THE CHEMISTRY OF THE SMELL OF DEATH

THE STAGES OF DECOMPOSITION

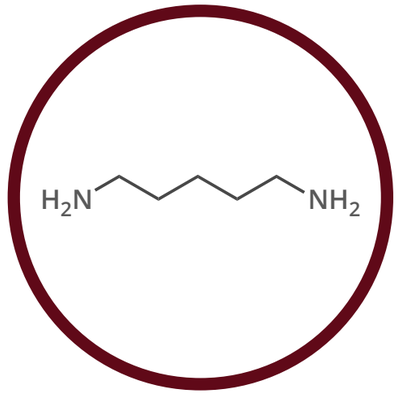
1 *Fresh* 2 *Bloated* 3 *Active Decay* 4 *Advanced Decay*

1. Fresh Stage: begins almost immediately; enzymatic breakdown of cells & tissue (autolysis) begins. Visible signs limited. **2. Bloated Stage:** metabolic activity of bacteria produces gases, causing the carcass to inflate & swell. Pressure forces fluids from natural orifices, producing strong odours. **3. Active Decay:** liquefaction and disintegration of tissues observed. Odours persist. **4. Advanced Decay:** decomposition rate decreases due to loss of mass. Eventually, dry remains are all that remain.

400+ VOLATILE COMPOUNDS

Decomposition is a complicated process, and varies depending on conditions. A wide range of chemical compounds are produced, many more than can be shown here, though not all of them will contribute to odour.

A Selection of Odour-Causing Chemicals in the Decay Process



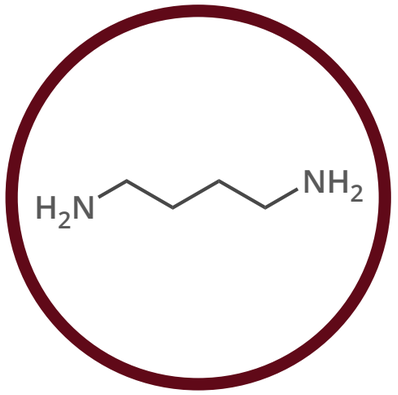
Cadaverine

(pentane-1,5-diamine)

SMELL

FOUL, ROTTING FLESH

Also partly responsible for the distinctive odours of urine & semen.



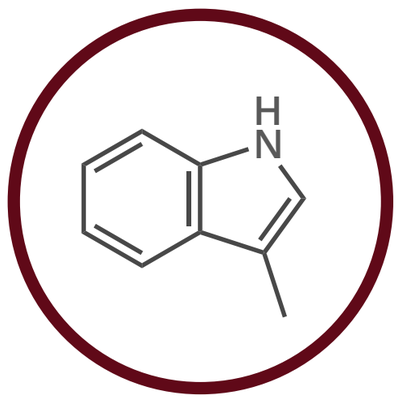
Putrescine

(butane-1,4-diamine)

SMELL

PUTRIFIED FLESH, GARBAGE

Along with cadaverine, putrescine also contributes to bad breath.



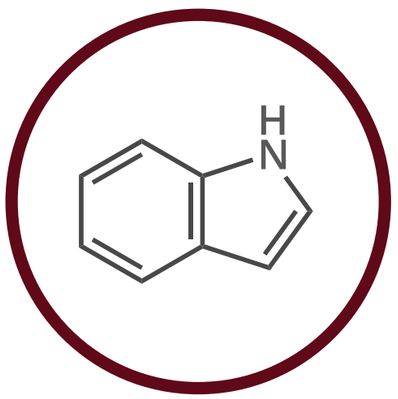
Skatole

(3-methylindole)

SMELL

STRONG FAECAL ODOUR

Also found in human faeces. Has a flowery smell at low concentrations.



Indole

(indole)

SMELL

PUNGENT, MUSTY, STALE

Like skatole, occurs in faeces, but used in low concentrations in flower scents & perfumes.