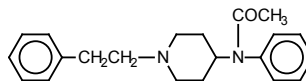


Acetylfentanyl

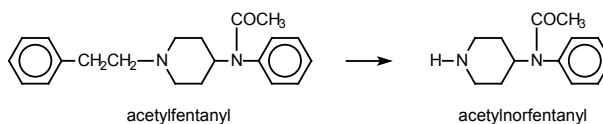
$t_{1/2}$: ?
Vd: ?
Fb: ?
pKa: 8.4 (base)
b/p: ?
CAS: 3258-84-2
MW: 322.44 (C₂₁H₂₆N₂O)



Occurrence and Usage. Acetylfentanyl (phenylethyl-4-piperidyl-N-phenylacetamide) is a synthetic fentanyl analogue that has been encountered as an illicit narcotic analgesic since 2013. It is usually supplied as the hydrochloride salt in powders or tablets for oral administration, nasal insufflation or intravenous injection. Doses of 300–3000 µg are said to produce effects lasting 2–6 hours.

Blood Concentrations. Blood or plasma levels of acetylfentanyl in recreational users of the drug have not been reported.

Metabolism and Excretion. The fate of acetylfentanyl in mammals has not been fully evaluated. Incubation in a human liver microsomal preparation resulted in the formation of acetylnorfentanyl. Rats given a single intravenous 3 mg/kg injection developed peak urinary concentrations at 3 hours of 17 mg/L for both the parent drug and acetylnorfentanyl (Patton et al., 2014).



Toxicity. Excessive doses of acetylfentanyl may cause drowsiness, respiratory depression, hypotension, seizures and coma.

At least 40 deaths involving acetylfentanyl were reported in the U.S. during 2013 (MMWR, 2013; Stogner, 2014). Twenty-two adults who died due to acute overdosage with the drug had postmortem peripheral blood and urine acetylfentanyl levels of 89–945 and 41–9825 µg/L, respectively (Winecker, 2014; Cunningham et al., 2015; Finkelstein et al., 2015; McIntyre et al., 2015; Zhang et al., 2015).

Analysis. Acetylfentanyl and acetylnorfentanyl have been quantitated in biofluids by liquid chromatography-mass spectrometry (Patton et al., 2014).

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