

Known or suspected cyanide poisoning

Antidotes(if available)
Sodium nitrite (3%; 30 mg/ml)
 - Adult : 300 mg IV over 2 - 4 mins
 - Child : 6 mg/kg or 0.2 ml/kg (maximum 300 mg) IV over 2 - 4 mins* (adjust according to Hb)
Sodium thiosulfate (25%; 250 mg/ml)
 - Adult : 12.5 g IV over 5 - 10 mins
 - Child : 400 mg/kg (1.65 ml/kg) (maximum 12.5 g) IV over 5 - 10 mins
Contraindication : known allergy to drugs

- Protect airway and provide adequate ventilation with 100% Oxygen
- Crystalloid and vasopressor for hypotension
- Benzodiazepine IV for seizure
- Decontamination*
- V/S and ECG monitoring

- CBC/Hb, Electrolytes, ABG, VBG, lactate
- Blood sugar/POCT glucose
- 12-lead ECG
- Whole blood cyanide level
- Other investigations as indicated

- NaHCO₃ IV titrate according to ABG or HCO₃
- Give 1 additional half the initial dose of both antidotes if signs of CN poisoning persist for 30 minutes **OR** recur after 30 minutes.

Forms of cyanide and suggested antidotes

- HCN i.e. housefire, factory
- Onset : seconds
 - Housefire : thiosulfate alone
 - Non-fire incidence : nitrite and thiosulfate
- Salt CN solution i.e. NaCN, KCN
- Onset : minutes
 - Nitrite and thiosulfate
- Cyanogenic glycoside i.e. cassava
- Onset : hours
 - Nitrite and thiosulfate
- Acetonitrile
- Onset : hours to days
 - Nitrite and thiosulfate

Pediatric Sodium Nitrite Guidelines

Hb	NaNO ₂ (mg/kg)	3% sol.
7.0	5.8	0.19
8.0	6.6	0.22
9.0	7.5	0.25
10.0	8.3	0.27
11.0	9.1	0.30
12.0	10.0	0.33
13.0	10.8	0.36
14.0	11.6	0.39

Adapted from Berlin CM: The treatment of cyanide poisoning in children. *Pediatrics*. 1970;46:793-796.

Decontamination

- Protect health care provider from secondary contamination
- For dermal exposure : carefully remove all contaminated clothing and flush the skin
- For ingestion : lavage, activated charcoal (within 1 hour for salt CN, or 4 hours for cyanogenic glycoside) if no contraindications