



Hooch Tragedy

Why in News?

Recently, a [tragic hooch](#) incident in Bihar has claimed eight lives, drawing attention to the severe consequences of [illicit liquor consumption](#).

Key Points

- **Hooch Formation Process:**
 - **Hooch, also known as illicit or spurious liquor**, is typically made by fermenting and distilling cheap raw materials like [molasses or grains](#).
 - Often, dangerous chemicals like [methanol](#) are added to speed up production or increase potency. Methanol can cause fatal poisoning even in small amounts.
- **Contributing Factors:**
 - Despite strict prohibition laws, the underground liquor trade continues to thrive in Bihar. Poor enforcement and high demand for alcohol contribute to recurring hooch incidents.
 - Public health experts point to the need for better regulation and stronger policing to prevent the sale of toxic alcohol.
- **Prohibition Laws:**
 - Bihar has enforced a total prohibition on alcohol since 2016 under the [Bihar Prohibition and Excise Act, 2016](#). However, loopholes and weak enforcement allow the illegal trade to flourish.
 - The law includes stringent punishments for those involved in the production and sale of illicit liquor, including heavy fines and imprisonment.

Methanol

- Methanol, chemically represented as CH_3OH , is a simple alcohol molecule consisting of one carbon atom bonded to three hydrogen atoms and one hydroxyl group (OH).
- **Regulations:**
 - Methanol is classified under **Schedule I** of the **Manufacture, Storage and Import of Hazardous Chemical Rules 1989** in India.
 - **Indian Standard IS 517** specifies how the quality of methanol should be determined.
- **Industrial Production:**
 - Methanol is primarily produced industrially by combining carbon monoxide and hydrogen in the presence of **copper and zinc oxide catalysts**, typically at pressures of **50-100 atm** and temperatures around 250°C .
 - Historically, methanol was also produced through the destructive distillation of wood, a method known since ancient times, including in ancient Egypt.
- **Industrial Uses:**
 - Methanol serves as a crucial precursor in the production of acetic acid, formaldehyde, and various aromatic hydrocarbons. It is widely used as a solvent, antifreeze, and in various industrial processes due to its chemical properties.
- **Effect on Human Body:**
 - **Metabolic Acidosis:**
 - Methanol in the body is broken down into toxic byproducts, primarily formic acid. This acid disrupts the body's delicate pH balance in the blood, leading to a condition

called metabolic acidosis (production of excessive acid that cannot be flushed out by kidneys).

- This makes the blood more acidic, hindering its ability to function properly.
- **Cellular Oxygen Deprivation:**
 - Formic acid also interferes with an enzyme called cytochrome oxidase, which is crucial for cellular respiration. This disrupts the cells' ability to use oxygen, leading to a buildup of lactic acid and further contributing to acidosis.
- **Vision Impairment:**
 - Methanol can damage the optic nerve and retina, causing methanol-induced optic neuropathy. This condition can lead to permanent vision problems, including blindness.
- **Brain Damage:**
 - It can cause cerebral edema (fluid buildup in the brain) and hemorrhage (bleeding). These can lead to coma and death.

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