URINE DRUG TEST INFORMATION SHEET

BENZODIAZEPINES

Classification: Central nervous system depressants (CNS depressants)

Background: Benzodiazepines are a large group of drugs that act as central nervous system depressants. Opiates and alcohol are also CNS depressants, and like their use, benzodiazepines provide the user with an overall calming effect. The marketing of benzodiazepines began in the 1960s, designed for the treatment of seizures, insomnia, anxiety disorders, acute alcoholism withdrawal and convulsions and as muscle relaxants. Benzodiazepines are commonly abused for their sedative properties and widespread availability. In fact, it has been predicted that 1 in 5 current controlled substance prescriptions in the United States is a benzodiazepine.

Legally Obtained With Prescription as:
Nordiazepam, Oxazepam, Diazepam, Lorazepam, Alprazolam, Chlordiazepoxide, Flurazepam, Estazolam, Bromazepam, Nitrazepam, Temazepam, Quazepam, Triazolam, Lormetazepam, Flunitrazepam, Clonazepam and Midazolam

Legally Obtained OTC: None

Metabolism and Detection in Urine: There are three general time-of-effect categories for benzodiazepines:
- Ultra-short acting (Midazolam, Triazolam)
- Short acting (Alprazolam, Lorazepam)
- Long acting (Chlordiazepoxide, Diazepam)

Accordingly, the faster the reaction and effect of the drug, the smaller the detection window for the drug. This means the detection of benzodiazepines can range from hours to weeks, depending on the drug.

Physiological Effects: Decreased libido, erectile dysfunction, hypotension, respiratory suppression, nausea, lack of coordination, impaired driving skills, blurred vision, increased seizures in epileptics

Psychological Effects: Drowsiness, dizziness, decreased alertness and concentration, depression, disinhibition, changes in appetite, confusion, euphoria, nightmares, aggression, violence, impulsivity, irritability, anterograde amnesia, decreased IQ

Toxicity: Benzodiazepines are especially more dangerous when abused with alcohol, opiates and barbiturates because they act on the same receptors in the body and therefore potentiate the effect of the drug. Since many drug abusers combine multiple drugs, this becomes a dangerously risky game that leads to increased sedation, impaired motor coordination, suppressed breathing and other adverse effects that may potentially be lethal. Symptoms of overdose may include: drowsiness, slurred speech, nystagmus, hypotension, ataxia, respiratory depression, coma, cardiorespiratory arrest and death.

Screen Test: Performed by enzyme multiplied immunoassay technique (EMIT)

Confirmation Test: Performed by liquid chromatography mass spectrometry (LC-MS/MS)

Cutoff Levels: Screen Test: 200 or 300 ng/mL Confirmation Test: 200 or 300 ng/mL
### CHLORDIAZEPOXIDE

**Available as:** Librium, Klopoxide, Libritabs, Mesural, Multam, Zetran, Novapan, Risolid, Silibrin, Sonimen, Tropium

**Street Names:** Tranqs, Downers, Nerve Pills

**Prescribed Use:** Management of anxiety disorder or for the short-term relief of symptoms of anxiety, withdrawal symptoms of acute alcoholism, and preoperative anxiety or apprehension

**Mode of Use:** Tablet and liquid form, to be taken orally

**Appearance:** Two-tone capsules of black and teal, or teal and yellow

**Metabolism and Precautions:** Chlordiazepoxide can be habit-forming, and tolerance can be built, necessitating larger subsequent doses for the intended effect. The half-life is 6.6–25 hours and the detection window is 1–4.5 days. This drug metabolizes into nordiazepam and oxazepam.

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### DIAZEPAM

**Available as:** Valium, Valrelease, Diastat, Diastat AcuDial, Diazepam Intensol

**Street Names:** Tranqs, Downers, Nerve Pills, Vals, Vallies, Candy, French Blues, Wiltshire Blues, Ardins

**Prescribed Use:** Management of anxiety disorders, ethanol withdrawal symptoms, skeletal muscle relaxant, status epileptics, muscle spasm associated with tetanus

**Mode of Use:** Tablet, extended-release tablet, and concentrated liquid for oral consumption, rectal gel

**Appearance:** Liquid concentrate comes in a specialized dropper, round white-, light blue- or peach-colored tablet

**Metabolism and Precautions:** Diazepam is habit-forming and prone to build tolerances with excessive use, making the drug less effective. Withdrawal can occur if use is suddenly withheld. Diazepam metabolizes into nordiazepam, temazepam and oxazepam. The half-life is 21–37 hours and the detection window for diazepam is 3–6 days; however, it can be greatly extended due the presence of these multiple metabolites.
### FLURAZEPAM

**Available as:** Dalmane, Flurazepam Hydrochloride, Dalmadorm  
**Street Names:** Tranqs, Downers, Nerve Pills  
**Prescribed Use:** The short-term management of insomnia  
**Mode of Use:** Oral tablets of free base  
**Appearance:** Two-toned light blue and white, yellow and red, orange and white capsules, dark blue capsules, light blue capsules, yellowish tablets  
**Metabolism and Precautions:** Flurazepam can be found in urine almost exclusively as 2-hydroxyethylflurazepam. Flurazepam can be habit-forming and is not intended for large doses and/or for extended periods of time. Sudden withholding of drug can cause withdrawal. Flurazepam has a half-life of 1–3 hours and a detection window of 4–12 hours. The major urine metabolite of flurazepam, 2-hydroxyethylflurazepam, has a detection window of 4–16 days.

### ESTAZOLAM

**Available as:** Prosom, Eurodin  
**Street Names:** Tranqs, Downers, Nerve Pills  
**Prescribed Use:** The short-term management of insomnia  
**Mode of Use:** Oral tablets of free base  
**Appearance:** Oval peach- or white-colored tablet, diamond- or square-shaped peach-colored tablet  
**Metabolism and Precautions:** Estazolam can be habit-forming and is not intended for large doses and/or for extended periods of time. Sudden withholding of drug can cause withdrawal. Estazolam has a half-life of 10–24 hours and a detection window of 1–4 days.

### LORAZEPAM

**Available as:** Ativan, Lorazepam Intensol, Temesta, Loraz  
**Street Names:** Tranqs, Downers, Nerve Pills  
**Prescribed Use:** Management of anxiety disorders or short-term (≤4 months) relief of symptoms of anxiety or anxiety associated with depressive symptoms. IV use: status epileptics, pre-anesthesia for desired amnesia  
**Mode of Use:** Tablets as a free base, solution prepared for oral administration, and parenteral solution; liquid concentrate comes in a specialized dropper  
**Appearance:** White round- or pentagonal-shaped tablet  
**Metabolism and Precautions:** Lorazepam can be habit-forming and is not intended for large doses and/or for extended periods of time (≤4 months). Sudden withholding of drug can cause withdrawal. Lorazepam has a half-life of 9–16 hours and a detection window of 1.5–2.5 days.

### MIDAZOLAM

**Available as:** Versed, Midazolam Hydrochloride, Hypnovel, Midacum, Dormicum  
**Street Name:** Dazzle  
**Prescribed Use:** Preoperative sedation and conscious sedation prior to diagnostic or radiographic procedures, ICU sedation (continuous IV infusion), intravenous anesthesia induction and maintenance  
**Mode of Use:** Hydrochloride salt as injectable solution and oral syrup. Midazolam is often administered to children as premedication for minor surgical procedures by intravenous, oral, intranasal and rectal administration.  
**Appearance:** Clear solution  
**Metabolism and Precautions:** Midazolam may cause serious life-threatening breathing problems such as shallow, slowed or temporarily stopped breathing. Personnel and equipment needed for standard respiratory resuscitation should be immediately available during midazolam administration. Midazolam has a half-life of 1–4 hours and a detection window of 0.5–2 days.
### TEMAZEPAM

**Available as:** Methyloxazepam, Normison, Restoril

**Street Names:** Tranqs, Downers, Nerve Pills, Rugby Balls, Eggs

**Prescribed Use:** Short-term treatment of insomnia

**Mode of Use:** Oral tablet

**Appearance:** Liquid in yellowish gel caps; two-toned capsules found in white and green, blue and red, pink and peach; all yellow, all white

**Metabolism and Precautions:** Temazepam is found as a metabolite of medazepam (Nobrium) and diazepam. Metabolites of temazepam include oxazepam. Sudden withholding of drug can cause withdrawal. Temazepam has a half-life of 3–13 hours and a detection window of 1–4 days, which can be prolonged with identification of the oxazepam metabolite.

### TRIAZOLAM

**Available as:** Halcion, Apo-triazol, Hypam, Trilam

**Street Names:** Tranqs, Downers, Nerve Pills

**Prescribed Use:** Short-term treatment of insomnia

**Mode of Use:** Oral tablet

**Appearance:** Oval white tablet

**Metabolism and Precautions:** Triazolam should only be taken for short periods of time (usually 7–10 days) and should not be taken for more than 2–3 weeks. Triazolam in high doses for extended periods of time can be addictive and build up high tolerances. Sudden withholding of drug can cause withdrawal. Triazolam’s main metabolite in urine is α-hydroxytriazolam.

Triazolam has a half life of 1.8–3.9 hours and a detection window of 7–15 hours.