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CID 1030

Propylene glycol

Biological Half-Life



Intravenous administration of propylene glycol in amounts of 3-15 g/sq m is followed by plasma concentration of 60 to 425 ug/mL, respectively, with a half-life of 1.8 to 3.3 hours ...

Ellenhorn, M.J., S. Schonwald, G. Ordog, J. Wasserberger. *Ellenhorn's Medical Toxicology: Diagnosis and Treatment of Human Poisoning*. 2nd ed. Baltimore, MD: Williams and Wilkins, 1997., p. 1156

► [Hazardous Substances Data Bank \(HSDB\)](#)

/Infant, premature/ Oral: Mean half-life in premature infants was 19.3 hours (range 108-30.5).

IPCS; *Poisons Information Monograph 443: Propylene glycol* (May 1994). Available from, as of January 4, 2009: <http://www.inchem.org/documents/pims/chemical/pim443.htm>

► [Hazardous Substances Data Bank \(HSDB\)](#)

/Infant/ Dermal: 16.9 hours in an 8-month-old infant.

IPCS; *Poisons Information Monograph 443: Propylene glycol* (May 1994). Available from, as of January 4, 2009: <http://www.inchem.org/documents/pims/chemical/pim443.htm>

► [Hazardous Substances Data Bank \(HSDB\)](#)

Parenteral: 2.4 - 5.2 hr, 1.4 - 3.3 hr (mean 2.3 +/- 0.7 hr).

IPCS; *Poisons Information Monograph 443: Propylene glycol* (May 1994). Available from, as of January 4, 2009: <http://www.inchem.org/documents/pims/chemical/pim443.htm>

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In one study, 16 adults received a 20.7 g/dose 3 times daily for a minimum of 3 days. In another study, 6 individuals received a 41.4 g/dose twice daily for a period of 3 days. These oral doses were given in conjunction with 100 mg [phenytoin](#) in 7.25 mL of alcohol USP, 6 uL of Peach Flavor, 5 mL of [glycerin](#) USP, and 8 mL of 70% (w/w) [fructose](#). Propylene glycol was rapidly absorbed from the gastrointestinal tract with maximum plasma concentrations obtained within 1 hour of dosing. The average serum half-life of propylene glycol for the study with 16 and 6 individuals was determined ... to be 3.8 and 4.1 hours, respectively.

DHHS/NTP-CERHR; *NTP-CERHR Monograph on the Potential Human Reproductive and Developmental Effects of Propylene Glycol* (March 2004) NIH Pub No. 04-4482 p.II-11 . Available from, as of January 11, 2010: http://cerhr.niehs.nih.gov/evals/egpg/propylene/PG_Monograph.pdf

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/Infant/ ... A good correlation between osmolality gap and serum propylene glycol concentrations /was reported/ in ten infants. The half-life was reported as 19.3 hours (range 10.8-30.5 hours), which is about 10 times longer than in adults.

DHHS/NTP-CERHR; *NTP-CERHR Monograph on the Potential Human Reproductive and Developmental Effects of Propylene Glycol* (March 2004) NIH Pub No. 04-4482 p.II-28 . Available from, as of January 11, 2010: http://cerhr.niehs.nih.gov/evals/egpg/propylene/PG_Monograph.pdf

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/Child/ After /rectal/ administration of 8.64 g propylene glycol to 10 adults and 173 mg/kg bw to 4 children, peak concentrations (C_{max}) of 199 mg/L and 171 mg/L respectively were reached (t_{max}) after 1.5 hr and 1.0 hr. The average terminal half-lives (t_{1/2}) in adults and children were respectively 2.8 hr and 2.6 hr ...

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Kolloffel WJ et al; *Pharm World Sci* 18 (3): 109-13 (1996).

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