# Sodium nitrite ($NaNO_2$)/Sodium nitrate ($NaNO_3$)

**$NaNO_2$ / $NaNO_3$ 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*

*Ingestion > 1g or any deliberate self-poisoning with a $NaNO_2$/$NaNO_3$ 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

**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