

SODIUM VALPROATE

SYNONYMS	Divalproex sodium, valproate sodium, valproic acid
BRAND NAME	EPILIM IV, SODIUM VALPROATE JUNO, WOCKHARDT
DRUG CLASS	Antiepileptic
AVAILABILITY	Epilim vial contains 400 mg of sodium valproate. Diluent ampoule contains 4 mL of water for injections. ¹ Juno vial contains 400 mg/4 mL of sodium valproate. ¹ Wockhardt vial contains 400 mg/4 mL or 1 g/10 mL of sodium valproate. Also contains sodium phosphate, phosphoric acid and sodium hydroxide. ¹ The solution is clear and colourless. ¹
pH	Juno: 7–9 ¹
PREPARATION	Epilim only: reconstitute the vial with 4 mL of water for injections to make a concentration of 95 mg/mL. ¹
STABILITY	Vial: store below 25 °C (30 °C for Epilim and Juno). ¹ Epilim reconstituted solution: stable for 24 hours at 2 to 8 °C. ¹ Infusion solution: stable for 24 hours below 25 °C ² , store at 2 to 8 °C. ¹
ADMINISTRATION	
IM injection	Contraindicated. May cause tissue necrosis. ¹
SUBCUT injection	Not recommended
IV injection	For doses up to 10 mg/kg (maximum 800 mg), inject undiluted over 3 to 5 minutes. ¹ In status epilepticus, doses up to 30 mg/kg have been given undiluted at a rate of up to 10 mg/kg/minute. ^{3,4} See SPECIAL NOTES
IV infusion	Dilute the dose in at least 50 mL of a compatible fluid and infuse over 60 minutes or at a maximum rate of 20 mg/minute. ^{1,2} May be given as a continuous infusion at a rate of 1–2 mg/kg/hour. ¹ In status epilepticus, add the dose to 50–100 mL of a compatible fluid (approximate concentration of 33.33 mg/mL) and infuse over 10 minutes. ⁵
IV use for infants and children	Dilute the dose to 50 mg/mL or less and inject over 3 to 5 minutes, or dilute the dose to 8 mg/mL or less and infuse over 60 minutes. ^{1,6} For continuous infusion, dilute to a concentration of 2–8 mg/mL and infuse at a rate of 1–6 mg/kg/hour. ^{1,6} In status epilepticus, dilute the dose to a maximum concentration of 33.33 mg/mL with a compatible fluid and infuse over 10 minutes. ⁵ There is an increased risk of hepatotoxicity in children less than 3 years old. ¹
COMPATIBILITY	
Fluids	Glucose 5% ¹ see SPECIAL NOTES, glucose in sodium chloride solutions ¹ , Hartmann's ² , sodium chloride 0.9% ¹
Y-site	Cefepime ² , ceftazidime ² , insulin (Novorapid) ⁷
INCOMPATIBILITY	
Fluids	No information
Drugs	Vancomycin ⁸
SPECIAL NOTES	Dizziness may occur a few minutes after injection but will resolve within a few minutes. ¹ Rapid administration into a peripheral line commonly causes pain and irritation. ^{3,4,9} For patients at risk of cerebral oedema, avoid glucose solutions if possible. Excessive glucose can exacerbate cerebral oedema and may worsen brain injury. ¹⁰

REFERENCES

1. Product information. Available from www.tga.gov.au. Accessed 11/10/2022.
2. ASHP Injectable drug information 2021. Bethesda, MD: American Society of Health-System Pharmacists; 2021.
3. Wheless JW, Vazquez BR, Kanner AM, Ramsay RE, Morton L, Pellock JM. Rapid infusion with valproate sodium is well tolerated in patients with epilepsy. *Neurology* 2004; 63: 1507–8.
4. Lindi NA, Knowlton RK, Cofield SS, ver Hoef LW, Paige AL, Dutta S, et al. Safety of rapid intravenous loading of valproate. *Epilepsia* 2007; 48: 478–83.
5. Chamberlain JM, Kapur J, Shinnar S, Elm J, Holsti M, Babcock, L, et al. Efficacy of levetiracetam, fosphenytoin, and valproate for established status epilepticus by age group (ESETT): a double-blind responsive-adaptive, randomised controlled trial. *Lancet* 2020; 395: 1217–24.
6. Phelps S, Hagemann TM, Lee KR, Thompson AJ. Pediatric injectable drugs. 11th ed. Bethesda, MD: Am Soc of Health-System Pharmacists; 2018.
7. Voiron P, Berger-Gryllaki M, Pannatier A, Eggimann P, Sadeghipour F. Visual compatibility of insulin aspart with intravenous drugs frequently used in ICU. *Eur J Hosp Pharm* 2015; 22: 123–4.
8. Valproate sodium. In: IV index. Trissel's 2 clinical pharmacology database (parenteral compatibility). Greenwood Village, CO: IBM Watson Health. Accessed 13/10/2022.
9. Le A, Patel S. Extravasation of noncytotoxic drugs: a review of the literature. *Ann Pharmacother* 2014; 48: 870–86.
10. Tommasino C, Picozzi V. Volume and electrolyte management. *Best Pract Res Clin Anaesthesiol* 2007; 21: 497–516.