

# GHB

**Other common names** Liquid X, GBH, Liquid E, gamma hydroxybutyrate, sodium oxybate

**Drug category** Central nervous system depressant

## Habit-forming potential

GHB is addictive if taken regularly in large doses.

## How taken

By mouth. Often sold as liquid in bottles, but it may be presented as a capsule or as a powder that is commonly dissolved in water to produce a clear, colourless liquid that often has a salty taste. It may also be ingested as a number of other drugs that break down in the body to form GHB, for example, GBL (gamma-butyrolacone) and the industrial solvent 1,4BD (1,4 butanediol).

## Legitimate uses

GHB is a naturally occurring chemical produced in the body in small amounts. It is also produced by fermentation so appears in small amounts in beer and wine. Originally developed as an anaesthetic, it has been used to treat narcolepsy, insomnia, and alcohol and opioid withdrawal, but currently has no licensed medical use in the UK. It has also been misused as a date rape drug. Possession of GHB is illegal, and the drug is classified under Class C of the Misuse of Drugs legislation.

## Short-term effects

GHB is a central nervous system depressant. Its effects are somewhat similar to alcohol, with talkativeness, cheerfulness, and euphoria occurring soon after taking an average dose. Most people become drowsy but recover within 4–8 hours of ingestion. Some users may experience confusion, headache, or gastrointestinal symptoms such as vomiting or stomach pain. Excessive doses may cause unconsciousness, and seizures, slowed heart rate, low blood pressure, and respiratory arrest have been reported. Rapid recovery is the rule, but full recovery may take 96 hours, and hospital treatment may be necessary. Deaths have occurred after taking excessive doses of GHB, either from cardiorespiratory depression or from accidents while intoxicated by the drug.

## Long-term effects and risks

Users may suffer a hung-over state for 2–3 days, and insomnia and dizziness may linger for up to 2 weeks. Longer-term effects of the drug have not been well studied. During prolonged regular use, a marked withdrawal syndrome may commence within hours of the last dose, and regular users even have to get up at night to take a further dose.

## Signs of abuse

As the drug is taken in liquid form it is difficult to estimate the correct dose, and the response to a low dose varies widely. Many abusers simply guzzle it until they reach an adequate high. Sometimes this is achieved only shortly before becoming unconscious, so sudden unconsciousness, on the dance floor for example, may be caused by GHB intoxication. In such cases, the person may later wake up suddenly, after apparently having been in a deep coma. Abnormally long-lasting hangovers and dizziness may be signs of abuse.

## Interactions

The effects will be increased by other central nervous system depressants – for example, alcohol, benzodiazepines, and antipsychotics. GHB may also add to the effects of opioid analgesic drugs and muscle relaxants. It is sometimes mixed with amphetamines in an attempt to prolong the high for several hours.

# KETAMINE

**Other common names** Kit-Kat, Special K, Super K, vitamin K

**Drug category** General anaesthetic with analgesic properties (see p.36)

## Habit-forming potential

Likely to lead to psychological addiction if taken regularly.

## How taken

Usually swallowed as the liquid pharmaceutical preparation or as tablets/capsules, produced mainly by heating the liquid anaesthetic to evaporate the water, leaving ketamine crystals. Sometimes sniffed as a powder or smoked. The smoke has a characteristic bitter taste and produces a high rapidly. Ketamine may also be injected into a muscle, and this is the preferred route of administration for heavy users. The drug is usually taken alone in a quiet place because the effects can be disturbing if the drug is taken in a noisy or crowded environment.

## Legitimate uses

A general anaesthetic with analgesic properties, used both in human and veterinary medicine (it is on the WHO list of essential drugs for any healthcare system). It is related to phencyclidine and is classified under Class C and Schedule IV of the Misuse of Drugs legislation.

## Short-term effects

The effects may depend on mood and environment, but have a rapid onset. Ketamine stimulates the cardiovascular system, producing a racing heart. There are a number of psychological effects that may occur, including hallucinations and a feeling of paralysis in which the user cannot move or speak but is still fully conscious and can see and hear. This is sometimes called a “K-hole”. Actions or words may be repeated persistently, or the user may have an out of body experience. Users may be unconcerned whether they live or die. Due to the analgesic effects, the user is unlikely to feel pain. Severe reactions, usually due to overdose, may include seizures, depression of the breathing mechanism, or heart failure.

## Long-term effects and risks

The long-term use of ketamine may interfere with memory, learning, and attention span. Users may also experience flashbacks. Psychosis may occur. There have also been reports that regular use of ketamine causes inflammation of the bladder and ureters, which can cause cystitis-like spasms (“K-cramps”), bladder pain, and blood in the urine. In some cases, it has necessitated surgical removal of the bladder.

## Signs of abuse

Strange behaviour may suggest the psychological effects of ketamine. Painful injuries (such as cigarette burns) appear to go unnoticed.

## Interactions

Barbiturates lengthen the duration of action that results from ketamine use, and in combination there is a risk of respiratory depression. Use of ketamine together with theophylline or aminophylline may increase the likelihood of seizures. Alcoholics tend to be resistant to ketamine, although the psychological effects may be exaggerated during the recovery period.