfortunately, given a new, relatively cheap and legal substance rather a lot of people were bingeing on it before it became illegal and so the number of casualties has gone up too.

But even when used with care and at moderate doses, some experienced users are reporting negative symptoms. From the early days when some users on (for example Drugs Forum) were interested in sourcing and trying MMCAT, the general thrust of the threads now is that there is a significant level of risk, it's not a great compound and that there are safer and less unpleasant compounds than MMCAT.

But the key message here has to be no, MMCAT is not safe and should be treated with great caution.

### **Is MMCAT addictive?**

This really depends on how you define "addictive." MMCAT certainly doesn't exhibit the same pattern of tolerance and withdrawal that (for example) opiates would cause. However a large number of experienced users describe it as being very easy to binge on. The initial euphoric high is relatively short-lived and a significant number of users report redosing after fifteen-twenty minutes. At these sort of levels, it would be easy for a user to get through a gram an hour - and people who have bought larger quantities have found themselves in big binges using for long periods of time.

So there is a growing anecdotal evidence base that MMCAT can be quite hard to manage, leading to people going through large quantities in short periods of time. So there should be a clear message to potential users: MMCAT can be very moreish - and users should have a management strategy to avoid excessive, expensive and damaging binges.

### **What are the implications of Mephedrone's Class B status?**

As a Class B drug, the maximum penalty for supply is 14 years, and the maximum penalty for possession is five years.

### **My mate is thinking about taking MMCAT; what should I say?**

They are better off not doing it at all; the risks are unknown and despite the claims of sellers we know little about the purity, effects, short and long term risks. A small number of people got very rich while a lot of young people are playing their roles as human guinea pigs.

- Don't use MMCAT if you have any of the following: history of depression, heart problems, high blood pressure, circulatory problems, are being treated with hypertensives or antidepressants.
- Don't mix with other substances; start with a low dose - under 100mg to start with. Don't exceed 250mg.
- Seek medical advice if you experience chest pains, prolonged numbness of extremities or discolouration of skin.
- Don't buy in large quantities; if you do don't have it all to hand. Hide some of it to reduce chances of bingeing. Try to space redosing - not using every twenty minutes, but space over longer periods of time.
- Swallow, don't snort. If snorting, don't share snorting tubes; it could spread germs and Hepatitis
- Don't use for extended periods in a single sitting; have long breaks for recovery - at least a couple of weeks, ideally longer. Maintain good diet and self care to help speed up recovery - don't lunch out and just get stoned.
- Drink water to help reduce dehydration; don't drink excessively;
- Be careful of retailers offering you the "new legal" alternative to MMCAT. There will be a lot of people trying to get ahead of the curve in selling the next big thing and the risks for the early adopters can be high.

## Where can I get more information:

**Drugs Forum** [www.drugs-forum.com] has probably the best managed collection of user experiences and information about Mephedrone

**Bluelight** [www.bluelight.ru] has good information too

**Frank** [www.talktofrank.com] has some information about Mephedrone and it's good to see that the website is up to date

**Crew2000** [www.crew2000.org.uk] has a good briefing on Mephedrone

There is a lot of other information out there but some of it is not all it should be so always use a couple of different sources.

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**Disclaimer:** this briefing is not intended to promote or incite use of any drugs. Information herein is believed to be accurate at the time of writing. However no liability can be accepted for any harm arising from the information in this document, however caused.

Drugs information changes frequently and anyone contemplating use of this or other drugs should access sources of information.

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Fact Sheet  
**Methadone**

**AKA:** Methadone Hydrochloride, **Physeptone**, *meth, Linctus, juice, amps*

**SOURCE:** Prescribed drug, also sold illicitly

**APPEARANCE:** Liquid mixture, most frequently green, but also blue, orange, yellow or clear; Tablets; Ampoules for injection.

**COSTS:** When sold on the streets, ampoules typically sell for £20 or more, and are not relatively scarce as a street drug; tablets are increasingly scarce and could cost a few pounds each. Methadone Mixture is hugely variable in price at a street level - from £10 for a small volume up to £30 or £40 for a larger dose.

**QUALITY:** The issue of "quality" and "purity" is something of a vexed question when it comes to methadone.

Dispensed methadone will have a number of additives in it, potentially including dilutents, sweeteners, preservatives and colourants. Critics argue that some of these may be harmful – for example that sweeteners contribute to tooth damage,

Methadone comes in a variety of strengths. Methadone Mixture is most frequently mixed at 1mg/ml (i.e. 1mg methadone hydrochloride in 1ml of liquid).

Tablets: range of strengths, commonly 5mg or 10mg tablets.

Ampoules: Ampoules are usually mixed at strength of 10mg/ml. They come in a range of sizes and concentrations; some of the sizes are:

1ml (10mg), 2ml (20mg), 3.5ml (35mg) 5ml (50 mg)

Also available are concentrated ampoules, containing 50mg/ml.

Other strengths and formulations are available.

The active drug – methadone hydrochloride – is available in racemic form (where both the active levo-methadone molecules and the less active (or inactive) dextro-methadone molecules are also present).

In a small number of countries (e.g. Germany) levo-methadone has been prescribed, where the inactive d-methadone has been removed, leaving only the active l-methadone isomer.

Some commentators have argued that some people have difficulty metabolising out the d-methadone, and this causes some unpleasant side-effects in users. They argue therefore that the more-expensive l-methadone should be made more widely available.

However, a small number of trials have suggested that people transferred to and between different forms of methadone do not experience different withdrawal symptoms, once the relative strengths of the different compounds have been taken in to consideration.

**METHODS OF USE:** Methadone Mixture is designed to be taken orally; it contains additives which cause irritation and discomfort when injected. This irritation combined with the large volumes and associated vein damage make methadone an unpopular choice for injectors.

Tablets are also designed to be taken orally. However some users grind up tablets and inject them.

Injectable ampoules are intended for IM use; concentrated 50mg/ml were not originally intended for intravenous use, and can cause irritation and significant vein damage when injected in to a vein. Some users will dilute the ampoules to reduce the discomfort of injecting this highly acidic compound.

A single dose of oral methadone will start to work within around 30-60 minutes of consumption and reach peak levels after approximately three hours. Effects of a single dose typically last for around 24 hours, though, with regular dosing, the drug builds up in fatty tissue in the body and withdrawal effects may not start for around 36 hours after the drug has been taken.

**EFFECTS:** Methadone is a slightly less powerful painkiller than heroin, though it offers a similar, though less intense, absence of pain combined with moderately euphoric qualities. The combined effects are a sense of well being, feeling warm, and content, drowsy and untroubled. At higher doses, the user may become heavily sedated, be sleepy, unable to talk, and appear to fall asleep for a few minutes at a time.

Users often experience nausea or vomiting on the first occasions that they use methadone, or when returning to use after a period of abstinence. Side effects include suppression of the cough reflex, more shallow breathing and a slowing of the pulse rate. Some users experience intense, allergy-like itchiness. Other unwanted effects can include flushing of the skin, profuse sweating, reduction in libido, constipation, and confused thinking.

**HEALTH IMPLICATIONS:** Methadone is physically addictive. After a period of regular use, there is an unpleasant period of withdrawal (often called "cold turkey,") as the drug is cleared from the body and the body adjusts to functioning without the presence of methadone.

While unpleasant, sometimes lasting for two or three weeks, it is not a life-threatening process. Far more difficult is to resist the psychological temptation to use during this period, in the knowledge that it would instantly alleviate the symptoms of withdrawal.

Methadone remains in the body for longer than heroin, and many users assert that it is harder to withdraw from methadone than heroin. Regular use of methadone leads to an increase of tolerance to the drug. Initially, this means that one needs to take increasingly large amounts to achieve the same sense of euphoria and well being. Subsequently, it means that users find they need to use increasingly large quantities to prevent going into withdrawal, or just to feel "normal." Tolerance takes longer to develop than with heroin.

The flip-side of this is that, when methadone use is reduced (as with a reduction programme) or discontinued (for example after a spell in prison), tolerance drops. A user whose tolerance has dropped, who attempts to use the amount they were using when their tolerance was higher, stands a good chance of overdosing.

Overdoses where methadone is involved are not uncommon. Sometimes this involves methadone alone, but more often than not, it involves methadone in conjunction with other opiates (especially heroin) or methadone in conjunction with other depressant drugs such as alcohol or benzodiazepines.

When used as prescribed, methadone presents a low risk of overdose. However, when used by an opiate naïve individual, as little as 30-40ml could be fatal. Additional risks come where people use multiple doses of methadone at once, or use heroin on top of their prescribed methadone.

Methadone, like heroin, does cause severe constipation amongst regular users. In addition, it acts to suppress the cough-reflex, leaving users at risk of chest and bronchial problems.

Methadone can cause tooth damage, weight gain, perspiration and reduced libido, making it unpopular with many users.

Further health problems relating to methadone use stem from injecting. The injection of undiluted concentrated methadone ampoules has been linked to vein damage, tissue damage, ulceration and other problems.

### **PRESCRIBING MODALITIES:**

Guidance on methadone prescribing is provided by the Department of Health in the "Drug Misuse and Dependence – Guidelines on Clinical Management," the revised edition of which came out in 2007.

However, there is wide range of prescribing and dispensing practice in the UK.

**Titration:** Patients are typically started on a low dose which is then slowly raised until the person is 'correctly' prescribed – i.e. that they no longer experience withdrawal symptoms, but are not sedated. This process may take a long time, leaving patients in discomfort until their dose is increased, or increases the risk of dropping out of treatment.

Some regions have formal or informal upper-limits on dose ranges which means that some patients may be under-prescribed, experiencing withdrawal until their tolerance has dropped.

**Supervision:** In order to minimise leakage of methadone and to increase compliance with prescribing, patients are subject to various levels of supervision when prescribed methadone. This often includes daily supervised consumption – consuming methadone in the presence of the dispenser or daily pick-up – collecting daily but not supervised. Most people will need to pick up two day's worth at weekends.

In addition to supervision, many clinics will have some sort of testing regime in place to check for use of other drugs on top of methadone.

**Maintenance or reduction:** Many patients will be prescribed methadone with a view to becoming abstinent. To achieve this, patients are initially stabilised at a therapeutic dose then this is gradually reduced by small amounts over a period of time. By doing the reduction gradually, the worst of the withdrawal symptoms are meant to be avoided, and so the person eventually is “weaned off” methadone. If the process is done too rapidly, it is likely to be unpleasant.

Some people find that they lose their stability when they start to reduce, and so may be prescribed methadone on a maintenance basis – where the aim is not to achieve abstinence but to maintain stability. This open ended prescribing could take place over many years.

There is concern that some patients who could and want to be drug free are “parked” on methadone maintenance, whilst others, who are not ready to become drug free are reduced too rapidly.

#### **HARM REDUCTION:**

**Mixing:** Use of methadone with heroin or other opiates increases the risk of overdose. Patients receiving methadone should be advised of this risk and discouraged from using other opiates alongside methadone.

Where patients do use heroin or other opiates on top, it should be stressed that the person would need to use a lot less heroin than normal – or would be risking a fatal overdose.

Patients should also be advised that mixing other depressant drugs – especially alcohol or benzos – increases risk of overdose.

**Dental care:** Patients worried about dental health while using methadone could look at using a straw to take their methadone, chewing gum afterwards and rinsing mouth with milk or water. Discourage tooth brushing straight after use as the acid may have softened dental enamel. Consider use of sugar-free preparations. See a dentist regularly.

**General health:** maintain healthy diet and exercise to reduce weight gain exacerbated by methadone, and to improve bowel health and movement; increase fluid intake if experiencing substantial perspiration.

**Children:** don't allow children to get access to methadone; store it safely out of reach.

**LEGAL STATUS:** Methadone is a Class A, Schedule 2 drug. It can be legally produced, supplied and possessed under Home Office licence, but otherwise this constitutes an offence under the Misuse of Drugs Act.

**OTHER INFORMATION:** Methadone is predominantly prescribed as a substitute for Heroin, for those dependent on Heroin.

The advantages are that it is a pharmacological substance whose strength is known, and which can be delivered in precise doses. When prescribed as Methadone Mixture, it offers an oral route of administration, rather than by injection. When prescribed, it also offers an escape from the Heroin lifestyle by removing the need to fund a large heroin habit. Once receiving prescribed methadone, the user is also hopefully drawn into other services such as support, counselling and primary healthcare services.

The use of illicitly purchased Methadone negates many of the advantages of methadone use under a therapeutic regime. Problems of injecting, of the financial burden, an unwillingness to use agencies such as primary health-care, and increased risks of overdosing are all prevalent amongst those who use and become dependent on this pharmaceutical overspill.

Methadone is, in itself, an addictive substance and users can end up exchanging dependency on Heroin for dependency on Methadone.

Fact Sheet  
**Opiates and Opioids**

**About this fact sheet:**

This fact sheet is about opiates and opioids that may be encountered by drug users and workers. HEROIN and METHADONE are considered in their own sheets. So this Fact Sheet doesn't consider these compounds. Most of the compounds here are used medicinally, but may also be the subject of non-medical use.

For the sake of completeness, OPIUM is included in this section.

**Opiate or opioid?**

Semantically, OPIATES are compounds present in the OPIUM POPPY (*Papaver Somniferum*) extracted and refined. OPIOIDS are synthetic or semi-synthetic compounds which have similar chemical or pharmacological effects.

So morphine is an opiate, because it is a compound present in the opium poppy. Diamorphine is an opioid, as it is a semi-synthetic compound derived from morphine; methadone is an opioid and is wholly synthetic.

The term opiates and opioids are often used interchangeably. For convenience the term opioids will be used throughout this paper.

The compounds are presented alphabetically.

Names	Class/Schedule	Description/Primary Uses
<b>ALFENTANIL</b>	CD: POM Class A, Sch.2	Mainly used in surgery
Rapifen		
<b>Notes:</b> <i>Powerful analogue of fentanyl; strong respiratory suppression. Not known as a street drug.</i>		
Names	Class/Schedule	Description/Primary Uses
<b>BUPRENORPHINE</b>	CD: POM Class C, Sch.3	Moderate to severe pain Treatment for heroin dependency
Temgesic, Subutex <i>temmies, subbies, bupe</i>		

## Notes:

*Buprenorphine is a partial opiate agonist; it is a potent pain-killer. It binds powerfully to specific opiate receptors, but only partially activates these receptors hence the "partial agonist" name. This characteristic means that doses of buprenorphine can be given to fill opiate receptors, blocking other opiates (such as heroin) from working at them but with less risk of an opiate overdose.*

*The net result for the user is that, if buprenorphine is taken correctly at a sufficiently high dose, other opiates used "on top" won't work, and so such use on top should be reduced. In practice, "use on top" may take the form of drinking or use of benzos, neither of which is blocked by burprenorphine.*

*Buprenorphine will compete with other opiates, such as heroin and methadone, and if these compounds are present at receptor sites, buprenorphine is likely to displace them. This can mean that a user with heroin in their system may experience withdrawal effects when they take buprenorphine as the full agonist (heroin, methadone) is displaced by the partial agonist.*

*However, if someone who has no opiates in their system takes buprenorphine, they can and do get a significant level of opiate reward – less intense than heroin, but sufficient to warrant buprenorphine having a street value as a drug of misuse.*

*Buprenorphine causes less respiratory suppression than heroin or methadone and so the risk of overdose is lower. However people can and do overdose on buprenorphine. Naloxone is not wholly effective at reversing buprenorphine overdoses. Overdose is more likely where burprenorphine has been snorted or injected.*

*Buprenorphine is still an opiate with attendant issues of addiction and withdrawal. It is also constipating. Some users find that it provides a better level of clarity of thought than methadone; while some people find this aspect beneficial, others don't like the new clear-headedness that buprenorphine provides.*

*Buprenorphine is generally prescribed and dispensed for sublingual administration. It is powerfully broken down by the liver so swallowing buprenorphine is highly ineffective. However, even when taken sublingually, it is likely that bioavailability is only around 33%.*

*This level of availability goes up if the drug is crushed and snorted, and goes up higher still if injected. This has seen a huge increase in the administration of buprenorphine by these routes.*

*Buprenorphine tablets, under the brand-name Temgesic were widely used as an illicit drug, especially in Scotland. They were typically crushed and injected. At this time it was primarily marketed as a low dose tablet for pain relief.*

*However, it was when it was reformulated and rebranded as Subutex that interest in the drug really took off. It has been used extensively in France since 1996, and became a lynchpin of the US prescribing system, being the only opiate-substitute that can be dispensed away from specialist clinics.*

*Buprenorphine started to gain acceptance in the UK as a treatment from around 1999, and has become an increasingly popular alternative to methadone.*

*In some parts of the UK, cost of branded Subutex has meant it was less widely available than its cheaper rival, Methadone. However, with the patent for Subutex now over, there is scope for cheaper generics to hit the market.*

*In an effort to discourage diversion and non-intended use, Schering Plough is marketing "Suboxone," its new, licensed product. See separate entry on Suboxone.*

Names	Class/Schedule	Description/Primary Uses
<b>CO-CODAMOL</b>	OTC – low dose POM – higher dose	Mixture of codeine phosphate and paracetamol. Treatment of mild to moderate pain
Paracodol, Solpadol		

**Notes:**

*Available in a variety of strengths, ranging from 8:500 (8mg codeine to 500mg paracetamol) through to 30:500. Small quantities of 8:500mg formulations are available as an OTC but high strength formulations require a prescription.*

*Tolerance and dependency on codeine can develop with constant use, and there is a risk that people will escalate their dose. Codeine can also cause severe constipation.*

*The key risk of abuse of co-codamol is liver damage stemming from the high intake of paracetamol, and so people taking excessive quantities of co-codamol expose themselves to risk of liver damage.*

*Some preparations contain methionine which may prevent paracetamol-induced liver toxicity.*

Names	Class/Schedule	Description/Primary Uses
<b>CO-DYDRAMOL</b>	OTC - low dose POM – higher dose	Mixture of dihydrocodeine and paracetamol Mild to moderate pain
Paramol		

*Comments: A compound analgesic combining the opiate pain killer dihydrocodeine tartrate with the analgesic paracetamol. Available in a range of strengths; the weakest is mixed at a strength of 7.46mg dihydrocodeine to 500mg paracetamol. In this form it is available as an OTC medicine sold as Paramol. Stronger versions, mixed at 10, 20 and 30mg dihydrocodeine to 500mg paracetamol are POMs.*

*As with cocodamol, excessive doses of co-dydramol bring with it significant risk of liver damage through paracetamol toxicity.*

Names	Class/Schedule	Description/Primary Uses
<b>CO-PHENOTROPE</b>	OTC – low dose POM – higher dose	Diarrhoea treatment: Mixture of diphenoxylate hydrochloride and atropine
Lomotil; Dymotil		

**Notes:** *The opiate part, which is structurally similar to pethidine and slows down gut movement. It has the potential for dependency and misuse. To reduce these risks, it is sold in combination with atropine which in higher doses can cause severe negative side-effects such as irregular heart beat, double vision, nausea and agitation.*

Names	Class/Schedule	Description/Primary Uses
<b>CO-PROXAMOL</b>	POM	Mixture of dextropropoxyphene

Distalgesics		hydrochloride and paracetamol Mild to moderate pain
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**Notes:** *The opioid analgesic dextropropoxyphene is a relatively weak painkiller but can be dangerous in overdose, and can cause mood-swings and arrhythmias, and is especially dangerous in combination with alcohol.*

*Due to these risks, and its relatively low therapeutic index some argue that it is no more effective than the paracetamol with which it is combined its legal status in the UK was reviewed in 2004. It was decided to stage a staggered withdrawal of the drug with a view to it being removed from the market. At the time of writing it is still available but on a limited basis, typically on a 'named patient basis.'*

Names	Class/Schedule	Description/Primary Uses
<b>CODEINE PHOSPHATE</b>	CD; Class A; Sch 2 in injectable form	Pain relief – used alone or in compounds with other analgesics Cough relief
Found in: Feminax, Solpadeine, Panadol Ultra as a compound analgesic	Class B: Sch 5 in non injectable form	

**Notes:** *effective in the treatment of mild to moderate pain relief but causes significant constipation. Has the potential to cause dependency and is subject to non-medical use.*

Names	Class/Schedule	Description/Primary Uses
<b>DEXTROMORPHAN HYDROBROMIDE</b>	OTCs	Used in many cough-relief preparations.
In: Actifed, benylin:		

**Notes:** *Dextromethorphan is used in many cough medicines for its anti-tussive effects. It is derived from an opioid leverpharnol, but doesn't exhibit opiate type effects such as euphoria or sedation. Indeed it may inhibit the action of other opiates.*

*However, in high doses, Dextromethorphan can cause dissociative hallucinations and when misused in this way has similar effects to Ketamine.*

*Misuse in this way has been uncommon in the UK, but has been a significant cause of concern in the USA, where access to compounds containing dextromorphan has been restricted to reduce abuse.*

Names	Class/Schedule	Description/Primary Uses
<b>DIAMORPHINE HYDROCHLORIDE</b>	CD: Class A, Sch.2	Pharmaceutically pure heroin hydrochloride:
Diagesil, Diaphine		Severe pain relief; treatment of dependency

**Notes:** Pharmaceutical grade heroin, produced from morphine through reaction with acetic anhydride. In the sixties this drug was prescribed quite widely to opiate dependent people, but following review of drug laws and prescribing practice, prescribing for addiction is now much less common. Contrary to media confusion on the subject, it has always been lawful to "prescribe heroin on the NHS." It is most commonly used for severe pain relief in hospital settings. However, GPs can undertake additional training and seek a Home Office licence to prescribe diamorphine for the treatment of addiction.

It is prescribed in injectable form, either pre-dissolved ('wet amps') or for dissolving in sterile water ('dry amps.') Currently, prescribing takes place across the UK to a number of individuals. A small number of clinical trials have been established to assess how effective this model of treatment is and early reports (November 1997) are encouraging.

However, due to its relatively short period of effect, risks of diversion, and the need to continue injecting, it remains the least widely used opiate substitute treatment.

Names	Class/Schedule	Description/Primary Uses
<b>DEXTROMORAMIDE</b>	CD: Class A , Sch.2 (discontinued in UK 2003)	For severe and intractable pain-relief:
Palfium <i>Peach Palfs</i>		

**Notes:** Dextromoramide is a powerful pain killer with a high potential for overdose and misuse. It is the subject of control internationally. It is no longer prescribed in the UK though this was because of difficulty sourcing the precursors and the drug reliably rather than due to misuse.

Historically, 5mg and 10mg Palfium (*Peach Palfs*) were a highly-sought opiate, often injected.

Names	Class/Schedule	Description/Primary Uses
<b>DEXTROPROPOXYPHENE HYDROCHLORIDE</b>	POM	Mild to moderate pain relief
Constituent of: co-proxamol, costalgescic, distalgescic, dolxene		

**Notes:** The opioid analgesic dextropropoxyphene is a relatively weak painkiller but can be dangerous in overdose, and can cause mood-swings and arrhythmias, and is especially dangerous in combination with alcohol. See entry on **Co-proxamol**

Names	Class/Schedule	Description/Primary Uses
<b>DIHYDROCODEINE TARTRATE</b>	CD: Class B, Sch.2/5 Depends on formulation  Class A in injectable form	Moderate to severe pain relief
DF118, <i>DFs</i> <b>DHC Continue</b>		

**Notes:** Dihydrocodeine is a relatively popular opiate in the UK; it is not as potent as morphine or heroin, but can provide good pain relief. It has often been considered a reasonably good “standby” for opiate users self-medicating through withdrawal or as a street drug if stronger opiates weren’t available. It is available as an OTC as co-drydamol. Stronger preparations are a Schedule 2 drug, and in injectable form it is a Class A, Schedule 2 drug. Internationally, especially on mainland Europe, tablets containing dihydrocodeine are available as a wax-bound sustained-release tablet. These are currently not common in the UK. Attempts to inject such wax-based tablets are likely to result in severe injecting complications.

Names	Class/Schedule	Description/Primary Uses
<b>DIPIPANONE</b>	CD: Class A, Sch.2	Moderate to severe pain relief
<b>Diconal – dipipanone and Cyclizine</b> <i>Dikes, Pinks, Strawberry Milkshake</i>		

**Notes:** Structurally similar to methadone, dipinanone is a powerful opiate. It tends to cause a high level of nausea so it was combined in tablet form with the anti-emetic (anti-nausea) drug cyclizine. The snag was that the two drugs, crushed and injected, provided a powerful and intense rush, leading to the drug being highly popular on the illicit market. To add to the problems, diconal was formulated with tiny silicon particles that would block veins leading to tissue loss, and amputations. A significant number of older injectors lost digits or limbs through the injection of diconal. Although still licensed in the UK, diconal rarely appears as a street drug now.

Names	Class/Schedule	Description/Primary Uses
<b>FENTANYL</b>	CD: Class A, Sch.2	Severe pain; Breakthrough-pain in opiate dependent patients; anaesthesia
Durogesic		

**Notes:** Fentanyl is a powerful opiate analgesic, some 80 times more potent than morphine. Its main use is on hospital settings for severe and chronic pain. It is also used in anaesthesia. There are a number of analogues of Fentanyl, including: Alfentanil (short acting 5-10 mins), Sufentanil (10x potency of Fentanyl), Remifentanil (shortest acting) and Carfentanil (10,000x potency of methadone: can quite literally put down an elephant and indeed is used to do so). Fentanyl crops up as a significant street drug in the States, where it is diverted from medical supplies or, less commonly manufactured in underground labs. Fentanyl comes in Transdermal patches, and also in lollipops or lozenges for oral consumption. It may be extracted from patches and injected, or sold in powder form for snorting or injection. Reports suggest that Fentanyl offers a less euphoric high but is a more potent respiratory suppressant and so is a key risk in overdose. It is comparatively short acting, leading to more frequent use. Tolerance to heroin does not equate to tolerance to fentanyl and this, combined with the increased potency of

*fentanyl, means that even opiate-dependent users are at risk of fentanyl overdoses. At present, use in the UK is not widespread, and the extraction of fentanyl from patches can be a messy and wasteful process. However, there is every chance that misuse of Fentanyl will increase in the UK, and bring with it an increase in overdoses.*

Names	Class/Schedule	Description/Primary Uses
<b>HYDROMORPHONE</b>	Class A, Sch 2	Moderate to severe pain
Palladone, Dilaudid <i>Dillies</i>		

*An increasingly (medically) popular opiate painkiller, it offers good solubility with fewer troubling side-effects than morphine, and better pain management than methadone, according to some patients. Sustained release formulations are subject to misuse, through crushing and either snorting or injecting the contents. This is a powerful, intense opiate which on source suggests is more euphoric and less sedating than morphine.*

*There are overdose risks, especially when combined with alcohol. It is currently not widely prescribed in the UK, and not widely misused.*

Names	Class/Schedule	Description/Primary Uses
<b>LOPERAMIDE HYDROCHLORIDE</b>	OTC	Diarrhoea treatment
Found in: Arret and Immodium		

**Notes :** *Opioid working on the large intestine to reduce gut action; does not work on the CNS and does not offer opiate-type euphoria or pain relief. There is little potential for abuse of this substance.*

Names	Class/Schedule	Description/Primary Uses
<b>MEPTAZINOL</b>	POM	Moderate to severe pain relief post-operative and obstetric pain
Meptid		

**Notes:** *opiod analgesic; has a mixed agonist/antagonist effect at opiate receptors, reducing risks of dependence or non-medical use*

Names	Class/Schedule	Description/Primary Uses
<b>METHADONE HYDROCHLORIDE</b>	CD: Class A, Sch2	Heroin substitute to treat addiction and for pain relief
Physeptone		

**Notes:** *See separate Methadone Fact Sheet*

Names	Class/Schedule	Description/Primary Uses
<b>MORPHINE SULPHATE:</b>	CD, Class A, Sch.2 but also in Sch.5 products.	Uses range from relief of severe and terminal pain; weaker preparations used in preparations such as Kaolin and Morphine mixture.
Oramorph, MST Continus, Zomorph, Cyclimorph		

**Notes:** Considered in medicine to be the "standard against which other opioid analgesics are compared. It provides pain relief, euphoria and mental detachment. However, it is likely to cause nausea, risk of respiratory depression and is addictive.

Various preparations are available in the UK. Weaker forms, like Kaolin and Morphine mixture are available as an OTC while stronger forms are Controlled Drugs.

Non-medical use of morphine salts is not uncommon – medical diversion of supplies, people selling or stealing pain-killers is the main source of morphine based drugs.

Some forms of morphine are intended for sustained release (such as MST). Injecting products such as MSTs, which contain wax to buffer the release of the morphine. Poor injecting technique with these is likely to cause vein blockages.

Names	Class/Schedule	Description/Primary Uses
<b>NALBUPHINE HYDROCHLORIDE</b>	No longer listed in BNF	Moderate to severe pain
Nubain		

**Notes:** Similar in strength to morphine, it is a mixed agonist/antagonist providing pain relief but may also cause dysphoria. This appears to be more likely in men than women. It briefly enjoyed some popularity amongst body-builders as an adjunct during training. It is no longer listed in the BNF.

Names	Class/Schedule	Description/Primary Uses
<b>NALOXONE HYDROCHLORIDE</b>	POM	Used to treat Opiate overdose
Narcan		

**Notes:** Full opiate antagonist, that is used to rapidly reverse opiate overdose. It has no potential for abuse. Usually administered by injection,

Names	Class/Schedule	Description/Primary Uses
<b>NALTREXONE HYDROCHLORIDE</b>	POM	Used for Opiate- detoxification, and to prevent relapse

Nalorex		
<p><b>Notes:</b> <i>Opiate antagonist used post-detox to blockade opiate receptors and reduce effectiveness of opiates used during lapses. It can be used as an oral medication, or as implants for sustained effect. Some ex-users swear by the effectiveness of naltrexone, and argue that it helps them through difficult periods by either reducing temptation, or making it unrewarding if they did dabble. However, others have simply come off treatment in order to lapse, or have risked overdose through taking huge opiate doses to overcome the blocking effect.</i></p>		
Names	Class/Schedule	Description/Primary Uses
<b>OPIUM</b>	Class A; Sch 1	Not used medically in raw state; used in preparation of many drugs
<p>Notes: <i>Raw opium is made by extracting opium sap from the poppy and letting it evaporate and harden in contact with air. The resultant soft brown material is raw opium. With further processing refinement it can be made in to morphine or heroin but, internationally it is widely used in this crude state.</i></p> <p><i>It can be smoked in a pipe, eaten or made in to drinks. Decoction of poppy straw is widely used in opium-growing countries as a child-soporific.</i></p> <p><i>Either poppy heads or opium is sometimes cooked up with a solvent and the resultant opiate extract drawn in to a syringe for injection. Being thick and non-sterile, such an injecting process can result in serious infection and vein damage.</i></p> <p><i>Opium is a relatively weak compound, and risk of overdose is lower than with other compounds. However, it is still a powerfully addictive substance.</i></p>		
Names	Class/Schedule	Description/Primary Uses
<b>Oxycodone</b>	Class A, Sch 2	Moderate to severe pain
Oxycontin		
<p><b>Notes:</b> <i>Originally popular as a medicine, then as a street drug in the U.S.A, Oxycodone is now available in the UK, but has not yet started to show up as a street drug. It is derived from thebaine, a minor constituent of opium. Immediate release tablets contained a relatively low dose but sustained release forms such as oxcontin contained up to 80mg and, when crushed and snorted or injected, brought with them a significant risk of overdose.</i></p> <p><i>Some back-street chemists convert Oxycodone in to oxymorphone (10x potency of morphine) or other forms of oxycodone with even higher potencies. These drugs would have a high potential for abuse, but also for fatal overdoses.</i></p>		
Names	Class/Schedule	Description/Primary Uses
<b>PAPAVERETUM</b>	CD:Class A, Sch.2	Mixture of morphine hydrochloride, papaverine hydrochloride and codeine hydrochloride. Used in severe pain relief, especially in surgery
Omnopon		

**Notes:** *not noted for use outside of medical settings*

Names	Class/Schedule	Description/Primary Uses
<b>PENTAZOCINE CD:</b>	Class A, Sch.3(Fortagesic is a POM)	Moderate to sever pain
Fortagesic (pentazocine and paracetamol)		

**Notes:** *Pentazocine was used as a street drug in the States, especially in combination with certain antihistamines, which gave a more opiate-type euphoria. On the back of this, naloxone was added to preparations containing pentazocine in the U.S reducing abuse. Not commonly misused in the UK*

Names	Class/Schedule	Description/Primary Uses
<b>PETHIDINE HYDROCHLORIDE</b>	CD: Class A, Sch.2	Primarily used for pain relief during or following surgery:
Parmegan		

**Notes:** *Once a "first choice opiate" and considered by some to be preferable to morphine. However, it has dropped from favour, in part because it appears to be no more effective than morphine, has a short duration of effect, and can cause seizures and delirium. Not common or popular as a street drug*

Names	Class/Schedule	Description/Primary Uses
<b>PHOLCODINE</b>	OTCs	Widely used in cough mixtures
In Tixylix and Galenphol		

**Notes:** *Depresses cough reflex, little or no pain-killing effect, mildly sedating. Very very little abuse potential*

Names	Class/Schedule	Description/Primary Uses
<b>Suboxone</b>	CD: Class C: Sch. 3	Combination of buprenorphine and naloxone
		Treatment of opiate dependency

**Notes:** *Suboxone is a combination tablet containing buprenorphine and naloxone. See separate entries for information on these drugs. Suboxone contains four parts buprenorphine to one part naloxone. The tablets are intended for sublingual administration. The idea behind suboxone is that, if used as directed, the low level of naloxone will be poorly absorbed sublingually and so will have no effect. If however, the tablet is used non-medically, the user will get a*

dose of naloxone which could have adverse effects. There are several reasons for the development of suboxone: one was to get a compound approved by the FDA in the States which was licensed for use at home, making it easier to prescribe to people in non-specialist clinics. Other key reasons were to reduce the diversion of medication and the injecting of tablets which had become widespread with Subutex. It may also be that, with the patent on Subutex expiring, Schering Plough were keen to get a new, patented opiate treatment to market.

The scope for misusing Suboxone is the subject of some debate. It will partly depend on how it is used, the user's recent opiate using history and the amount used.

Naloxone is not wholly effective at blocking buprenorphine. So if a user who was opiate naive injected Suboxone, the relatively low level of Naloxone may not effectively block the buprenorphine, meaning that the user would experience an effect of the buprenorphine. In addition, given Naloxone's relatively short period of effect, any blocking that it did initially would be likely to be shortlived. This means that Suboxone could still be used in non-medical ways provided the user had no other opiates in their system.

However, if a heroin (or methadone) user, who still had opiates in their system, injected suboxone, it is likely that the naloxone (and the buprenorphine for that matter) would precipitate them in to severe withdrawals. The naloxone would push the opiates off receptor sites, and though short-lived, the sites would then be occupied by buprenorphine, which would still block other opiates from working.

In essence, suboxone could be the subject of misuse by people who had not recently used opiates, or were drug free, or already experiencing severe withdrawal. However, the drug is not likely to be misused by current heroin or methadone users who still have opiates in their system.

It would, however, be overstating matters to say that Suboxone cannot be misused.

Names	Class/Schedule	Description/Primary Uses
<b>TRAMADOL HYDROCHLORIDE</b>	POM	Used for pain relief:
Zydol		
<p><b>Notes:</b> Unusual opiate painkiller. It is lower in potency than morphine, but in addition to acting as an opiate (mild euphoria and analgesia) it also acts as a serotonin-reuptake inhibitor. The dual opiate/serotonin effect gives it a greater mental lift than might be expected.</p> <p>The downside is tolerance can develop rapidly, and its low opiate effect make it less appealing to people with a high tolerance to heroin.</p> <p>It is currently not controlled under the MDA.</p>		

## Amyl and Butyl Nitrites

**AKA:** Amyl Nitrite, Butyl Nitrite, Isobutyl Nitrite, Poppers, Rush, Liquid Gold, etc

**SOURCE:** Sold in sex shops, joke shops, Internet and other similar outlets.

**APPEARANCE:** Yellowish liquid usually sold in small, dark brown bottles.

**COST:** Approximately £2-5 per bottle.

**QUALITY:** Amyl Nitrites are often mistakenly labelled as Butyl Nitrites and vice versa.

**METHODS of USE:** Nitrites are usually inhaled straight from the bottle.

**EFFECTS:** Amyl Nitrites cause 'involuntary muscles' to relax - such as those around blood vessels and the sphincter. Users experience dizziness, fainting-type feelings, a rapid increase in heart rate, and an accompanying rushing sensation, especially in the head. Users may experience nausea and headaches. The effects wear off after a few minutes.

Users tend to feel giggly and mildly euphoric for a brief period. Some people find or claim that it can enhance sexual performance and orgasm. **HEALTH IMPLICATIONS:** Nitrites can cause problems for people with a variety of heart conditions and can cause heart failure in some circumstances. Nitrites have also been linked to rupturing of small blood vessels, especially in the brain.

The accidental or deliberate swallowing of nitrites can be very dangerous and even fatal.

Although nitrites can cause heart-rate to increase they are actually causing a drop in blood-pressure. Amongst people with hypotension, or when combined with drugs that lower blood-pressure (e.g. viagra) the combination increases the risk of fainting, or possibly heart failure.

**LEGAL STATUS:** Nitrites are controlled under the Medicines Act and can only be legally supplied by outlets licensed to do so, when being used as a medicine. However, possession of Nitrites is not an offence.

**OTHER INFORMATION:** Nitrites are widely available and relatively cheap. Many young people go through a brief experimental phase that may include Nitrite use, though this is often short-lived.

Nitrites are also popular in club scenes and amongst some Gay men. Uses of Nitrites in these settings include the alleged ability to enhance the effects of Ecstasy, and to facilitate and enhance sexual experiences.

Nitrites were used in medical settings, primarily in the treatment of angina. However, the advent of more effective drugs has meant that nitrites are not normally used in these settings now. They are sometimes sold as room deodorisers, to get round the restrictions of the Medicines Act.

## Volatile Substances

**AKA:** Solvents, Inhalants, glue, gas, thinners, hair sprays, tolly, huff

**SOURCE:** Volatile substances are a group of products, often household items, that contain chemicals which, if deliberately inhaled, can cause intoxication. Products in this group include: cigarette lighter refills, some hair-sprays, deodorants and air-fresheners, some pain-relief sprays, certain adhesives, cleaning products, nail-varnish removers, correction-fluid thinner and paint thinners.

Broadly speaking, these are products that contain either the chemical butane or the chemical toluene though a number of other chemicals are also effective.

**APPEARANCE:** Largely depends on what product is being used.

**COSTS:** Cheap or free; many products that are used are household items, and so available for nothing. Others, such as cigarette refills, cost under £2.

**QUALITY:** In most cases, the desired chemical (butane or toluene) is being used either to keep a product in a liquid state, as with toluene in glue, or as an aerosol propellant as with butane in air-freshener. So in these cases, the toluene or butane is heavily mixed with other products. In other products, such as cigarette lighter refills, the butane is both the propellant and the lighter fuel, so represents a pure source of the desired product.

**METHODS OF USE:** Volatile substances come in three main states, solid or semi-solid, liquids, or gasses. Solids such as glues are usually put in a small bag, such as a crisp packet. The bag is placed over the nose and mouth, and the vapours given off are inhaled, leading to intoxication. Liquids such as correction thinners, paint thinners or even petrol are usually poured onto a rag or an item of clothing, which are then placed over the nose or mouth and the fumes inhaled. Lastly, products in a gaseous state such as aerosols can be sprayed into a room and inhaled. More dangerous is when such products are sprayed directly into the mouth; this is most frequently done with butane lighter refills.

**EFFECTS:** After inhalation of volatile substances, effects are experienced within a matter of minutes. Users typically experience sensation akin to being drunk - being giggly and disorientated, possibly being uncoordinated and feeling dizzy. Nausea is not uncommon.

If inhalation continues, users may experience heart palpitations, and a range of psychological effects, including paranoia, anxiety and auditory and visual hallucinations.

These are not always present, but where they are present, can be exceedingly vivid. Users report seeing spaceships, aliens, having conversations with gods and devils, and experience altered perception of their own bodies and of the passage of time. Experiences vary radically from person to person, and the effects are unpredictable.

Effects of volatile substances are fairly short-lasting, typically wearing off after between fifteen or thirty minutes. Users are left with a feeling similar to having a hangover, possibly with an aching chest, stiff neck and headaches.

**HEALTH IMPLICATIONS:** Volatile substances represent a bigger health threat, especially to young people, than most other drugs. While the mortality rate has decreased in recent years, on average in this country one or two young people a week die through solvent-related causes. A significant number of deaths are believed to be amongst first time users. Mechanisms of death are as follows:

Toxic reactions: some people experience a fatal toxic reaction to the chemicals that they take, and die for no other apparent reasons;

Heart failure: volatile substance use can cause irregular heart-beats (arrhythmia) which can lead to heart failure. This risk is exacerbated if a user attempts sudden exercise such as running after using volatile substances;

Suffocation and asphyxiation: some users place glue in larger plastic bags such as bin-liners; these may be placed over the entire head, and there is a high risk of suffocation, especially if the user becomes unconscious.

Nausea and unconsciousness are high risks when using volatile substances so there is a high risk that users will choke on their vomit while unconscious.

An especially high risk is the direct introduction of butane gas from lighter refills directly down the throat. This can cause swelling of the trachea which can lead to asphyxiation; if the freezing jet of gas hits the area surrounding the vagal nerve, it can cause respiratory and heart failure through vagal inhibition.

Other causes of death and injury relate to trauma accidents through falling while intoxicated, drowning accidents and accidents relating to burns, as volatile substance are by and large very flammable.

Volatile substances can cause lung, liver and kidney problems, and there is some evidence that they can impair brain function, especially in terms of memory and concentration.

**LEGAL STATUS:** In England and Wales, volatile substances are controlled under the Intoxicating Substances Supply Act (1995). This makes it an offence for a retailer to supply or offer to supply to a young person under the age of 18 a substance which the supplier knows or has reason to believe, will be used "to achieve intoxication."

Sales of Butane Gas refills for cigarette lighters are controlled under an addition to the Consumer Protection Act. The amendment, The Cigarette Lighter Refill (Safety) Regulations 1999, make it an offence to sell cigarette lighter refills containing butane to any young person under the age of eighteen.

Scottish Common Law classifies as criminal wilful and reckless actions which cause real injury to another person. Hence, under Scottish Common Law it is an offence for anyone to supply volatile substances to another person knowing that they are going to inhale them.

The use of volatile substances represents specific grounds for the referral of a child to a Children's Hearing, to give consideration to the steps necessary to ensure his or her protection, control, guidance and treatment. [Social Work (Scotland) Act 1968, section 32(2)(gg)],

**OTHER INFORMATION:** There is a very extensive list of products that have been used, ranging from ether and nitrous oxide (especially popular in Victorian times and amongst medical students) through to petrol, shoe dyes, and some fire extinguishers.

Volatile substance use is not automatically linked to gender, race or class. It is not solely a Western phenomenon. It is a significant issue in Eastern Europe, central and South America, Australia and New Zealand.

Volatile substance use is most common in 13 to 16 year-olds, though it does (rarely) continue into later life. While not physically addictive, users can become psychologically dependent on these substances.