

**HB**

**140**

# STATE OF ALASKA

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HOUSE OF REPRESENTATIVES

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## Sponsor Statement House Bill 140

### **"An Act relating to gamma-Hydroxybutyrate."**

House Bill 140 was drafted to increase the penalties for the use of the commonly known date rape drug "GHB" or Gamma-Hydroxybutyrate. This bill elevates it from Schedule IVA to Schedule IA in AS 11.71. which would also increase the penalties for possession.

Hospitals and schools statewide have seen an upsurge in the use and misuse of GHB also known as the "date rape drug".

GHB is overwhelmingly used to incapacitate a person during a sexually violent encounter with little recollection of the event. GHB does have one legitimate medical use for the treatment of narcolepsy.

# FISCAL NOTE

**STATE OF ALASKA**  
**2002 LEGISLATIVE SESSION**

Fiscal Note Number: \_\_\_\_\_  
 Bill Version: HB 140  
 () Publish Date: \_\_\_\_\_

Revision Date/Time (Note if correction): \_\_\_\_\_ Dept. Affected: Corrections  
 Title "An Act relating to gamma-Hydroxybutyrate" BRU Administration and Operations  
 Component All  
 Sponsor Rep. Chenault  
 Requester House Judiciary Committee Component No. 694

**Expenditures/Revenues** (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Personal Services						
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
<b>TOTAL OPERATING</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

<b>CAPITAL EXPENDITURES</b>						
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<b>CHANGE IN REVENUES ( )</b>						
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**FUND SOURCE** (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type--Do not abbreviate)						
<b>TOTAL</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

Estimate of any current year (FY2002) cost: 0.0  
 Check this box (X) if funding for this bill is included in the Governor's FY 2003 budget proposal:

**POSITIONS**

Full-time						
Part-time						
Temporary						

**ANALYSIS:** (Attach a separate page if necessary)  
 This legislation would place "GHB" on the controlled substance schedule as a schedule IA drug instead of its current placement as a schedule IVA drug. This would move the penalty up from either a Class B or Class C felony to a Class A or an unclassified felony. According to the Department of Public Safety, they have made no arrests that involved a charge of possession of "GHB". Additionally, the Department of Law reports that they have seen very few cases of "GHB". Based on this information and the fact that the resulting increased incarceration would in all likelihood not occur until the "outyears", the Department of Corrections is submitting a zero fiscal note. It should be noted, however, that in later years, there could be a fiscal impact on the Department.

Prepared by: Candace Brower Phone 465-4652  
 Division: Commissioner's Office Date/Time 4/23/02 3:59 PM  
 Approved by: Margaret Pugh, Commissioner Date 4/23/02  
 Agency: Department of Corrections

# FISCAL NOTE

**STATE OF ALASKA**  
**2002 LEGISLATIVE SESSION**

Fiscal Note Number: \_\_\_\_\_  
 Bill Version: HB 140  
 () Publish Date: \_\_\_\_\_

Revision Date/Time (Note if correction): \_\_\_\_\_ Dept. Affected: Law  
 Title "An Act relating to gamma-Hydroxybutyrate." BRU Criminal Division  
 Component All  
 Sponsor Representative Chenault  
 Requester House Judiciary Committee Component No. \_\_\_\_\_

**Expenditures/Revenues** (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Personal Services						
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
<b>TOTAL OPERATING</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

<b>CAPITAL EXPENDITURES</b>						
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<b>CHANGE IN REVENUES ( )</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
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**FUND SOURCE** (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
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1037 GF/Mental Health						
Other (Specify Type-Do not abbreviate)						
<b>TOTAL</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

Estimate of any current year (FY2002) cost: 0.0  
 Check this box (X) if funding for this bill is included in the Governor's FY 2003 budget proposal:

**POSITIONS**

Full-time						
Part-time						
Temporary						

**ANALYSIS:** *(Attach a separate page if necessary)*  
 Gamma-Hydroxybutyrate (GHB), one the the so-called "date rape" drugs, is presently classified as a schedule IVA substance in the criminal code. This bill would reclassify the drug as a schedule IA substance. Penalties for illegal activities involving schedule IA drugs are more serious than for schedule IVA drugs. Because the department sees very few cases involving GHB, we do not anticipate a fiscal impact.

Prepared by: Joan M. Kasson Phone (907) 465-5370  
 Division: Attorney General's Office Date/Time 4/23/02 8:25 AM  
 Approved by: Kathryn Daughhettee for Bruce M. Botelho, Attorney General Date 4/23/2002  
 Agency: Department of Law



# **Drug-Facilitated Rape: Looking for the Missing Pieces**

*by Nora Fitzgerald and K. Jack Riley*

## about the authors

Nora Fitzgerald is a Social Science Analyst at the National Institute of Justice. K. Jack Riley, Ph.D., is Director of the Criminal Justice Program at RAND. Fitzgerald and Riley (who at the time was Director of NIJ's Arrestee Drug Abuse Monitoring program) led the Department of Justice working group that conducted the research and wrote the report upon which this article is based.

**M**ore than 430,000 sexual assaults occur annually in the United States, according to victimization surveys.<sup>1</sup> Many of these assaults involve alcohol and drugs,<sup>2</sup> which are often used voluntarily by both victim and offender.<sup>3,4</sup> But in the mid- and late 1990's, ethnographers and rape crisis centers began hearing reports of drugs, often referred to as "roofies" and "liquid ecstasy," being administered clandestinely to immobilize victims, impair their memory, and thus facilitate rape. Two drugs in particular were mentioned in these reports: Rohypnol (the pharmaceutical trade name for flunitrazepam) and GHB (gamma-hydroxybutyrate).

These drugs can produce loss of consciousness and the inability

to recall recent events. Victims may not be aware that they have ingested drugs or that they have been raped while under the influence of drugs.<sup>5</sup> Reports of such assaults and increases in the recreational consumption of the drugs used in these assaults have brought drug-facilitated rape into sharp focus in recent years.

This article summarizes findings about drug-facilitated rape learned by researchers at the U.S. Depart-

ment of Justice in response to a request from the Attorney General for more information about this new phenomenon. (See "How This Article Came to Be.")

## What Are Rape-Facilitating Drugs?

Sexual assault victims who believe drugs were surreptitiously given to them typically report remembering sensations of drunkenness that do not correspond with the amounts of alcohol consumed, unexplained gaps in memory, altered levels of consciousness, and unexplainable signs of physical trauma. The most commonly implicated drugs are Rohypnol and GHB.

**Rohypnol**, or flunitrazepam, belongs to a class of drugs called benzodiazepines and is approved for use in 80 countries, but not in the United States or Canada. It is available only in pill form, is tasteless, odorless, and colorless, and dissolves to some degree in liquid.

Benzodiazepines are used primarily to produce sedation, sleep, or muscle relaxation; to reduce seizures and anxiety; and to produce anterograde amnesia, a desired effect for some surgical procedures. *Anterograde* amnesia is a condition in which events that occurred during the time the drug was in effect are forgotten, in contrast to *retrograde* amnesia, in which events prior to the intervening agent are forgotten.

Rohypnol mentally and physically incapacitates an individual, particularly when used in combination

## How This Article Came to Be

In December 1997, the U.S. Attorney General directed the Department of Justice to assess the problems posed by drugs being used to facilitate rape. A working group chaired by NIJ Director Jeremy Travis and representatives from several other Justice Department agencies began meeting regularly to structure the inquiry and review progress.

The group's overarching objective was to assess the state of knowledge about drug-facilitated rape and report back to the Attorney General within several months.

The group's first step was to determine how often drug-facilitated rape occurs. There are no national statistics for this offense (such as would be provided by the *Uniform Crime Reports*, the *National Criminal Victimization Survey*, or the *National Judicial Reporting Program*), so the group conducted a thorough review of other, nonnational-level research. This search revealed that no empirical data exist to answer the question.

The investigation then turned to a number of other data sources representing different perspectives: ethnographers, the print media, Internet-based data, law enforcement, victim advocates, policymakers, and the pharmaceutical industry. The search uncovered a considerable amount of conflicting information amid differing viewpoints.

The working group learned a great deal from its investigation but could draw no conclusions beyond a clear recognition that the incidence of this offense is extraordinarily difficult to measure, that existing indicators are incapable of monitoring the problem, and that the true magnitude of the problem cannot be known with certainty from the scientific methods that have been used to date.

To learn how to obtain a copy of the full report, see "For More Information" on page 15.

## Description of Data Sources

**Monitoring the Future (MTF):** This ongoing survey of 8th, 10th, and 12th graders uses a national probability sample. Sponsored by the National Institute on Drug Abuse. Visit <http://www.monitoringthefuture.org>.

**Drug Abuse Warning Network (DAWN):** DAWN records instances of emergency room visits and deaths related to particular drugs. Sponsored by the Substance Abuse and Mental Health Services Administration. Visit <http://www.samhsa.gov> and <http://www.health.org/pubs/dawn/index.htm>.

**Community Epidemiology Working Group (CEWG):** This ethnographic reporting system, in place in 21 metropolitan areas, supplements findings from national drug data systems. Sponsored by the National Institute on Drug Abuse. Visit <http://www.nida.nih.gov>.

**Pulse Check:** This ethnographic reporting system covers 20 metropolitan areas. Sponsored by the White House's Office of National Drug Control Policy. Visit <http://www.whitehousedrugpolicy.gov>.

with alcohol, and is capable of producing anterograde amnesia.

**GHB**, a drug first synthesized in the 1920's, occurs naturally in the human body in minute amounts. It was under development as an anesthetic agent in the late 1950's and early 1960's, but no commercial products were developed from these efforts. Until the FDA banned the drug in 1990, it was available through health food stores and marketed as both a sleep aid and as a body-building supplement. Several vendors distributed products containing GHB under trade names such as "Gamma Hydrate" and "Somatomax PM."

GHB is marketed in some European countries as an adjunct to anesthesia

and currently is being tested for treatment of narcolepsy as well as alcohol addiction and withdrawal (with mixed results) in Europe and the United States.<sup>6</sup>

## How Common Is Drug-Facilitated Rape?

No one really knows how common drug-facilitated rape is because today's research tools do not offer a means of measuring the number of incidents. However, recent findings from ethnographic research and school-based surveys can provide insight into the voluntary use of these drugs.

Flunitrazepam first appeared in early warning ethnographic systems in December 1993, when it was reported among Miami high school students.

By 1995, the Community Epidemiology Working Group (CEWG) found that use of Rohypnol was spreading in Florida and Texas. Pulse Check reported Rohypnol use was rising, particularly among youth and young adults. Ethnographers in Florida and Texas reported that local law enforcement agents were seizing more Rohypnol tablets, often still in the manufacturer's packaging.

In 1996, Monitoring the Future (MTF) began tracking Rohypnol. In 1999, MTF found that 0.5 percent of 8th graders and 1.0 percent of 10th and 12th graders had reported using Rohypnol in 1998, a level slightly below those found a year earlier.<sup>7</sup> Such rates appear low in comparison to marijuana or amphetamine use, but they are not trivial—10th and 12th graders report similar levels of heroin use.<sup>8</sup>

In 1997, Pulse Check noted that although Rohypnol continued to be available in Florida and Texas, distribution had slowed.

In 1998, Texas' statewide student survey, which uses the same methodology and many of the same items as MTF, found that 1.3 to 2.1 percent of Texas students in grades 8 to 12 reported use of Rohypnol during the school year.<sup>9</sup> Later in 1998, Pulse Check reported that Rohypnol was in use in Florida, Hawaii, Minnesota, and Texas.

Mention of widespread recreational use of GHB only recently has been reported by CEWG in December 1997. In winter 1998, Pulse Check reported use of GHB in many urban areas.

The Drug Abuse Warning Network (DAWN) also has captured information about GHB because of overdoses. The Drug Enforcement Administration has documented approximately 650 overdoses and 20 deaths related to GHB. MTF added questions about GHB to its year 2000 survey.

Available law enforcement statistics on seizures and trafficking (primarily from the Drug Enforcement Administration) tend to corroborate the ethnographic and survey data.

Ethnographic measures may not represent the true scale of the drugs' use, however, and more rigorous scientific measures have not been in place long enough to give researchers the ability to project accurate trends.

Another factor complicating science's ability to measure the incidence and prevalence of these drugs is the lack of law enforcement evidence. Investigations of suspected drug-facilitated assaults often turn out to be inconclusive because many victims do not seek assistance until hours or days later, in part because the drugs have impaired recall and in part because victims may not recognize the signs of sexual assault. By the time they do report a suspected assault, conclusive forensic evidence may have been lost. Even when

victims do suspect a drug-facilitated rape and seek help immediately, law enforcement agencies may not know how to collect evidence appropriately or how to test urine using the sensitive method required. (See further discussion of investigation

policies below and in the sidebar "Learning From Victims.")

To add more complexity to the puzzle, school-based surveys seem to suggest that Rohypnol and GHB are consumed voluntarily, perhaps

increasingly so, because these drugs are cheap, easy to share, and easy to hide. Use appears to be concentrated among populations that also are at the highest risk of sexual assault, including middle school, high school, and college-age students.

## Learning From Victims

by Gail Abarbanel, LCSW

*Gail Abarbanel is the director of the Rape Treatment Center (RTC) at Santa Monica-UCLA Medical Center. Established in 1974, the RTC has treated more than 20,000 sexual assault victims. The RTC's informational materials on drug-facilitated rape are distributed throughout the United States.*

In late 1995, the Rape Treatment Center at Santa Monica-UCLA Medical Center began to see a new pattern in sexual assault cases. Victims were coming in who believed they had been drugged surreptitiously to incapacitate them for the purpose of sexually assaulting them. Many of these cases followed a similar pattern. Victims were in what seemed like a comfortable social environment, such as a restaurant, party, or club. Unbeknownst to them, someone slipped a drug into their drink. As they consumed the drink, they began to feel disoriented or sick. The next thing they remembered was waking up hours later, sometimes in a different location.

When they regained consciousness, some victims were unsure if they had been sexually assaulted. Others found signs that they had been: They were undressed; they had semen stains on their bodies and/or clothing; they had vaginal or anal trauma, such as soreness and/or lacerations. All of these victims reported significant memory impairment. Most could not recall

what was done to them, who participated, or how many people were present while they were unconscious. Some could remember brief, intermittent periods of awakening, during which they were aware of their surroundings but were unable to move or speak. They felt "paralyzed." One victim said, "I came to and saw this guy on top of me about to rape me, but I couldn't move my arms or legs. Then I passed out again."

It was apparent to the staff at the Rape Treatment Center that some rapists were using a powerful new weapon to overpower, disable, and control their victims.

When victims began to report these crimes to the authorities, their cases often were dismissed. One victim was told, "He has his memory, you don't have yours. There's no evidence. The case is closed."

In many instances, crucial physical evidence was never gathered from victims or crime scenes. For example, even when sexual assault evidentiary examinations were conducted, urine specimens needed to detect traces of the drugs were omitted because, in most jurisdictions, urine samples were not routinely included in standardized rape kits. As a result of these deficiencies, many victims felt revictimized by the agencies that were supposed to help them.

When these cases initially appeared, there was little information in the

professional literature or in news coverage about rape drugs or drug-facilitated sexual assaults. Victims were a crucial source of information. Their reports helped define this emerging crime pattern by identifying the characteristics of these crimes that distinguished them from other sexual assaults.

In addition, the problems victims encountered suggested an urgent need for a comprehensive, broad-based community response, including new protocols for hospitals, police departments, and crime labs; updated rape evidence kits; training for police officers, prosecutors, rape crisis centers, and other victim service providers; public policy and legislative reforms; research; and public education and prevention programs.

### What Victims Have Taught Us

**How Rape Drugs Facilitate Sexual Assaults.** Rape drugs make it relatively easy for rapists to gain control of their victims. Perpetrators do not have to overcome any form of resistance. They do not have to use physical force. They do not have to threaten to harm the victim to get compliance. Nor do they have to be concerned about a victim's screams attracting attention. The drugs they administer immobilize and silence the victim.

*(continued on page 12)*

**How Victims are Prevented From Detecting Threats to Their Safety.**

Victims of these crimes do not sense any threat to their safety when the assailant is incapacitating them. The "weapon" used to overpower and disable them is invisible: It is hidden in a drink.

**How Victims are Inhibited From Exercising Self-Defense.** The ability to sense danger is critical to a person's ability to implement self-defense strategies. When faced with the threat of being raped, most people employ one or more protective measures, such as verbally negotiating with the assailant, cognitively assessing their options, screaming, stalling, attempting to escape, and/or physically resisting; if these efforts fail to prevent the rape, victims may "fight back" in other ways. They may use their sensory and cognitive abilities to memorize details about the assailant's physical characteristics, the location of the crime, and other factors that can later be used to aid authorities in apprehending and prosecuting the offender.

The incapacitating effects of rape drugs rob victims of their ability to use these coping strategies. One victim said, "Rape is never a fair fight, but I didn't even have a chance to defend myself."

**How Rapists Can Appear to Be Rescuers.** When victims are drugged in places where other people are present, such as restaurants, clubs, bars, and parties, the rapist may appear to bystanders and witnesses to be a rescuer. The behavioral effects of rape drugs look very much like the effects of voluntary alcohol consumption. To onlookers, the victim may seem drunk. When the rapist carries or leads the victim to another location where the sexual assault will be committed, he may be viewed as "helping" or

transporting a vulnerable person to a safe place.

**How Rape Drugs Affect Reporting Patterns.** Victimization surveys consistently indicate very low reporting rates among rape victims. Delayed reports also are common, particularly in acquaintance rapes. The reasons are well documented in the literature. In drug-facilitated rapes, additional factors may account for low and delayed reporting, including the immediate and residual effects of the drugs (the victim may be unconscious for several hours after the assault and may have hangover effects after regaining consciousness); feelings of guilt or self-blame because of prior voluntary ingestion of alcohol and/or drugs; confusion and uncertainty about what happened; and reluctance to make an accusation without personal knowledge or memory of the assault circumstances.

**How Victims' Inability to Recall What Happened Affects the System's Response.** Many aspects of a rape investigation are facilitated by a victim's ability to describe what happened. The victim's narrative helps guide the medical/evidentiary examination and the police investigation. In addition, it may be an important consideration in prosecutor filing decisions and judgments about credibility. When victims of drug-facilitated rapes cannot give a complete narrative, they often encounter suspicion, disbelief, and/or frustration. Their inability to supply information that could assist the investigation and/or prosecution compounds their sense of helplessness.

**How People Misjudge and Minimize Victims' Trauma.** Because most victims of drug-facilitated rapes have no memory of the sexual assault, people may mistakenly minimize the trauma

they suffered. One victim was told, "You're lucky you can't remember, you won't suffer as much as other victims." For all rape victims, the loss of control experienced during an assault is profoundly traumatic. In drug-facilitated rapes, the additional deprivation of cognition during the assault, combined with anterograde amnesia afterwards, subjects the victim to an extreme form of powerlessness.

**How Drugging Is a Unique Form of Trauma.** Many of the difficulties victims face in the aftermath of these assaults are due to the effects of the drugs given by offenders. The surreptitious drugging of a victim is, in and of itself, a cruel and criminal violation of the person. Some victims describe this aspect of the trauma as "mind rape." The drugging should be recognized as a separate and distinct act of victimization in addition to any other acts of abuse and degradation to which the victim was subjected.

**How Being Unable to Forget Compares With Being Unable to Remember.** In the aftermath of rape, most victims suffer acute stress disorder and post-traumatic stress disorder symptoms. One of the most disturbing symptoms is their inability to *forget* what happened. The trauma is reexperienced repeatedly. Victims commonly have recurrent, intrusive recollections of the rape, including thoughts, flashbacks, and nightmares. For victims of drug-facilitated rapes, this aspect of the aftermath may be experienced differently. Because they cannot *recall* what happened during a significant time period, they have to cope with a gap in their memory. They experience the horror, powerlessness, and humiliation of not knowing what was done to them. They can only imagine what happened. One victim said, "I would rather have the nightmare."

# FDA TALK PAPER

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U.S. Department of Health and Human Services  
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T99-21  
May 11, 1999

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## FDA WARNS ABOUT GBL-RELATED PRODUCTS

FDA is warning the public of a new group of products being marketed as sleep aids that have been associated with at least 3 deaths and several severe adverse reactions. These products are chemically related to gamma butyrolactone (GBL) and gamma hydroxybutyric acid (GHB) substances that have been determined to pose a significant health hazard to the public. In particular, one of these products, 1,4 butanediol (BD) has been declared a Class I Health Hazard -- a potentially life-threatening risk -- by the FDA.

BD is a chemical that can cause dangerously low respiratory rates, unconsciousness, vomiting, seizure and death. BD may also increase the effects of alcohol and is even more dangerous when consumed with other depressant drugs.

Products that contain BD include Revitalize Plus, Serenity, Enliven, GHRE, SomatoPro, NRG3, Thunder Nectar and Weight Belt Cleaner.

Some of the suspect products may list 1,4 butanediol, tetramethylene glycol, gamma butyrolactone or 2(3H)-Furanone di-hydro on the label.

These products are listed as "party drugs" on internet sites, advertised in muscle-building magazines, and sold in health food stores as dietary supplements to aid in sleep. The FDA, however, considers these products unapproved new drugs and has conducted seizures of the product to prevent the sale to consumers and any further illnesses or deaths.

This is not the first time that products of this nature have caused a serious health hazard. In February, 1997, FDA re-issued a warning on GHB for body building and "recreational" uses. GHB continues to be an unapproved and potentially dangerous drug and cannot be legally marketed in the U.S. It has been implicated as a "date rape" drug.

On February 2, 1998, a California chiropractor was fined \$2,000 and imprisoned for illegally distributing tainted liquids that sickened more than 100 partygoers at a New Year's Eve 1996 "rave" party in Los Angeles.

FDA warned consumers not to ingest the products blamed for the injuries, which were labeled Cherry fX Bombs, Lemon fX Drops and Orange fX Rush. They all contained 1,4 Butanediol.

In January, 1999, FDA issued a talk paper warning consumers about products containing GBL another product marketed as a dietary supplement, which when ingested, converts to GHB in the body.

GBL, GHB, and BD have been associated with reports of at least 122 adverse health effects, including the three deaths. In many cases, the consumers became unconscious or comatose and several required intubation for assisted breathing.

Health authorities believe manufacturers are renaming their products and substituting 1,4 butanediol for GBL. The effects of ingesting BD are as dangerous as those of GHB and GBL.

FDA can not assure the effectiveness or safety of any product for sleep inducement other than FDA approved drugs. People who use unapproved sleep inducement products, especially without proper medical supervision, may be unnecessarily exposing themselves to serious harm.

####

FDA HOME PAGE



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January 11, 2001

## Body-Building Supplement Blamed for Deaths

By REUTERS

**B**OSTON - People who use a dietary supplement found in some body-building products are risking death, researchers in Minnesota, Texas and Florida report in Thursday's New England Journal of Medicine.

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Lead researcher Deborah Zvosec of the Hennepin County Medical Center in Minneapolis studied nine cases where people fell ill after consuming products containing the supplement known formally as 1,4-butanediol or BD. Two died.

The U.S. Drug Enforcement Administration has identified 71 deaths caused by BD and another 40 or so are being investigated as suspicious, Zvosec told Reuters.

"And that's just the tip of the iceberg," she said because many people with overdoses don't seek treatment.

There has been little formal study of BD, which is also used as an industrial solvent. Promoters claim it is a natural and nontoxic way to build muscle, improve athletic performance, increase libido and sexual performance, reduce wrinkles, reverse baldness and reduce stress, depression and insomnia. The claims have not been proven.

The chemical is often listed on ingredient labels as tetramethylene glycol, butylene glycol or suclo-B, and it is contained in products with brand names like Thunder Nectar, InnerG, Amino flex, Rejuv+Nite, Liquid Gold, Thunder, Serenity, X-12 and N-Force.

In 1990, the U.S. Food and Drug Administration banned the sale of its chemical cousin, gamma-hydroxybutyrate (GHB). But after Congress passed a 1994 law making it harder for the federal government to regulate "health foods," manufacturers began marketing a similar product called gamma-butyrolactone (GBL), according to Zvosec and her colleagues.

In January 1999, the FDA warned that GBL was also dangerous.

After the health food industry voluntarily recalled products with GBL, BD "began to be marketed as a 'replacement product,' for gamma-butyrolactone," and promoters expanded their claims for the new products, the Zvosec team said.

In May 1999, the FDA issued a warning about 1,4-butanediol supplements as well, the researchers said.

Nonetheless, "extensive marketing continues on the Internet, and the use of all three compounds, sometimes interchangeably, has increased," the researchers said.

"If you talk to 100 doctors, maybe 10 have heard about this," said co-author Dr. Stephen W. Smith of the Hennepin County Medical Center. In an interview, he said doctors can identify the problem if they know what to look for.

One symptom is a sudden swing between wild, combative behavior and an abrupt loss of consciousness, he said, adding other symptoms include nausea and incontinence.

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