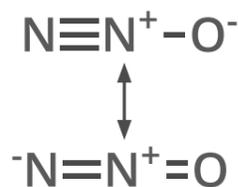


A BRIEF SUMMARY OF INHALATIONAL ANAESTHETICS

A RANGE OF SIMPLE BUT DIVERSE CHEMICAL COMPOUNDS WITH GENERAL ANAESTHETIC PROPERTIES. **Key:** **C** CURRENTLY CLINICALLY UTILISED **R** RARELY OR NO LONGER IN USE

NITROUS OXIDE **C**

ALSO KNOWN AS LAUGHING GAS

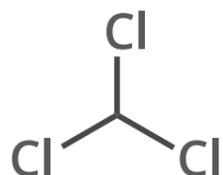


Colourless gas with a slightly sweet odour and taste

Like other inhalational anaesthetics, it also induces a degree of analgesia. It is a weak general anaesthetic, so is often used as a carrier gas for other, more powerful anaesthetics.

CHLOROFORM **R**

PRODUCED BY MANY KINDS OF SEAWEED

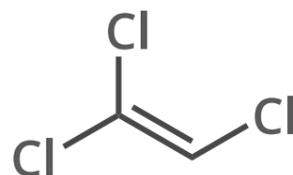


Colourless, sweet-smelling and dense liquid

Common in the 1800s, its use was abandoned due to toxicity & fatalities. Contrary to popular belief, it's hard to incapacitate someone quickly with a chloroform-soaked rag.

TRICHLOROETHENE **R**

DYED BLUE TO AVOID CONFUSION WITH CHLOROFORM

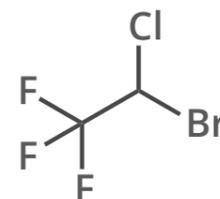


Colourless, non-flammable liquid, with a sweet smell

When used as an anaesthetic it was almost always combined with nitrous oxide. It smells similar to chloroform, which it replaced, but was itself replaced by faster acting agents.

HALOTHANE **R**

ONLY INHALATIONAL ANAESTHETIC CONTAINING A BROMINE ATOM

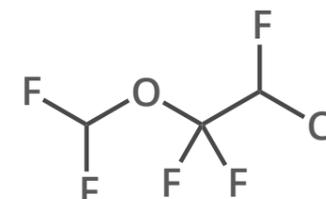


Colourless liquid with a sweet odour resembling that of chloroform

Unstable in light. A potent anaesthetic, though it is a weak analgesic. Hepatitis links resulted in a dramatic reduction in use, & replacement with newer agents.

ENFLURANE **C**

RAPID INDUCTION & RECOVERY FROM ANAESTHESIA

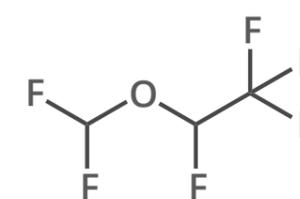


Volatile, colourless liquid, with a sweet smell; light-sensitive

Used increasingly in the 1970s and 80s, but no longer as common. It lowers the threshold for seizures in epilepsy sufferers, and can also be toxic to the kidneys.

DESFLURANE **C**

BOILS AT ROOM TEMPERATURE; LOW POTENCY



Colourless, non-flammable liquid, with an unpleasant, pungent odour

Highest onset and offset of action of the volatile anaesthetic drugs. However, it has a low potency, and its high cost prohibits its use in less developed countries.

YEAR AVAILABLE FOR CLINICAL USE

1844

1846

1847

1925

1930

1951

1956

1960

1973

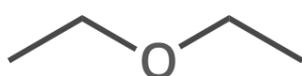
1981

1992

1994

DIETHYL ETHER **R**

COMMONLY USED AS A SOLVENT



Colourless, volatile and highly flammable liquid

Also known simply as 'ether', it was commonly used with chloroform or alcohol. It was found to have undesirable side-effects, such as nausea and vomiting.

CYCLOPROPANE **R**

EXTREMELY REACTIVE UNDER NORMAL CONDITIONS

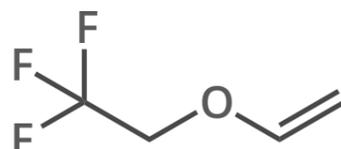


Colourless and highly flammable gas with a sweet, petrol-like odour

Often combined with oxygen, and gave a rapid onset of anaesthesia. However, its high cost and explosive nature limited its use, leading to it being largely phased out.

FLUOROXENE **R**

THE FIRST VOLATILE ANAESTHETIC CONTAINING FLUORINE

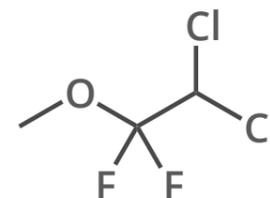


Colourless liquid, with a less pungent smell than diethyl ether

Compared to other agents available at the time, fluoroxene, whilst of use, did not provide any distinct advantages, although it did appear to minimise respiratory irritation.

METHOXYFLURANE **C**

SIGNIFICANT RESPIRATORY DEPRESSANT

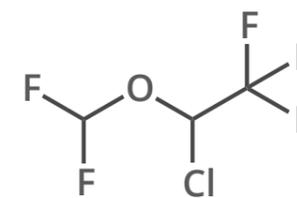


A colourless liquid with a strong, fruity aroma and high boiling point

Extremely potent, but with slow onset and offset times, and also a powerful analgesic. Abandoned in 1970s due to kidney toxicity, but still used in emergencies in Australia.

ISOFLURANE **C**

STRUCTURAL ISOMER OF ENFLURANE

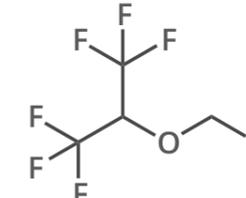


Colourless, non-flammable liquid, with a pungent, musty odour

Always administered with oxygen; nitrous oxide can also be used. Often used to maintain anaesthesia induced with another drug. Its use is beginning to decline.

SEVOFLURANE **C**

NAME DERIVES FROM THE SEVEN FLUORINE ATOMS IT CONTAINS



Colourless, non-flammable liquid, with a mildly unpleasant sweet odour

Most commonly used volatile anaesthetic, often administered with nitrous oxide & oxygen. Its onset & offset are slower than desflurane, but it irritates mucous membranes less.

