



# Benzodiazepines

Benzodiazepines are a common class of prescription medication. They are used therapeutically for a number of applications, including control of epilepsy, reducing anxiety, as adjuncts to anaesthesia, to treat insomnia, and for alcohol withdrawal. Benzodiazepines are also one of the most frequently abused class of drugs. An expanding range of new, designer benzodiazepines now supplement prescription only forms, and have exacerbated concerns regarding their misuse and addiction.



# What are Benzodiazepines?

**Benzodiazepines and benzodiazepine-type substances are amongst the most extensively prescribed groups of drugs worldwide. They are central nervous system (CNS) depressants with sedative, anxiolytic and muscle-relaxant properties. Their therapeutic properties are a result of their enhancement of the effects of the major inhibitory neurotransmitter present in the brain and spinal cord, gamma-aminobutyric acid (GABA) via modulation of the GABA receptor family. Globally, over fifty benzodiazepines are currently being used therapeutically, with more substances reported and evaluated in the medicinal chemistry literature. The variation in their chemical structures produces short-, medium and long-acting drugs with a wide range of potency and efficacy.**

Benzodiazepines have a high addiction potential and over-prescription can lead to dependency. Recognition of this has resulted in a gradual reduction in the number of benzodiazepine prescriptions issued. However, without a reduction in demand people who have used prescribed benzodiazepines may turn to the illicit market. Benzodiazepines are now one of the most common prescription drugs used recreationally, or for self-medication, and complex polydrug use involving benzodiazepines is becoming increasingly popular. Benzodiazepines are often used to enhance the effects of other CNS depressant drugs, for example opioids, to alleviate withdrawal effects of other drugs; or to combat the effects of stimulants (i.e., to enable sleep and to reduce stress, anxiety and depression following stimulant use).



## Side Effects:

- Anterograde amnesia
- Rapid Tolerance
- Dependence
- Severe withdrawal
- Injection injuries
- Dizziness
- Blurred vision
- Nausea
- Appetite changes

## Withdrawal:

- Anxiety
- Irritability
- Dysphonia
- Decreased concentration
- Insomnia /Malaise
- Nausea
- Muscle twitching / tremors
- Sweating
- Convulsions

**Table 1.** Common side effects associated with benzodiazepine use and withdrawal.

In some cases, users may not be aware of the actual benzodiazepine-type drug they are taking, as there are increasing reports of the mis-selling/mislabelling of benzodiazepines in fake medicines containing what are referred to as the 'new', 'novel' or 'designer' benzodiazepines.

An expanding range of new benzodiazepines have appeared on the global illicit drugs market in the last 15 years, with more than 30 compounds currently being monitored in Europe. Their prevalence can change over time due to changes in national and international drug control and regulation. The illicit market in new designer

benzodiazepines in recent years has tended to be dominated by etizolam and flualprazolam, but these came under international legislative control in 2020, followed by clonazepam, diclazepam and flubromazolam in 2021. Perhaps as a direct result of these new regulatory controls, there are increasing reports from multiple sources of the growing prevalence of flunitrazepam and bromazolam and the emergence/re-emergence of new benzodiazepines including clonazepam, deschloroetizolam, fluclotizolam, flubrotizolam and meclonazepam in jurisdictions around the world with varying impact.

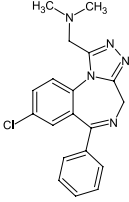
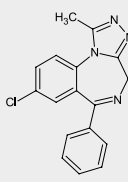
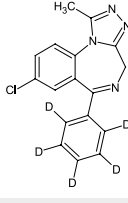
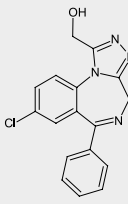
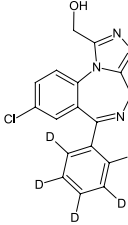
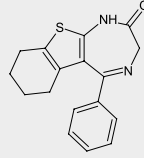
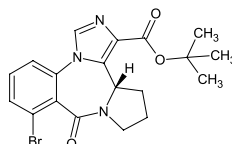


#### What do Chiron offer

At Chiron, we closely monitor changes in the licit and illicit benzodiazepine market and to identify potential new compounds, which may appear as entirely new NPS, or from substances synthesised and evaluated in the medicinal chemistry literature. This ensures that we offer an extensive array of traditional, historical and new/emerging benzodiazepines and their metabolites, to our customers.

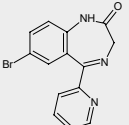
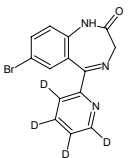
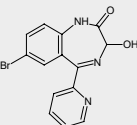
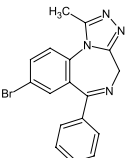
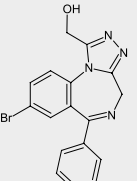
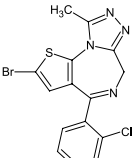
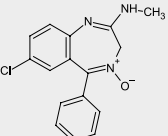
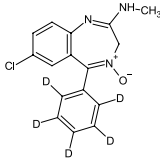
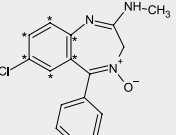
# Benzodiazepines product listing

ISO 17034  
ISO/IEC 17025  
ACCREDITED  
PRODUCER

Chiron No.	Name	Structure	CAS
<b>Adinazolam</b>			
11198.19	Adinazolam		37115-32-5
<b>Alprazolam</b>			
9382.17	Alprazolam		28981-97-7
9864.17	Alprazolam-d5 (phenyl-d5)		125229-61-0
9865.17	$\alpha$ -Hydroxyalprazolam		37115-43-8
9866.17	$\alpha$ -Hydroxyalprazolam-d5 (phenyl-d5)		136765-24-7
<b>Bentazepam</b>			
9682.17	Bentazepam		29462-18-8
<b>Bretazenil</b>			
14915.19	Bretazenil (Ro 16-6028; Ro-16-6028; Bretazenilum)		84379-13-5

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Chiron No.	Name	Structure	CAS
<b>Bromazepam</b>			
10166.14	Bromazepam		1812-30-2
14001.14	Bromazepam-d4		1185022-85-8
13874.14	3-Hydroxybromazepam		13132-73-5
<b>Bromazolam</b>			
14834.17	Bromazolam		71368-80-4
15329.17	$\alpha$ -Hydroxybromazolam		N/A
<b>Brotizolam</b>			
13496.15	Brotizolam		57801-81-7
<b>Chlordiazepoxide</b>			
9831.16	Chlordiazepoxide		58-25-3
11959.16	Chlordiazepoxide-d5 (phenyl-d5)		65891-81-8
10767.16	Chlordiazepoxide-13C6 (7-chlorobenzo-13C6)		58-25-3 (unlabelled)

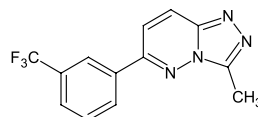
# Benzodiazepines product listing

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Chiron No.	Name	Structure	CAS
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**CL 218,872**

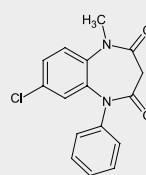
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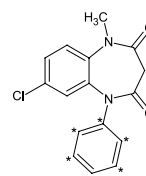
## Clobazam

10362.16 Clobazam



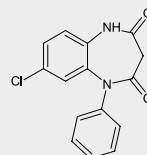
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10363.16 Clobazam-13C6 (phenyl-13C6)



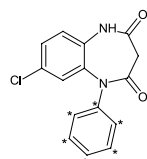
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10364.15 Norclobazam  
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22316-55-8

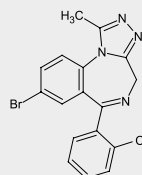
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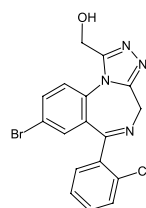
## Clobromazolam

13638.17 Clobromazolam  
(*Phenazolam*)



87213-50-1

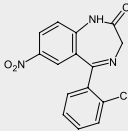
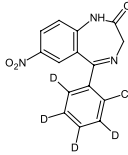
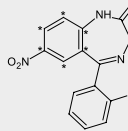
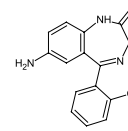
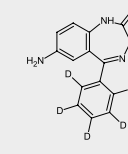
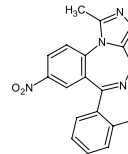
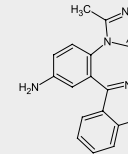
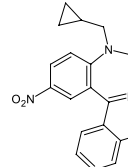
15327.17  $\alpha$ -Hydroxyclobromazolam  
( $\alpha$ -Hydroxyphenazolam)



N/A

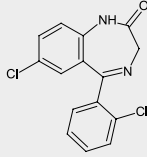
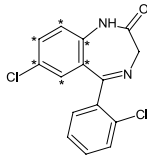
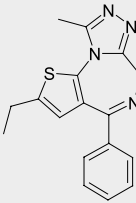
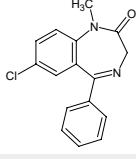
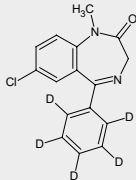
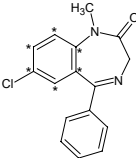
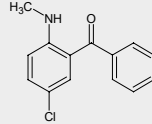
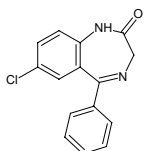
# Benzodiazepines product listing

ISO 17034  
ISO/IEC 17025  
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Chiron No.	Name	Structure	CAS
<b>Clonazepam</b>			
9301.15	Clonazepam		1622-61-3
9302.15	Clonazepam-d4 (chlorophenyl-d4)		170082-15-2
10758.15	Clonazepam-13C6 (7-nitrobenzo-13C6)		1538556-00-1
9303.15	7-Aminoclonazepam		4959-17-5
9304.15	7-Aminoclonazepam-d4 (chlorophenyl-d4)		1215070-96-4
<b>Clonazolam</b>			
10880.17	Clonazolam (Clonitrazolam)		33887-02-4
14014.17	8-Aminoclonazolam (8-Aminoclonitrazolam)		71368-66-6
<b>Cloniprazepam</b>			
11314.19	Cloniprazepam (Kloniprazepam; 2-Chloro-7'-nitroprazepam)		1998158-84-1

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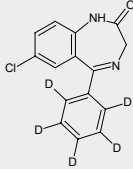
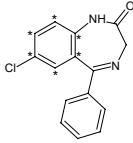
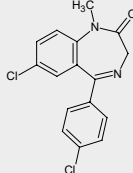
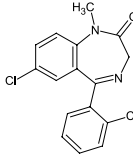
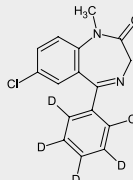
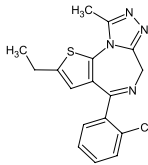
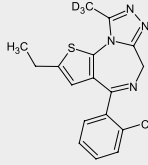
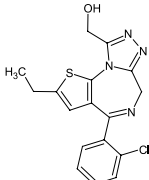
ISO 17034  
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Chiron No.	Name	Structure	CAS
<b>Delorazepam</b>			
10605.15	Delorazepam (Chlordesmethyl diazepam; Nordiclazepam)		2894-67-9
11431.15	Delorazepam-13C6 (Nordiclazepam-13C6)		N/A
<b>Deschloroetizolam</b>			
10794.17	Deschloroetizolam		40054-73-7
<b>Diazepam</b>			
2541.16	Diazepam		439-14-5
9187.16	Diazepam-d5 (phenyl-d5)		65854-76-4
10799.16	Diazepam-13C6 (7-chlorobenzo-13C6)		1538556-15-8
2542.14	5-Chloro-2-(methylamino)benzophenone		1022-13-5
2703.15	Nordiazepam (Desmethyl diazepam; Nordazepam)		1088-11-5



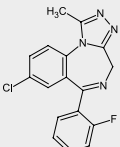
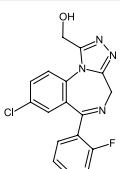
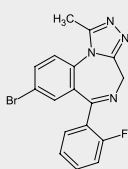
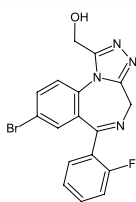
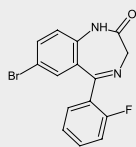
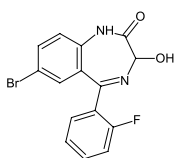
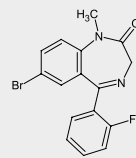
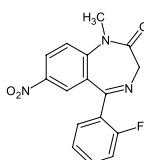
# Benzodiazepines product listing

ISO 17034  
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Chiron No.	Name	Structure	CAS
<b>Diazepam</b>			
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10800.15	Nordiazepam-13C6 (7-chlorobenzo-13C6) (Desmethyldiazepam-13C6)		1538556-10-3
14299.16	4-Chlorodiazepam (Ro 5-4864; Ro5-4864)		14439-61-3
<b>Diclazepam</b>			
10420.16	Diclazepam		2894-68-0
13995.16	Diclazepam-d4 (phenyl-d4)		84344-18-3
<b>Etizolam</b>			
10394.17	Etizolam		40054-69-1
13994.17	Etizolam-d3 (methyl-d3)		1781417-41-1
10837.17	9-Hydroxyetizolam		52170-72-6

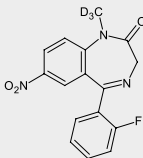
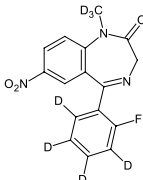
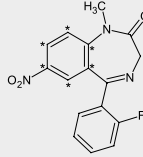
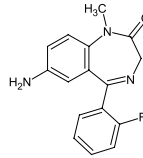
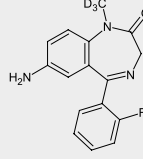
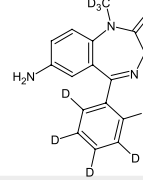
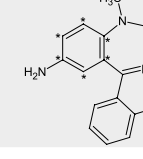
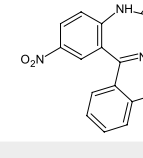
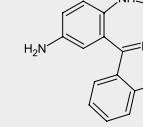
# Benzodiazepines product listing

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Chiron No.	Name	Structure	CAS
<b>Flualprazolam</b>			
13637.17	Flualprazolam		28910-91-0
15326.17	$\alpha$ -Hydroxyflualprazolam		37115-46-1
<b>Flubromazolam</b>			
10838.17	Flubromazolam		612526-40-6
15328.17	$\alpha$ -Hydroxyflubromazolam		N/A
<b>Flubromazepam</b>			
10428.15	Flubromazepam		2647-50-9
10604.15	3-Hydroxyflubromazepam		62659-65-8
<b>Fludiazepam</b>			
15162.16	Fludiazepam (Ro 5-3438)		3900-31-0
<b>Flunitrazepam</b>			
9381.16	Flunitrazepam		1622-62-4

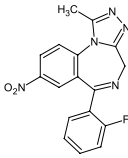
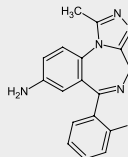
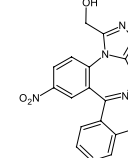
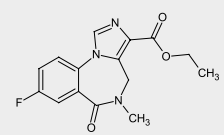
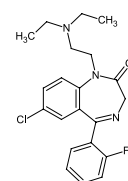
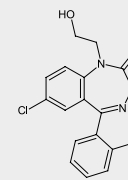
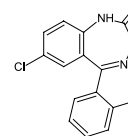
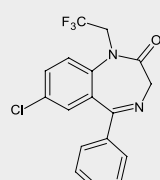
# Benzodiazepines product listing

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Chiron No.	Name	Structure	CAS
<b>Flunitrazepam</b>			
9854.16	Flunitrazepam-d3 (N-methyl-d3)		219533-64-9
9855.16	Flunitrazepam-d7 (N-methyl-d3, fluorophenyl-d4)		1286448-08-5
11363.16	Flunitrazepam-13C6 (7-nitrobenzo-13C6)		1538556-06-7
9380.16	7-Aminoflunitrazepam		34084-50-9
9856.16	7-Aminoflunitrazepam-d3 (N-methyl-d3)		219533-65-0
9857.16	7-Aminoflunitrazepam-d7 (N-methyl-d3, fluorophenyl-d4)		879894-27-6
11364.16	7-Aminoflunitrazepam-13C6 (7-aminobenzo-13C6)		1538556-09-0
12084.15	Desmethylflunitrazepam (Norflunitrazepam; Fonazepam)		2558-30-7
13894.15	7-Aminodesmethylflunitrazepam		894-76-8

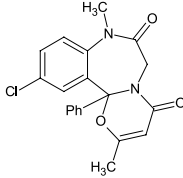
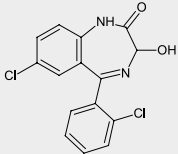
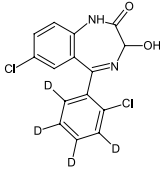
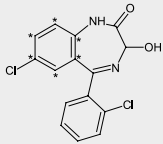
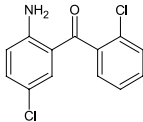
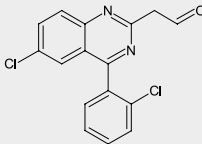
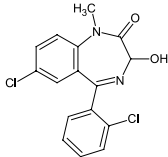
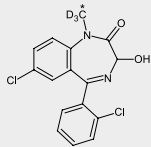
# Benzodiazepines product listing

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Chiron No.	Name	Structure	CAS
<b>Flunitrazolam</b>			
11507.17	Flunitrazolam ( <i>Flunazolam</i> )		2243815-18-9
14182.17	8-Aminoflunitrazolam ( <i>8-Aminoflunazolam</i> )		N/A
15330.17	$\alpha$ -Hydroxyflunitrazolam ( <i><math>\alpha</math>-Hydroxyflunazolam</i> )		N/A
<b>Flumazenil</b>			
12439.15	Flumazenil		78755-81-4
<b>Flurazepam</b>			
11404.21	Flurazepam		17617-23-1
11407.17	2-hydroxyethylflurazepam		20971-53-3
11409.15	Desalkylflurazepam ( <i>Norflurazepam; Norfludiazepam; Ro 5-3367</i> )		2886-65-9
<b>Halazepam</b>			
11961.17	Halazepam		23092-17-3

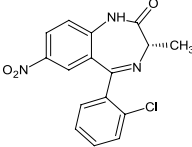
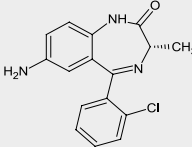
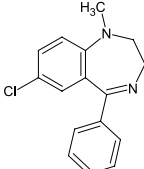
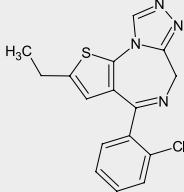
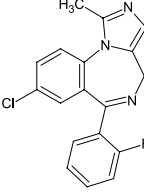
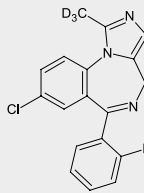
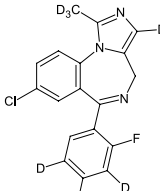
# Benzodiazepines product listing

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Chiron No.	Name	Structure	CAS
<b>Ketazolam</b>			
11244.20	Ketazolam		27223-35-4
<b>Lorazepam</b>			
2548.15	Lorazepam		846-49-1
13765.15	Lorazepam-d4		84344-15-0
11172.15	Lorazepam-13C6 (7-chlorobenzo-13C6)		846-49-1 (unlabelled)
2360.13	2-Amino-2',5-dichlorobenzophenone (Lorazepam Imp. A (EP))		2958-36-3
3804.15	6-Chloro-4-(2-chlorophenyl)-2-quinazoline carboxaldehyde (Lorazepam Imp. C (EP))		93955-15-8
<b>Lormetazepam</b>			
10606.16	Lormetazepam (Methyl lorazepam; INN)		848-75-9
14002.16	Lormetazepam-13C,d3 (Methyl lorazepam-13C,d3)		1285932-00-4

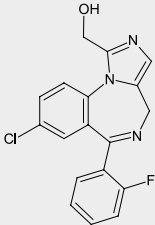
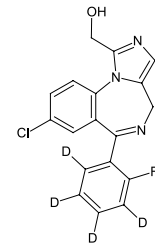
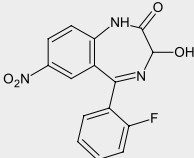
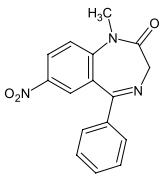
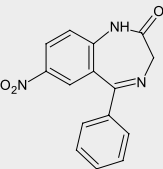
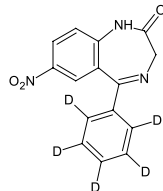
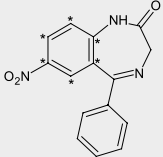
# Benzodiazepines product listing

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Chiron No.	Name	Structure	CAS
<b>Meclonazepam</b>			
10810.16	Meclonazepam (Ro 11-3128)		58662-84-3
14184.16	7-Aminomeclonazepam		1028633-52-4
<b>Medazepam</b>			
11406.16	Medazepam		2898-12-6
<b>Metizolam</b>			
11218.16	Metizolam (Desmethyletizolam)		40054-68-0
<b>Midazolam</b>			
10161.18	Midazolam		59467-70-8
13173.18	Midazolam-d3 (methyl-d3)		N/A
13058.18	Midazolam-d7 (1-methyl-d3-4H-imidazo-3-d1; 2-fluorophenyl-3,4,5-d3)		1219805-42-1

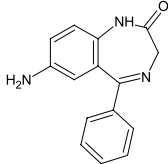
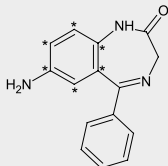
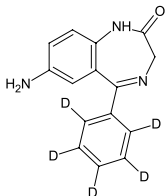
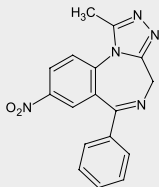
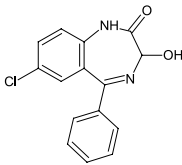
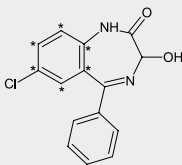
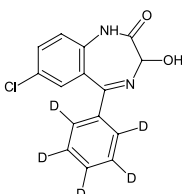
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Chiron No.	Name	Structure	CAS
<b>Midazolam</b>			
10389.18	$\alpha$ -Hydroxymidazolam (1'-Hydroxymidazolam; Ro 21-6347)		59468-90-5
13188.18	$\alpha$ -Hydroxymidazolam-d4 (phenyl-d4)		1781843-10-4
<b>Nifoxipam</b>			
10558.15	Nifoxipam (3-Hydroxydesmethylflunitrazepam)		74723-10-7
<b>Nimetazepam</b>			
3836.16	Nimetazepam		2011-67-8
<b>Nitrazepam</b>			
8605.15	Nitrazepam		146-22-5
10390.15	Nitrazepam-d5 (phenyl-d5)		136765-45-2
10391.15	Nitrazepam-13C6 (7-nitrobenzo-13C6)		146-22-5 (unlabelled)

# Benzodiazepines product listing

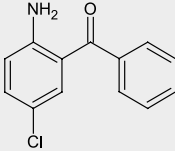
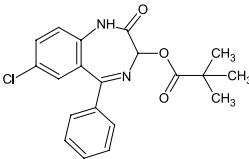
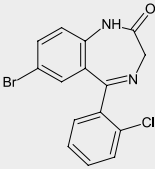
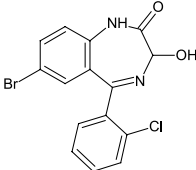
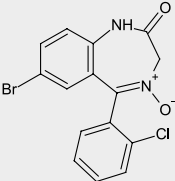
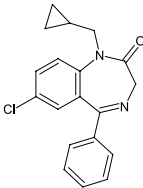
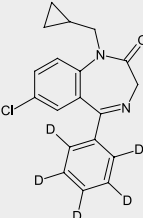
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Chiron No.	Name	Structure	CAS
<b>Nitrazepam</b>			
9387.15	7-Aminonitrazepam (Ro 05-3072)		4928-02-3
10912.15	7-Aminonitrazepam-13C6 (7-aminobenzo-13C6)		4928-02-3 (unlabelled)
9819.15	7-Aminonitrazepam-d5 (phenyl-d5)		1189511-46-3
<b>Nitrazolam</b>			
11506.17	Nitrazolam		28910-99-8
<b>Oxazepam</b>			
2706.15	Oxazepam		604-75-1
11031.15	Oxazepam-13C6 (7-chlorobenzo-13C6)		1538556-21-6
9185.15	Oxazepam-d5 (phenyl-d5)		65854-78-6



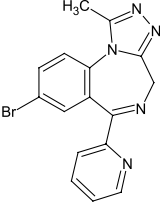
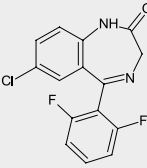
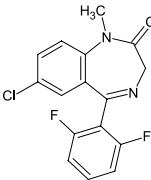
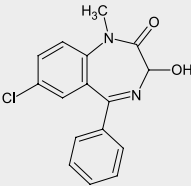
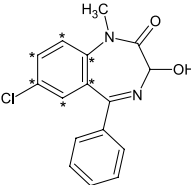
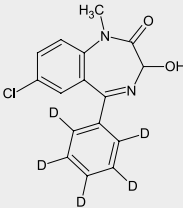
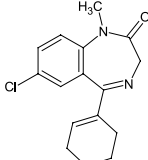
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Chiron No.	Name	Structure	CAS
<b>2-Amino-5-chlorobenzophenone</b>			
2520.13	2-Amino-5-chlorobenzophenone		719-59-5
<b>Pivoxazepam</b>			
11190.2	Pivoxazepam		55299-10-0
<b>Phenazepam</b>			
2211.15	Phenazepam		51753-57-2
8825.15	3-Hydroxyphenazepam		70030-11-4
9947.15	Phenazepam 4-oxide		1177751-52-8
<b>Prazepam</b>			
9465.19	Prazepam		2955-38-6
9183.19	Prazepam-d5 (phenyl-d5)		152477-89-9

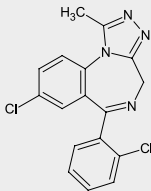
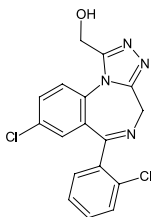
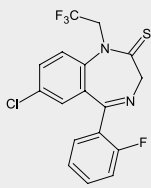
# Benzodiazepines product listing

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Chiron No.	Name	Structure	CAS
<b>Pyrazolam</b>			
10427.16	Pyrazolam		39243-02-2
<b>Ro 07-3953</b>			
12755.15	Ro 07-3953		28910-86-3
<b>Ro 07-4065</b>			
12714.16	Ro 07-4065 ( <i>Diffudiazepam</i> )		39080-76-6
<b>Temazepam</b>			
9383.16	Temazepam ( <i>3-Hydroxydiazepam</i> )		846-50-4
11173.16	Temazepam-13C6 (7-chlorobenzo-13C6) ( <i>3-Hydroxydiazepam-13C6</i> )		1538556-24-9
10717.16	Temazepam-d5 (phenyl-d5) ( <i>3-Hydroxydiazepam-d5</i> )		136765-51-0
<b>Tetrazeepam</b>			
11788.16	Tetrazeepam		10379-14-3

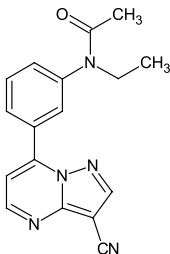
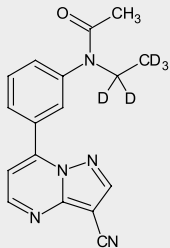
# Benzodiazepines product listing

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Chiron No.	Name	Structure	CAS
<b>Triazolam</b>			
11104.17	Triazolam		28911-01-5
13764.17	$\alpha$ -Hydroxytriazolam		37115-45-0
<b>Quazepam</b>			
11960.17	Quazepam		36735-22-5

## Non-Benzodiazepine Hypnotics (Z-drugs)

Zalplon, zolpidem and zopiclone, collectively known as 'Z-drugs', are a group of non-benzodiazepine hypnotic drugs used in the treatment of insomnia. They bind to the GABA<sub>A</sub> receptors at the same location as benzodiazepines but are believed to have greater benefit and fewer side effects than classical benzodiazepines.

Chiron No.	Name	Structure	CAS
<b>Zaleplon</b>			
10866.17	Zaleplon		151319-34-5
10867.17	Zaleplon-d5 (N-ethyl-d5)		1001083-56-2

# Non-Benzodiazepine Hypnotics (Z-drugs)

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Chiron No.	Name	Structure	CAS
<b>Zolpidem</b>			
9299.19	Zolpidem		82626-48-0
9773.21	Zolpidem hemitartrate		99294-93-6
9300.19	Zolpidem-d6 (N-dimethyl-d6)		959605-90-4
10252.19	Zolpidem-13C6 (tolyl-13C6)		1538556-27-2
10607.19	Zolpidem 6-carboxylic acid		109461-15-6
10608.19	Zolpidem phenyl-4-carboxylic acid		109461-65-6
<b>Zopiclone</b>			
9385.17	(±)-Zopiclone		43200-80-2
10325.17	(±)-Zopiclone-d3 (N-methyl-d3)		1398066-10-8

# Non-Benzodiazepine Hypnotics (Z-drugs)

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Chiron No.	Name	Structure	CAS
<b>Zopiclone</b>			
10271.17	(±)-Zopiclone-d4 (carboxypiperazine-3,3,5,5-d4)		1435933-78-0
9905.17	(±)-Zopiclone-d8 (piperazinyl-d8)		1215518-83-4
11360.17	(±)-Zopiclone-13C4 (piperazinyl-13C4)		43200-80-2 (unlabelled)
10387.17	(±)-Zopiclone-N-oxide (Eszopiclone Imp. A)		43200-96-0
10603.5	2-Amino-5-chloropyridine (ACP)		1072-98-6
11958.5	2-Amino-5-chloropyridine-3,4,6-d3 (ACP-d3)		1093384-99-6
10609.16	(±)-Norzopiclone hydrochloride (N-Desmethylzopiclone HCl)		1216659-29-8

# Benzodiazepines Mixes

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## S-4849-100-AN

### 7-Amino Benzodiazepine Mix: 3 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
9380.16	7-Aminoflunitrazepam	34084-50-9	100 µg/mL each
9303.15	7-Aminoclonazepam	4959-17-5	
9387.15	7-Aminonitrazepam	4928-02-3	

## S-4850-100-ME

### Benzodiazepine Mix 01: 5 components in 1 mL methanol

Chiron No.	Name	CAS	Concentration
9865.17	α-Hydroxyalprazolam	37115-43-8	100 µg/mL each
2541.16	Diazepam	439-14-5	
2703.15	Nordiazepam	1088-11-5	
2706.15	Oxazepam	604-75-1	
9383.16	Temazepam	846-50-4	

## S-4970-100-AN

### Benzodiazepine Mix 02: 15 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
9303.15	7-Aminoclonazepam	4959-17-5	100 µg/mL each
9382.17	Alprazolam	28981-97-7	
10166.14	Bromazepam	1812-30-2	
9831.16	Chlordiazepoxide	58-25-3	
10362.16	Clobazam	22316-47-8	
9301.15	Clonazepam	1622-61-3	
2541.16	Diazepam	439-14-5	
9381.16	Flunitrazepam	1622-62-4	
11404.21	Flurazepam	17617-23-1	
2548.15	Lorazepam	846-49-1	
11406.16	Medazepam	2898-12-6	
10161.18	Midazolam	59467-70-8	
8605.15	Nitrazepam	146-22-5	
2703.15	Nordiazepam	1088-11-5	
2706.15	Oxazepam	604-75-1	

# Benzodiazepines Mixes

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## S-4970A-100-AN

### Benzodiazepine Mix 02A: 18 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
9303.15	7-Aminoclonazepam	4959-17-5	100 µg/mL each
9382.17	Alprazolam	28981-97-7	
10166.14	Bromazepam	1812-30-2	
9831.16	Chlordiazepoxide	58-25-3	
10362.16	Clobazam	22316-47-8	
9301.15	Clonazepam	1622-61-3	
2541.16	Diazepam	439-14-5	
9381.16	Flunitrazepam	1622-62-4	
11404.21	Flurazepam	17617-23-1	
2548.15	Lorazepam	846-49-1	
11406.16	Medazepam	2898-12-6	
10161.18	Midazolam	59467-70-8	
8605.15	Nitrazepam	146-22-5	
2703.15	Nordiazepam	1088-11-5	
2706.15	Oxazepam	604-75-1	
9383.16	Temazepam	846-50-4	
10420.16	Diclazepam	2894-68-0	
9385.17	(±)-Zopiclone	43200-80-2	

## S-4982-ASS-AN

### Benzodiazepine Mix 03: 12 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
9382.17	Alprazolam	28981-97-7	256 µmol/L (79 µg/mL)
11104.17	Triazolam	28911-01-5	256 µmol/L (88 µg/mL)
2548.15	Lorazepam	846-49-1	256 µmol/L (82 µg/mL)
9301.15	Clonazepam	1622-61-3	128 µmol/L (40 µg/mL)
8605.15	Nitrazepam	146-22-5	256 µmol/L (72 µg/mL)
9381.16	Flunitrazepam	1622-62-4	256 µmol/L (80 µg/mL)
2541.16	Diazepam	439-14-5	512 µmol/L (146 µg/mL)
2703.15	Nordazepam	1088-11-5	512 µmol/L (139 µg/mL)
2706.15	Oxazepam	604-75-1	512 µmol/L (147 µg/mL)
10379.25	d-Norpropoxyphene maleate	38910-73-5	512 µmol/L (167 µg/mL)
9299.19	Zolpidem	82626-48-0	256 µmol/L (79 µg/mL)
9385.17	Zopiclone	43200-80-2	256 µmol/L (100 µg/mL)

# Benzodiazepines Mixes

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## S-4733-SET-MXx25(x4)

### Standard set of Benzodiazepines:

8 components in 1 mL 5% methanol in water, 25 sets of 4

Chiron No.	Name	CAS	Concentration
9309.16	Benzoylcegonine	519-09-5	0.4, 2.0, 10, 40 µM
9387.15	7-Aminonitrazepam	4928-02-3	0.1, 0.5, 2.5, 10 µM
9303.15	7-Aminoclonazepam	4959-17-5	0.1, 0.5, 2.5, 10 µM
9380.16	7-Aminoflunitrazepam	34084-50-9	0.1, 0.5, 2.5, 10 µM
9382.17	Alprazolam	28981-97-7	0.1, 0.5, 2.5, 10 µM
2706.15	Oxazepam	604-75-1	0.4, 2.0, 10, 40 µM
9383.16	Temazepam	846-50-4	0.4, 2.0, 10, 40 µM
2703.15	Nordiazepam	1088-11-5	0.4, 2.0, 10, 40 µM

## S-5015-SET-MXx25(x4)

### Standard set of 9 Benzodiazepines (Set II):

9 components in 1 mL 5% methanol in water, 25 sets of 4

Chiron No.	Name	CAS	Concentration
9309.16	Benzoylcegonine	519-09-5	0.4, 2.0, 10, 40 µM
9387.15	7-Aminonitrazepam	4928-02-3	0.1, 0.5, 2.5, 10 µM
9303.15	7-Aminoclonazepam	4959-17-5	0.1, 0.5, 2.5, 10 µM
9380.16	7-Aminoflunitrazepam	34084-50-9	0.1, 0.5, 2.5, 10 µM
9382.17	Alprazolam	28981-97-7	0.1, 0.5, 2.5, 10 µM
2706.15	Oxazepam	604-75-1	0.4, 2.0, 10, 40 µM
9383.16	Temazepam	846-50-4	0.4, 2.0, 10, 40 µM
2703.15	Nordiazepam	1088-11-5	0.4, 2.0, 10, 40 µM
10389.18	α-Hydroxymidazolam	59468-90-5	0.1, 0.5, 2.5, 10 µM

## S-5111-ASS-AN

### Benzodiazepine Mix 09: 10 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
9382.17	Alprazolam	28981-97-7	256 µmol/L (79 µg/mL)
2548.15	Lorazepam	846-49-1	256 µmol/L (82 µg/mL)
9301.15	Clonazepam	1622-61-3	128 µmol/L (40 µg/mL)
8605.15	Nitrazepam	146-22-5	256 µmol/L (72 µg/mL)
9381.16	Flunitrazepam	1622-62-4	256 µmol/L (80 µg/mL)
2541.16	Diazepam	439-14-5	512 µmol/L (146 µg/mL)
2703.15	Nordazepam	1088-11-5	512 µmol/L (139 µg/mL)
2706.15	Oxazepam	604-75-1	512 µmol/L (147 µg/mL)
9299.19	Zolpidem	82626-48-0	256 µmol/L (79 µg/mL)
9385.17	(±)-Zopiclone	43200-80-2	256 µmol/L (100 µg/mL)



# Benzodiazepines Mixes

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## S-5253-100-AN

### Benzodiazepine Mix 10: 9 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
2703.15	Nordiazepam	1088-11-5	100 µg/mL each
2706.15	Oxazepam	604-75-1	
9383.16	Temazepam	846-50-4	
2548.15	Lorazepam	846-49-1	
9303.15	7-Aminoclonazepam	4959-17-5	
9387.15	7-Aminonitrazepam	4928-02-3	
9380.16	7-Aminoflunitrazepam	34084-50-9	
10389.18	α-Hydroxymidazolam	59468-90-5	
9865.17	α-Hydroxyalprazolam	37115-43-8	

## S-5264-K-AN

### Benzodiazepine Mix 11: 3 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
2706.15	Oxazepam	604-75-1	1000 µg/mL each
9383.16	Temazepam	846-50-4	
2703.15	Nordiazepam	1088-11-5	

## S-4840-100-ME

### Designer Benzodiazepine Mix 01: 11 components in 1 mL methanol

Chiron No.	Name	CAS	Concentration
2211.15	Phenazepam	51753-57-2	100 µg/mL each
3836.16	Nimetazepam	2011-67-8	
10394.17	Etizolam	40054-69-1	
10428.15	Flubromazepam	2647-50-9	
10420.16	Diclazepam	2894-68-0	
10427.16	Pyrazolam	39243-02-2	
9682.17	Bentazepam	29462-18-8	
10558.15	Nifoxipam	74723-10-7	
10794.17	Deschloroetizolam	40054-73-7	
10810.16	Meclonazepam	58662-84-3	
10838.17	Flubromazolam	612526-40-6	

# Benzodiazepines Mixes

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## S-5407-K-AN

### Designer Benzodiazepine Mix 02: 11 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
11198.19	Adinazolam	37115-32-5	1000 µg/mL each
14834.17	Bromazolam	71368-80-4	
10880.17	Clonazolam	33887-02-4	
10394.17	Etizolam	40054-69-1	
10794.17	Deschloroetizolam	40054-73-7	
10420.16	Diclazepam	2894-68-0	
13637.17	Flualprazolam	28910-91-0	
10428.15	Flubromazepam	2647-50-9	
10838.17	Flubromazolam	612526-40-6	
11507.17	Flunitrazolam	2243815-18-9	
10810.16	Meclonazepam	58662-84-3	

## S-5408-K-AN

### Designer Benzodiazepine Metabolite Mix 01: 8 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
15329.17	α-Hydroxybromazolam	N/A	1000 µg/mL each
14014.17	8-Aminoclonazolam	71368-66-6	
15326.17	α-Hydroxyflualprazolam	37115-46-1	
15328.17	α-Hydroxyflubromazolam	N/A	
10604.15	3-Hydroxyflubromazepam	62659-65-8	
14182.17	8-Aminoflunitrazolam	N/A	
15330.17	α-Hydroxyflunitrazolam	N/A	
14184.16	7-Aminomeclonazepam	1028633-52-4	

## S-4844-100-AN

### Z-Drug Mix: 3 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
10866.17	Zaleplon	151319-34-5	100 µg/mL each
9299.19	Zolpidem	82626-48-0	
9385.17	(±)-Zopiclone	43200-80-2	

# Benzodiazepines Mixes

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## S-4845-100-AN

Z-Drug ISTD Mix: 3 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
10867.17	Zaleplon-d5 (N-ethyl-d5)	1001083-56-2	100 µg/mL each
9300.19	Zolpidem-d6 (N-dimethyl-d6)	959605-90-4	
9905.17	(±)-Zopiclone-d8 (piperaziny-d8)	1215518-83-4	

## S-4734-SET-ANx25(x4)

Standard set of ZZ6: 3 components in 1 mL acetonitrile, 25 sets of 4

Chiron No.	Name	CAS	Concentration
9385.17	(±)-Zopiclone	43200-80-2	0.1, 0.5, 2.5, 10 µM
9299.19	Zolpidem	82626-48-0	0.1, 0.5, 2.5, 10 µM
10041.19	6-Acetylmorphine	2784-73-8	0.4, 2.0, 10, 40 µM

## S-5263-100-AN

Zopiclone and metabolite mix: 3 components in 1 mL acetonitrile

Chiron No.	Name	CAS	Concentration
9385.17	(±)-Zopiclone	43200-80-2	100 µg base/mL
10609.16	(±)-Norzopiclone hydrochloride	1216659-29-8	
10603.5	2-Amino-5-chloropyridine	1072-98-6	

## Accuracy controls



This product is intended for use as a control material as part of a laboratory's internal quality assurance process. The control is prepared by spiking human serum with benzodiazepines and substances of related groups of active substances.

This is a representative example. Please enquire for current composition and concentrations.

## BZ 17 SE - Benzodiazepines and related substances: 7 components in lyophilized serum, 6 x 3 mL

Compound	Target value	Control range
Flunitrazepam	24 ng/mL	17.3 – 30.7 ng/mL
7-Aminoflunitrazepam	28.4 ng/mL	20.6 – 36.1 ng/mL
Norflunitrazepam	16.9 ng/mL	11.9 – 21.9 ng/mL
Lorazepam	119.3 ng/mL	93.1 – 145.6 ng/mL
Oxazepam	277.3 ng/mL	223.5 – 331.2 ng/mL
Midazolam	100.6 ng/mL	77.9 – 123.4 ng/mL
(±)-Zopiclone	33.1 ng/mL	24.2 – 41.9 ng/mL










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