

NaNO₂ / NaNO₃ ingestion leads to rapid onset of methaemoglobinaemia. Early recognition and administration of antidote is the key to survival

Toxicity / Risk Assessment

Toxic dose is not well-defined

Any deliberate or accidental ingestion with a NaNO₂ or NaNO₃ salt requires immediate medical management

Clinical features:

- Onset of symptoms is rapid (within 30 minutes)
- Methaemoglobinaemia: severity of clinical effects increases with methaemoglobin fraction (%)
- Clinical effects are secondary to tissue hypoxia: cyanosis, tachycardia, confusion, tachypnoea, hypotension, CNS depression, seizures, acidosis
- Haemolysis

Sources:

- curing agents for meat/fish
- precursors for dye production
- corrosion inhibitors

Management

Urgent transfer to the nearest hospital with available antidote (methylene blue) is the key to survival

Early discussion with clinical toxicologist

Provide oxygen and measure methaemoglobin 30-60 minutely (venous blood gas)

Pulse oximetry is unreliable and will typically read 85-90% despite supplemental oxygen

Decontamination: Activated charcoal is **NOT** indicated because of rapid absorption and onset of symptoms

Antidote: Methylene Blue

- Indication:

- *Symptomatic patients with confirmed exposure AND raised methaemoglobin fraction (discuss with Clinical Toxicologist)*
- If patient has features of severe methaemoglobinaemia, do not delay treatment if MetHb % is not available or delayed

See separate '**Methylene Blue**' guideline for dose and administration

- Exchange transfusion should be considered on a case-by-case basis

Disposition:

- Discharge pending mental health assessment if well with normal VBG/methaemoglobinaemia 4 hours post exposure