

CALCIUM GLUCONATE

BRAND NAME	CALCIUM GLUCONATE INJECTION
DRUG CLASS	Electrolyte
AVAILABILITY	Vial contains 931 mg/10 mL of calcium gluconate monohydrate and 46 mg/10 mL of calcium saccharate. The solution is slightly thick, clear and colourless. Each 1 mL contains 8.9 mg equivalent to 0.22 mmol (0.44 mEq) of calcium. ¹ Each 10 mL vial contains 89 mg equivalent to 2.2 mmol (4.4 mEq) of calcium. ¹ Calcium gluconate injection was formerly known as calcium gluconate 10%.
WARNINGS	This is a high-risk medicine and is rapidly fatal in overdose. If given too fast it may cause hot flushes, chalky taste, peripheral vasodilation, hypotension, bradycardia, cardiac arrhythmias, syncope and cardiac arrest. ¹ Highly irritant. Extravasation can cause tissue necrosis. ¹ Monitor the injection site closely. Do not confuse with calcium chloride. Check product selection carefully.
pH	6–8.2 ²
PREPARATION	The solution is supersaturated and prone to precipitation. Check the vial and discard if it is cloudy or contains particles. ¹
STABILITY	Vial: store below 30 °C. Do not refrigerate. Infusion solution: complete the infusion within 24 hours. ¹
ADMINISTRATION	
IM injection	Contraindicated ¹
SUBCUT injection	Contraindicated ¹
IV injection	Inject undiluted slowly over 3 to 10 minutes into a central venous access device or large peripheral vein. ¹ May be given at a faster rate in cardiac arrest. ³
IV infusion	Dilute the dose in at least 100 mL of a compatible fluid and infuse into a central venous access device or large peripheral vein. May be given over 15 minutes to 1 hour or as a continuous infusion. ¹
IV use for infants and children	Infuse into a central venous access device or large peripheral vein. ¹ Dilute the dose to 50 mg/mL and infuse over 10 to 60 minutes. ⁴ In emergency situations inject undiluted over 2 to 5 minutes. ⁴
COMPATIBILITY	
Fluids	Glucose 5% ¹ , glucose 5% in sodium chloride 0.9% ¹ , Hartmann's ¹ , Plasma-Lyte-148 via Y-site ⁵ , sodium chloride 0.9% ¹
Y-site	At 20 mg/mL of calcium gluconate: ceftolozane-tazobactam ² , isavuconazole ² At 40 mg/mL of calcium gluconate: amifostine ² , bivalirudin ² , ceftaroline fosamil ² , cisatracurium ² , dexmedetomidine ² , filgrastim ² , granisetron ² , labetalol ² , linezolid ² , micafungin ² , piperacillin-tazobactam (EDTA-free) ² , remifentanyl ² At 50 mg/mL of calcium gluconate ⁶ : amikacin ⁶ , atracurium ⁶ , azathioprine ⁶ , aztreonam ⁶ , buprenorphine ⁶ , calcium chloride ⁶ , cefazolin ⁶ , cefotaxime ⁶ , cefoxitin ⁶ , ceftazidime ⁶ , ciclosporin ⁶ , digoxin ⁶ , dopamine ⁶ , ephedrine sulfate ⁶ , erythromycin ⁶ , esmolol ⁶ , fentanyl ⁶ , furosemide ⁶ , gentamicin ⁶ , glyceryl trinitrate ⁶ , labetalol ⁶ , lidocaine ⁶ , milrinone ² , nicardipine ² , noradrenaline (norepinephrine) ⁶ , phenylephrine ⁶ , ranitidine ⁶ , sodium nitroprusside ⁶ , suxamethonium ⁶ , tobramycin ⁶ , vancomycin ⁶ , verapamil ⁶ At 100 mg/mL of calcium gluconate: heparin sodium ^{2,6} , midazolam ^{2,6} , potassium chloride ^{2,6}

INCOMPATIBILITY

Fluids Fat emulsion¹, seek advice from TPN service for compatibility with TPN solutions.

Drugs Cefalotin¹, ceftriaxone², clindamycin¹, dexamethasone^{1,7}, flucloxacillin¹, fluconazole², fosaprepitant¹, foscarnet^{1,7}, indometacin^{1,7}, methylprednisolone sodium succinate^{1,7}, metoclopramide¹, mycophenolate mofetil⁷, potassium phosphates¹, sodium bicarbonate², sodium phosphates^{1,2}, thiopental sodium⁷

Do not mix with any medicine that contains phosphates, carbonates or sulfates.¹

Consult the pharmacist, pharmacy department or medicines information service for advice. Deaths have occurred from calcium phosphate precipitation.

SPECIAL NOTES Continuous cardiac monitoring is required when treating severe hyperkalaemia.¹

REFERENCES

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4. Phelps S, Hagemann TM, Lee KR, Thompson AJ. Pediatric injectable drugs. 11th ed. Bethesda, MD: Am Soc Health-System Pharmacists; 2018.
5. OneCall Medical Information Service. Y-Site compatibility of intravenous drugs with Plasmalyte 148. Toongabbie, NSW: Baxter; 2015.
6. Trissel LA, Leissing NC. Trissel's Tables of physical compatibility. Lake Forest IL: Multimatrix; 1996.
7. Calcium gluconate. In: IV index [internet]. Trissel's 2 clinical pharmaceuticals database (parenteral compatibility). Greenwood Village, CO: Truven Health Analytics. Accessed 07/06/2019.