

Gamma-butyrolactone

Expert peer review on pre-review report

**35th Expert Committee on Drug Dependence, Hammamet, Tunisia
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**World Health
Organization**

1. Comment based on the review report

a. Evidence on dependence and abuse potential

Frequent use of GHB/GBL, even when taken long-term and in moderate doses, does not appear to cause significant physical dependency in the greater majority of its users. In many people, quitting or temporarily abstaining from use of the drugs is achieved with minimal or no difficulty. However, when consumed in excessive amounts with a high frequency of dosing, physical and psychological dependence can develop.

Frequent use of alcohol (which induces similar effects) can directly translate to physical and usually psychological addiction, where the heavy user can suffer painful and even life-threatening withdrawals.

There are some reports of GHB/GBL users adopting a '24/7' dosing regime. This is where the user has become tolerant to the effects of the drug, increasing the dosage and frequency of dosage simply to avoid withdrawal symptoms.

For those users who do report withdrawal symptoms upon quitting the use of GHB/GBL, symptoms seem to depend on the dosage and the length of time the drug was used for. Light to moderate users often experience insomnia and sleep-related problems, whereas heavy, prolonged use can cause severe withdrawal symptoms similar to Benzodiazepine withdrawal syndrome (BWS).

b. Consequences to individual and society because of misuse

GHB (gamma hydroxybutyrate) and GBL (gamma butyrolactone) are substances which are often used as recreational drugs. GHB has two effects, at low doses it has a euphoric effect (which is why it is sometimes referred to as liquid ecstasy). At higher doses it acts like a sedative and can make the user unconscious very quickly. Gamma-hydroxybutyrate (GHB) and gamma-butyrolactone (GBL) have been profiled as 'party drugs' used mainly at dance parties and in nightclubs on weekend nights.

c. Magnitude of the problem in countries (misuse, illicit production, smuggling etc)

Difficult to evaluate based on data available

d. Need of the substance for medical (including veterinary) practice

No indications for medical use

e. Need of the substance for other purposes (e.g. industrial)

Gamma-Butyrolactone is a hygroscopic colorless oily liquid with a weak characteristic odor and is soluble in water. GBL is a common solvent and reagent in chemistry and is used as an aroma compound, as a stain remover, as a superglue remover, as a paint stripper, and as a solvent in some wet aluminium electrolytic capacitors

f. Measures taken by countries to curb misuse**g. Impact if this substance is scheduled**

Unlikely to have any adverse impact on medical use

2. Additional information to the pre-review report

Temporal differences in gamma-hydroxybutyrate overdoses involving injecting drug users versus recreational drug users in Helsinki: a retrospective study. Boyd JJ, Kuisma MJ, Randell TT. Scand J Trauma Resusc Emerg Med. 2012 Feb 1;20:7.

3. Other comments or opinions

The ACMD recommends that GBL and 1,4-BD are brought under control of the Misuse of Drugs Act 1971 and licensing arrangements are made for their legitimate industrial use. The harms and misuse of GBL and 1,4-BD are considered commensurate with Class C of the Misuse of Drugs Act 1971; classified in Schedule 1 of the Misuse of Drugs Regulations (having no recognised medicinal use).

However, the ACMD is mindful of the potential impact of control upon the legitimate use of GBL and 1,4-BD and therefore also recommends that the Government consults specifically on this aspect, and that the ACMD comments further following the outcome of the consultation before finalising its recommendation.

4. Expert reviewer's recommendation for the need for a critical review

Gamma-butyrolactone is not a major problem of drug dependence