

# CUTOFF AND TOXICITY LEVELS FOR DRUGS-OF-ABUSE AND TOXICOLOGY TESTING

This table summarizes information for the interpretation of drugs-of-abuse toxicology assays; originally developed by the late Daniel M. Baer, MD, and updated by Richard A. Paulson, MT(ASCP), supervisor of Chemistry and Toxicology, VA Medical Center, Portland, OR. The table was updated and reviewed this year by Allison B. Chambliss, PhD, DABCC, FAACC, Director of Clinical Chemistry and Point of Care Testing, LAC and USC Medical Center, Assistant Professor of Clinical Pathology, Keck School of Medicine of USC (University of Southern California).

	Drug (and example trade names)	Common street names	Typical duration in urine after last dose	Common positive cutoff concentrations for urine screening assay*	Toxic blood level	Blood reference/therapeutic range
OPIATES	Heroin (Diacetylmorphine)	Horse, Smack, Junk, Brown Sugar, China White, H, Skag, White Horse, Skunk	1-2 days	2000 ng/mL (as morphine) 150 ng/mL (for 6-monoacetylmorphine)	>200 ng/mL	None detected
	Morphine (Duramorph)	M, White stuff, Miss Emma, Monkey	2 days	2000 ng/mL 300 ng/mL	>200 ng/mL	10-80 ng/mL
	Methadone (Dolophine)	Fizzies with MDMA Chocolate Chip Cookies, Amidone	3 days	300 ng/mL 200 ng/mL 150 ng/mL	>2000 ng/mL	For narcotic stabilization: 300-1000 ng/mL For pain: 100-400 ng/mL
	Meperidine (Demerol, Pethidine)	Demmies, Pain Killer	2-3 days	200 ng/mL	>1000 ng/mL	70-500 ng/mL
	Codeine (Analgesics with codeine)	School boy, Captain Cody, Cody, Lean, Sizzurp,	2 days	2000 ng/mL 300 ng/mL	>1000 ng/mL	10-100 ng/mL
	Tramadol <sup>1</sup> (Ultram, Tramal Ultracet)	Ultra T	6 hours to 2 days	200 ng/mL	>1000 ng/mL	100-800 ng/mL, variable by patient and dosing regimen
	Oxycodone (Oxycontin, OxyIR, Percocet, Percodan)	Oxy, Oxycotton, O.C., Oxycet, Hillbilly Heroin, Percs	1-3 days	100 ng/mL 300 ng/mL	>200 ng/mL	10-100 ng/mL
	Hydrocodone (Lorcet, Vicodin, Lortab, Hycodan)	Vikes, Watson-387	1-2 days	300 ng/mL 100 ng/mL 50 ng/mL	>100 ng/mL	10-40 ng/mL
	Hydromorphone (Dilaudid)	Juice, Smack, D, Footballs, Dillies	1-2 days	2000 ng/mL 300 ng/mL	>100 ng/mL	10-30 ng/mL
	Fentanyl <sup>2</sup> (Sublimaze, Duragesic, Actiq, Fentora)	Apache, China girl, China white, Dance fever, Friend, Goodfella, Jackpot, Murder 8, TNT, Tango and Cash	1-2 days	1 ng/mL 2 ng/mL	>3 ng/mL (naïve patients)	0.6-3.0 ng/mL (highly variable; depends on dose and route of administration)
HALLUCINOGENS	Lysergic acid diethylamide (LSD)	Acid, Blotter, Boomers, Cid, Golden Dragon, Looney Tunes, Lucy Mae, Microdots, Tabs, Yellow Sunshine	1-5 days	0.5 ng/mL 100 pg/mL	>2 ng/mL	None detected
	Marijuana and cannabinoids	Weed, Mary Jane, Ganja, Sensemilla, Blunt, Bud, Doobie, Dope, Grass, Pot, Green, Herb, Joint, Smoke, Stinkweed, Trees	Single use: 2-7 days (as Δ <sup>9</sup> -THC-COOH) Prolonged use: 1-2 months (as Δ <sup>9</sup> -THC-COOH)	15-100 ng/mL	50-200 ng/mL	None detected
	Phencyclidine	PCP, Angel dust, Hog, Embalming Fluid, Rocket Fuel, Sherms	Single use: 1 week Prolonged use: 2-4 weeks	25 ng/mL	>100 ng/mL	None detected
STIMULANTS	Cocaine	Coke, Crack, Flake, Snow	Single use: 1-3 days Prolonged use: 4 days	300 ng/mL 150 ng/mL (as metabolite benzoylecgonine)	>1000 ng/mL	None detected
	Amphetamine (Benzedrine, Dexedrine)	Speed, Bennies, Uppers, Dexies	Single use: 48 hours Prolonged use: 7-10 days	500 ng/mL 1000 ng/mL	>200 ng/mL	20-30 ng/mL
	Methylene-3,4-dioxy-Methamphetamine (MDMA)	Ecstasy, Adam, XTC, Love drug, Hug drug	Single use: 24 hours	300 ng/mL 500 ng/mL 1000 ng/mL	100-1000 ng/mL	20-30 ng/mL
	Methamphetamine (Desoxyn, Methedrine)	Speed, Meth, Crystal ice, Crank	Single use: 48 hours Prolonged use: 7-10 days	500 ng/mL 1000 ng/mL	>500 ng/mL	10-50 ng/mL

\*Based on common screening assays currently in use and CAP Proficiency Testing reporting (2020) unless otherwise indicated. Confirmation results by Gas Chromatography-Mass Spectrometry (GC-MS) or Liquid Chromatography-Mass Spectrometry/Mass Spectrometry (LC-MS/MS) vary by laboratory.

	Drug (and example trade names)	Common street names	Typical duration in urine after last dose	Common positive cutoff concentrations for urine screening assay*	Toxic blood level	Blood reference (therapeutic range)
BARBITURATES	Pentobarbital (Nembutal)	Barbs, Dolls, Phennies, Red/BlueBirds, Tooties, Yellows Yellow jackets,	2 days	300 ng/mL 200 ng/mL	>10 µg/mL	1-5 µg/mL
	Secobarbital (Seconal)	barbs, phennies, reds, red birds, yellow, yellow jacketsReds	2 days	300 ng/mL 200 ng/mL	>5 µg/mL	1-2 µg/mL
	Butobarbital (Butisol)	Goof balls, Candy, Peanuts, Stoppers	2 days	300 ng/mL 200 ng/mL	>25 µg/mL	3-25 µg/mL
	Butalbital (Fiorinal)	Goof balls, Sleepers, Stoppers, Peanuts	2 days	300 ng/mL 200 ng/mL	>20 µg/mL	5-15 µg/mL
	Phenobarbital	Barbs, phennies, reds, red birds, yellows, yellow jackets	1-3 weeks	300 ng/mL 200 ng/mL	>40 µg/mL	10-40 µg/ml
ALCOHOLS, DIOLS, & METABOLITES	Ethanol	Booze, Hooch	<1 day	10 mg/dL	80-400 mg/dL	100-150 mg/dL (for treatment of toxic alcohols)
	Methanol	Wood alcohol	<1 day	5 mg/dL (GC)	>20 mg/dL	<0.15 mg/dL
	Isopropanol	Rubbing alcohol	<1 day	5 mg/dL (GC)	>50 mg/dL	None detected
	Acetone		<1 day	5 mg/dL (GC)	>33 mg/dL	<1.0 mg/dL
	Ethylene Glycol	Antifreeze	<1 day	5 mg/dL (GC)	>50 mg/dL	None detected
SEDATIVES/HYPNOTICS/ANESTHETICS	Diazepam (Valium)	Tranks, Downers, Poles, Totem Z-bars, Zannies, Vs, Yellow/Blue Zs	Single use: Not detected Prolonged use: 5-7 days (up to 30 days)	300 ng/mL 200 ng/mL 150 ng/mL	Drug plus Metabolite: >5.0 µg/mL	Drug plus Metabolite: 0.1-1.0 µg/mL
	Oxazepam (Serax)	Tranks, Downers, Blues, Yellows,	Single use: Not detected Prolonged use: 5-7 days	300 ng/mL 200 ng/mL 150 ng/mL	>2.0 µg/mL	0.2-1.4 µg/mL
	Alprazolam (Xanax)	Tranks, Downers, Benzos, Poles, Totem Z-bars, Vs, Zannies, Yellow/Blue Zs.	Single use: Not detected Prolonged use: 5-7 days	300 ng/mL 200 ng/mL 150 ng/mL	>350 ng/mL	20-30 ng/mL
	Clonazepam (Klonopin)	Tranks, Downers, Blues, Yellows, bars, benzos, chill pills,	Single use: Not detected Prolonged use: 5-14 days	300 ng/mL 200 ng/mL 150 ng/mL	>80 ng/mL	20-70 ng/mL
	Chlordiazepoxide (Librium)	Tranks, Downers, Benzos, Poles, Totem Z-Bars, Vs, Yellow/Blue Zs, Zannies.	Single use: Not detected Prolonged use: 5-7 days	300 ng/mL 200 ng/mL 150 ng/mL	>5 µg/mL	0.7-1.0 µg/mL
	Lorazepam (Ativan, Loraz)	Tranks, Downers, Benzos, Poles, Totem Z-bars, Yellow/Blue Zs, Zannies, Vs	Single use: Not detected Prolonged use: 5-7 days	300-600 ng/mL	0.3-0.6ng/mL	50-240 ng/mL
	Flunitrazepam (Rohypnol)	Roofies, Rib, Rope, Date Rape Drug, Mexican Valium,Mind Eraser, Roaches, Roopies, Rophies	72 hours	2 ng/mL	>50 ng/mL	5-15 ng/mL
	Gamma-Hydroxybutyrate (Somatomax)	GHB, G-Caps Geebers, Fantasy, Liquid Ecstasy	12 hours	1-10 mg/L (GC; GC-MS)	>250 mg/L	48-125 mg/L (for narcolepsy)
	Ketamine Hydrochloride (Ketajet)	Special K, Lady Kay, Vitamin K, Cat Valium	<72 hours	5-10 ng/mL (GC-MS)	>7-27 µg/mL (highly variable)	0.5-5.0 µg/mL

#### REFERENCES

1. Morbidity and Mortality Weekly Report (MMWR). Centers for Disease Control and Prevention. <https://www.cdc.gov/mmwr/index.html>. Published June 15, 2021. Accessed June 28, 2022.
2. TIAFT Guidelines. TIAFT. <http://www.tiaft.org/tiaft-guidelines.html?setlang=en>. Accessed June 28, 2022.