

# Hydroxycobalamin (Cyanokit)

## GENERIC NAME

Hydroxycobalamin

## TRADE NAME

Cyanokit

## DESCRIPTION

Cyanokit is an antidote for cyanide poisoning.

## HOW SUPPLIED

5 gram single-dose vial of dark red crystalline powder

## PREPARATION

Without removing the vial from the box, transfer 200 ml of Normal Saline from an IV bag to the 5 gram Cyanokit vial using the transfer spike, filling to the line on the vial. Rock or invert the vial repeatedly (do not shake) for at least 60 seconds. Verify that no particulate matter is present and the solution is dark red. Attach the included IV tubing to the Cyanokit vial. For adults, administer the entire vial by running the IV wide open. For pediatric patients, use the dosing chart below and administer over 15 minutes.

## INDICATIONS

- Patients with known or suspected exposure to both carbon monoxide and cyanide, with moderate or severe symptoms (e.g., confusion, altered mental status, coma, hypotension, cardiac dysrhythmias, respiratory or cardiac arrest).
- Patients at high risk include victims of closed-space fires with smoke inhalation.

## CONTRAINDICATIONS

- No contraindications in emergency situations for patients exposed to both carbon monoxide and cyanide.
- Patients exposed only to cyanide should not be treated with Cyanokit; they should receive the traditional cyanide antidote kit at a hospital.

## MECHANISM OF ACTION

Hydroxycobalamin has a higher affinity for cyanide than hemoglobin, preventing cyanide from binding to hemoglobin. When cyanide binds to hydroxycobalamin, it is converted into a form of Vitamin B12, which is then excreted harmlessly in the urine.

## SPECIAL CONSIDERATIONS

None in prehospital emergencies.

## SIDE EFFECTS

- Substantial increase in blood pressure may occur during administration, but it typically resolves quickly after the infusion is completed.
- May change the pigmentation of blood, which can interfere with the RAD-57 oximeter reading and may complicate dialysis in patients with renal disease.
- There are multiple other side effects, but none should prevent the administration of the full dose.

## AUTHORIZATION

**EMT:** Not authorized

**AEMT:** Standing order and Medical Control

**Paramedic:** Standing order and Medical Control

## DOSAGE

- **Adult:** 5 grams, run IV wide open
- **Pediatric:** Total volume according to weight, administer as an IV drip over 15 minutes

## PEDIATRIC DOSING CHART

Patient Weight (kg)	Total Volume (ml) over 15 min	Drops per Min (with tubing supplied in Cyanokit)
4	16	16
5	20	20
6	24	24
7	28	28

8	32	32
9	36	36
10	40	40
11	44	44
12	48	48
13	52	52
14	56	56
15	60	60
16	64	64
17	68	68
18	72	72
19	76	76
20	80	80
21	84	84
22	88	88
23	92	92
24	96	96
25	100	100
26	104	104
27	108	108
28	112	112
29	116	116
30	120	120
31	124	124
32	128	128
33	132	132
34	136	136
35	140	140
36	144	144
37	148	148
38	152	152
39	156	156

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