

Sodium Bicarbonate

FORM 4.2% solution for injection
1ml contains 0.5mmol bicarbonate

INDICATION 1. For resuscitation.
2. For correction of metabolic acidosis.
USE 4.2% INJECTION

DOSE RANGE

1. DOSE for emergency resuscitation

AGE	DOSE	FREQUENCY	ROUTE
Birth to 6months	2ml /kg of 4.2% injection.	single dose, may be repeated	IV slowly or UVC

2. DOSE for correction of metabolic acidosis (Base deficit)

Step 1 - calculate the infant's bicarbonate deficit

$0.3 \times \text{BASE DEFICIT (mmol/L)} \times \text{BODY WEIGHT (kg)} = \text{Full correction (mmol bicarbonate)}$

It is usual practice to initially give **half** of this deficit over 1 to 2 hours **then** to reassess base deficit to determine if full correction is needed.

Step 2 - calculate the volume to administer

Sodium bicarbonate 4.2% contains 0.5mmol bicarbonate in each 1ml.

Therefore, give **2ml of 4.2% solution per mmol correction required.**

RECONSTITUTION Already in solution
DILUTION Not required

METHOD OF ADMINISTRATION For correction of base deficit, give initial half of the deficit over 1-2 hours Check glucose, pH and base deficit before administering remaining half of deficit. Sodium Bicarbonate 4.2% injection may be administered undiluted in neonates, but osmolarity is high.

N.B. Sodium bicarbonate is **not** compatible with TPN Solutions, use a separate line and flush well before and after the infusion.

COMPATIBILITY

Solution compatibility	Sodium chloride 0.45%, Sodium chloride 0.9%, Glucose 5%, Glucose 10%
Solution incompatibility	
IV Line compatibility	Fluconazole, furosemide, Heparin, Insulin, metronidazole, milrinone , Potassium Chloride, sodium nitroprusside, vancomycin Compatible in Glucose 5% only: aciclovir, aminophylline
IV Line incompatibility	adrenaline, atracurium, calcium gluconate, dobutamine, dopamine, gentamicin, isoprenaline, midazolam, morphine, noradrenaline. PN, Lipid

West of Scotland NEONATAL Parenteral Drug Monographs

THIS LIST IS NOT EXHAUSTIVE PLEASE CONTACT PHARMACY FOR FURTHER INFORMATION
ON COMPATIBILITY WITH ANY MEDICINES NOT INCLUDED

CAUTIONS, CONTRA-INDICATIONS AND SIDE EFFECTS

- See Summary of Product Characteristics and most recent edition of BNF for Children (links below)

FURTHER INFORMATION

- Avoid extravasation. The use of scalp veins should be avoided where possible
- Hypochloraemic alkalosis may occur if sodium bicarbonate is used in conjunction with potassium depleting diuretics such as furosemide. Concurrent use in patients taking potassium supplements may reduce serum potassium concentration by promoting an intracellular ion shift

PH 7-8.5

SODIUM CONTENT 4.2% injection contains 0.5mmol/ml

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LINKS [BNF for Children:](#) / [Electronic Medicines Compendium](#)

APPLICABLE POLICIES [West of Scotland Neonatal Guidelines:](#)

Consult local policy if applicable

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Administer reconstituted solutions immediately.

All vials, ampoules and infusion bags are for single use only unless otherwise stated.

Dose may vary depending on indication, age, renal function, hepatic function, and concomitant medications.
This monograph should be used in conjunction with the package insert, BNF for Children, and Summary of Product Characteristics. For further advice contact your clinical pharmacist or pharmacy department.