

Hydrocarbon ingestions can cause early CNS depression and seizures, and delayed aspiration pneumonitis.

Categories/Examples

Aliphatic: essential oils (*see separate eucalyptus and essential oils guideline*), petroleum distillates, turpentine

Aromatic: benzene, xylene, toluene

Halogenated: carbon tetrachloride, methylene chloride, chloroform

Alkane gases: propane, butane

Toxicity: *Most exposures are benign*

Oral: gastric irritation; high risk for pulmonary aspiration

Inhalation: *see 'Inhalants/Volatile Substance Use' guideline*

Dermal: dermatitis, chemical burns or defatting injury of skin.

Clinical features:

Pulmonary: cough, tachypnea, dyspnea, wheeze, low SpO₂

Can be delayed 6 hours; prolonged inhalation -> asphyxia

CNS: euphoria, disinhibition, CNS depression, seizures

Usually rapid onset within 1-2 hours

Renal toxicity: Acute toluene – high AG metabolic acidosis

Chronic toluene – renal tubular acidosis, hypokalaemia

Hepatotoxicity: particularly halogenated hydrocarbons

CO poisoning: unique to methylene chloride exposure

CVS: arrhythmias, Sudden Sniffing Death Syndrome (rare)

Management

Supportive care and attention to ABCs are the mainstay of treatment.

Intubation and ventilation may be required for significant CNS depression.

Decontamination:

Remove clothing and decontaminate skin as required.

There is no role for activated charcoal.

Seizures: Diazepam 5-10 mg IV every 5 min as necessary

Aspiration pneumonitis

Management is supportive

Oxygen and bronchodilators as required

Severe cases may require non-invasive or mechanical ventilation

There is no proven role for corticosteroids or antibiotics

Cardiotoxicity (More likely to occur in inhalational exposures)

- *see separate 'Inhalants/Volatile Substance Use' guideline*

Hepatotoxicity:

Possible with clove oil, pennyroyal oil and halogenated hydrocarbons

- Use of NAC may be hepatoprotective – dosing is same as for paracetamol toxicity

Disposition: Ingestions with normal CXR and no symptoms can be discharged

after 6 hours observation pending mental health assessment.