Name: Adegunju Ayomide Mercy.
Dept: MBBS
matric no: 19/MHS01/026.

Chemistry - Assignment <Ether>.

1) CH_3OCH_3 : methoxymethane.
b) $CH_3CH_2OCH_2CH_3$: Ethoxyethane
c) $(CH_3CH_2CH_2CH_2)_2O$: ~~pentanamide~~ Butoxymethane.
d) $CH_3CH_2OCH_3$: methoxyethane
e) $CH_3CH_2CH_2OCH_2CH_3$: Ethoxypropane.

2) Properties of Ether.
-> An ether molecules has a net dipole moment due to the polarity of C-O bonds.
-> the boiling point of ether is comparable to the alkanes but much lower than that of alcohols of comparable molecular mass despite the polarity of the C-O bonds.
-> the miscibility of ether with water resembles those of alcohols. they are less soluble in water.
-> they are less dense than water, although the density ~~Making esters with acid anhydride~~ increases with increasing relative molecular mass.
-> they are colourless neutral liquid gas with pleasant odurs and are inert at moderate temperature.

3) METHODS OF PREPARING ETHERS.
a) Partial dehydration of alcohols.
the alcohol in excess and conc. tetra oxo sulphate (vi) acid is heated at a carefully maintained temp @ 140°C. this process is known as continous etherification. if excess alcohol is not used, the temperature is as high as 170 - 180°C further dehydration yields alkene.

$$2\,CH_3CH_2OH \xrightarrow{\text{conc. } H_2SO_4 \,/\, 140^\circ C} CH_3CH_2-O-CH_2CH_3 + H_2O$$

2) controlled catalytic hydration of olefins.

$$2\,CH_3CH = CH_2 + H_2O \rightarrow (CH_3)_2CH-O-CH(CH_3)_2$$

2 - Isopropoxy propane.

Uses of Ethylene Oxide.

1) They are used as an intermediate in hydrolytic manufacture of ethylene glycol.

2) Ethylene oxide is used in the preparation of nonionic emulsifying agents, elastics, plastiziers and several synthetic textiles.

3) Ethylene oxide is used as a gaseous ~~sterilizing~~ sterilizing agent.