



# INTELLIGENCE BULLETIN

## GHB Trafficking and Abuse

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*GHB (gamma-hydroxybutyrate), a Schedule I drug under the Controlled Substances Act, is a powerful central nervous system depressant that is often used illicitly for its euphoric and sedative effects. GHB trafficking and abuse have become of particular concern to law enforcement and public health agencies because of the increasing availability of the drug in some areas, sharp increases in emergency department mentions for GHB since the mid-1990s, and the use of GHB in the commission of drug-facilitated sexual assaults.*

GHB analogs often are abused in place of GHB or are used to produce GHB. Common GHB analogs include GBL, BD, GHV, and GVL. (See Table 1.) Both GBL and BD metabolize into GHB upon ingestion. GBL is the most common precursor used in the production of GHB. GVL is abused in place of GHB because it metabolizes into GHV, which produces physiological effects similar to GHB.

**Table 1. GHB Analogs**

Analog	Chemical Name/ Alternative Name	Precursor for Production of	Metabolizes Into
GBL	gamma-butyrolactone furanone di-hydro dihydrofuranone	GHB	GHB
BD	1,4-butanediol tetramethylene glycol sucol-B butylene glycol	GBL	GHB
GHV	gamma-hydroxyvalerate methyl-GHB	*	*
GVL	gamma-valerolactone 4-pentanolide	GHV	GHV

\* GHV is not used as a precursor and is not metabolized into another drug.

### **GHB Used in Drug-Facilitated Sexual Assaults**

Federal, state, and local law enforcement agencies in every region of the country report that GHB appears to be the substance most commonly used in drug-facilitated sexual assaults because of its powerful sedative properties. When used to commit sexual assaults, the drug typically is mixed into victims' drinks—usually without their knowledge—to mask the drug's salty taste. GHB is rapidly absorbed and metabolized by the body. Detectable levels of GHB may remain in urine for approximately 8 to 12 hours and in blood for 4 to 8 hours after ingestion. Routine blood or urine testing does not screen for GHB; therefore, it is important to specifically request a GHB screen as soon after the assault as possible. Detectable levels of undigested GHB may be found in victims' vomit; vomiting is a common effect of GHB use.

## Availability

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GHB is available to varying degrees in every state, and overall availability appears to be increasing slightly. Only a limited number of federal law enforcement agencies report that GHB is readily or widely available. These agencies include the Arizona, New York/New Jersey, South Texas, and Washington/Baltimore High Intensity Drug Trafficking Area (HIDTA) programs and the Atlanta, Dallas, Houston, and Los Angeles Field Divisions of the Drug Enforcement Administration (DEA). Most HIDTAs and DEA Field Divisions report that GHB availability is moderate or low; however, nine HIDTAs and six DEA Field Divisions report that availability is increasing.

National Drug Threat Survey (NDTS) 2003 data also indicate increasing GHB availability. NDTS 2003 data reveal that 20.7 percent of state and local law enforcement agencies nationwide report that GHB availability is high or moderate—an increase from 16.4 percent in 2002. More than half (59.0%) of state and local law enforcement agencies report availability as low. However, the percentage of state and local agencies reporting that GHB is not available in their areas decreased to 15.8 percent in 2003 from 29.6 percent in 2002.

DEA drug seizure data also indicate increasing GHB availability. According to DEA System to Retrieve Information From Drug Evidence (STRIDE) data, the amount of GHB samples submitted for testing has fluctuated but increased overall from 100,218 milliliters in 2001, to 77,918.9 milliliters in 2002, to 130,415 milliliters in 2003.

The number of GHB- and GBL-related investigations and arrests is mixed, despite law enforcement reporting and NDTS 2003 and seizure data that indicate slightly increasing GHB availability. According to DEA, the number of arrests for GHB-related offenses increased from zero in 2002 to nine in 2003. Similarly, the number of GHB-related investigations by DEA also increased from 8 in

2002 to 19 in 2003. However, from fiscal year (FY) 2002 to FY2003 the number of Organized Crime Drug Enforcement Task Force (OCDETF) GHB- and GBL-related investigations and indictments has decreased. The number of GHB- and GBL-related OCDETF investigations decreased from 18 in FY2002 to 11 in FY2003; the number of indictments also decreased from 9 in FY2002 to 2 in FY2003.

National Forensic Laboratory Information System data indicate that GHB rarely is identified in drug items analyzed by state and local forensic laboratories. In 2002, 12,247 samples were analyzed and identified as club drugs (GHB/GBL, ketamine, MDA, MDEA, MDMA, and PDA), but GHB/GBL accounted for only 4.48 percent (549) of these and less than 1 percent of all drug samples identified. Regionally, forensic laboratories in the South reported the highest number of GHB/GBL items analyzed (363) followed by the Midwest (94), West (77), and Northeast (15).

## Abuse

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Adolescents, particularly tenth and twelfth graders, appear to be the predominant users of GHB. Monitoring the Future (MTF) data for 2003 reveal that rates of past year use of GHB among both tenth and twelfth graders were 1.4 percent compared with 0.9 percent among eighth graders. MTF data indicate that past year rates of GHB use among college students (aged 18 to 22) and young adults (aged 19 to 28) were lower than those of tenth and twelfth graders at 0.6 percent and 0.8 percent, respectively, in 2002—the most recent year for which such data are available. Although MTF data indicate that adolescents are the predominant users of GHB, Drug Abuse Warning Network (DAWN) data indicate that the predominant GHB user group entering hospital emergency departments for treatment of GHB-induced symptoms is young adults. DAWN data for 2002 indicate that 54.4 percent (1,812 of 3,330) of emergency department (ED) mentions for

GHB/GBL were attributed to individuals aged 18 to 25, followed by individuals aged 26 to 34, a group that accounted for 32.2 percent (1,071 of 3,330) of total GHB/GBL ED mentions.

MTF data also reveal that rates of past year use of GHB among adolescents appear to be lower in large metropolitan areas than are rates of use among adolescents in smaller cities and rural areas. According to MTF data, rates of past year use of GHB for eighth (0.6%), tenth (0.9%), and twelfth (1.4%) graders in large metropolitan statistical areas (New York, Los Angeles, Chicago, Philadelphia PA-NJ, Detroit, Washington DC-MD-VA, Dallas-Fort Worth, and Boston) were lower than for eighth (0.9%), tenth (1.8%), and twelfth (1.9%) graders in nonmetropolitan statistical areas in 2002, the latest year for which data are available.

DAWN data indicate that Caucasian males account for more GHB/GBL ED mentions than other ethnic or gender groups. DAWN data for 2002 reveal that 98.4 percent (2,978 of 3,330) of ED mentions for GHB/GBL were attributed to Caucasian patients, and 65.8 percent (2,192 of 3,330) of GHB/GBL ED mentions were attributed to male patients.

Oral consumption of liquid GHB is the most common, although capsule and tablet forms also are available, as is powdered GHB, which is snorted. Because of the drug's salty taste, liquid GHB typically is mixed into a beverage.

Users of GHB seek the drug's euphoric and sedative properties. The physical and psychological effects of GHB are largely dose-dependent but are also influenced by factors such as the user's weight and health, whether the drug is taken on a full stomach, and whether the user is well-hydrated. Although potency varies greatly, the onset of the drug's effects generally occurs within 15 to 30 minutes of ingestion, and effects persist typically for 3 to 6 hours.

**Table 2. Common Effects of GHB**

Dose	Common Effects
1 gram or less	Relaxation similar to alcohol intoxication
1 to 2 grams	Euphoria, reduced inhibitions, enhanced sensuality and sexuality, increased sensory stimulation
2 to 4 grams	Speech and motor skill interference
4 grams or more	Agitation, combativeness, confusion, loss of coordination, seizure-like posturing of the limbs, respiratory depression, urinary and fecal incontinence, vomiting, wavering states of consciousness, overdose death

Source: *Drug Identification Bible 2001*.

Trends regarding overall GHB use are mixed. MTF data show that from 2002 to 2003, past year use of GHB among eighth graders trended upward from 0.8 to 0.9 percent, remained stable among tenth graders at 1.4 percent, and trended downward among twelfth graders from 1.5 to 1.4 percent; however, none of the rate changes were statistically significant. Partnership Attitude Tracking Study (PATS) data show that lifetime use among young individuals aged 12 to 17 was 3 percent in 2001 and 4 percent in 2002, the latest year for which such data are available. MTF is the only national-level study that tracks past year rates of use of GHB among adults, and only 1 year (2002) of data is available. Nevertheless, MTF data for 2002 reveal that rates of past year use of GHB were higher, albeit only slightly, among young adults aged 19 to 28 (0.8%) than among college students aged 18 to 22 (0.6%).

The consequences of GHB use appear to be stabilizing. According to DAWN data, the estimated number of GHB ED mentions increased sharply from 1995 (145) to 2000 (4,969) but then decreased to 3,340 in 2001. In 2002, the estimated number of ED mentions for GHB trended downward, although not significantly, to 3,330.

## **Production**

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GHB is produced illegally in domestic and foreign laboratories; however, there are no generally accepted estimates as to how much GHB is produced illegally each year. Law enforcement sources report that GHB is produced in most regions of the country; seven HIDTAs—Central Florida, Midwest, Nevada, North Texas, Oregon, Rocky Mountain, and South Florida—report production in their areas. Nevertheless, DEA El Paso Intelligence Center (EPIC) National Clandestine Laboratory Seizure System (NCLSS) data show that the number of reported GHB laboratory seizures is low and decreased from 13 in 2001 to 7 in 2002 to 2 in 2003. California law enforcement agencies reported the highest number of GHB laboratory seizures each year from 1999 through 2001; however, in 2002 Oregon led all states with 2 seizures. California and Connecticut each reported 1 seizure in 2003.

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### **Prescription Form of GHB**

In July 2002 the U.S. Food and Drug Administration (FDA) approved Xyrem, a Schedule III prescription form of GHB, for treating narcoleptic patients who experience episodes of cataplexy, a debilitating medical condition in which a person suddenly feels weak and collapses at moments of strong emotion. Diversion of Xyrem is subject to penalties under the Controlled Substances Act, and both the drug's manufacturer and the FDA have worked to establish tight controls on distribution. A single centralized pharmacy dispenses Xyrem for all U.S. patients only after the patient is informed of the proper use of the drug and dangers associated with misuse.

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## **Transportation and Distribution**

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Foreign-produced GHB that is distributed and consumed in the United States typically is smuggled into the country from Canada, Europe, Mexico

and, to a lesser extent, Israel. GHB is most often transported into the United States via commercial airlines, mail services, or private vehicles. Domestically produced GHB is typically transported from laboratory sites to drug markets via private vehicles or mail services. Middle-class Caucasian males between 18 and 30 years of age are the predominant distributors of GHB; however, African American gangs and local independent dealers are active in

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### **Operation Webslinger**

On September 19, 2002, Attorney General John Ashcroft and former DEA Administrator Asa Hutchinson announced the arrests of 115 individuals in 84 cities in the United States and Canada who were involved in distributing GHB and its analogs GBL and BD over the Internet. The arrests were the result of a 2-year investigation conducted by DEA, U.S. Postal Inspection Service, U.S. Customs and Border Protection, Internal Revenue Service, Federal Bureau of Investigation, Royal Canadian Mounted Police, and Ontario Provincial Police. The investigations focused on activities in the cities of Detroit, St. Louis, San Diego, Buffalo, Mobile, Sparta (TN), and Quebec City (Canada). Officials report that 27 of the arrested individuals were wholesale distributors; the remaining arrestees were midlevel, wholesale, and retail distributors and customers. On January 30, 2004, a mother and son who were two of the arrestees were sentenced to prison on charges of conspiracy to distribute BD. The mother was sentenced to 168 months in prison; her son received a prison sentence of 100 months. The other defendants are awaiting trial.

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GHB distribution as well. GHB typically is distributed at raves as well as at nightclubs, bars, gyms, and on college and high school campuses. GHB also is sold over the Internet, where it is often falsely marketed as cleaning products and nail polish remover. At the retail level, GHB is packaged in plastic bottles and sold to teens and young adults,

usually for \$5 to \$30 per dose. A capful, typically the size of the cap from a small water bottle, is the most common dosage unit at the retail level.

## **Outlook**

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GHB use will likely remain limited. MTF has recorded past year rates of use for GHB among eighth, tenth, and twelfth graders only for the past 4 reporting years (2000–2003). MTF began recording past year rates of use for GHB among adults only in 2002. Therefore, accurate analysis of long-term

trends in GHB use is not yet possible; however, the data indicate continued limited use in the near term. MTF data show that despite small fluctuations in rates of GHB use among eighth, tenth, and twelfth graders, past year rates of use have not exceeded 2.0 percent in any year among any age group, and rates of use may be trending downward for eighth and twelfth graders. Moreover, MTF data indicate that GHB use has not spread significantly beyond the predominant user group—Caucasian adolescents—to include a greater percentage of other ethnic or age groups.

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## Sources

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Executive Office of the President

- Office of National Drug Control Policy
  - High Intensity Drug Trafficking Areas
    - Arizona
    - New York/New Jersey
    - South Texas
    - Washington/Baltimore

U.S. Department of Health and Human Services

- National Institutes of Health
  - National Institute on Drug Abuse
    - Monitoring the Future
- Substance Abuse and Mental Health Services Administration
  - Office of Applied Studies
    - Drug Abuse Warning Network

U.S. Food and Drug Administration

U.S. Department of Justice

- Criminal Division
  - National Forensic Laboratory Information System
  - Organized Crime Drug Enforcement Task Force
- Drug Enforcement Administration
  - Atlanta Field Division
  - Dallas Field Division
  - El Paso Intelligence Center
  - National Clandestine Laboratory

Seizure System

- Houston Field Division
- Los Angeles Field Division
- System to Retrieve Information From Drug Evidence



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