#### Carbon Dioxide

 $CO_2$ 

# MOP: By burning coal with oxygen (in air) $C + O_2 CO_2$

Physical Properties:

- 1. Colorless gas
- 2. Odourless
- 3. Acidic taste
- 4. Soluble in water
- 5. Slightly heavier than air.
- 6. Aqueous solution is acidic in nature.

### Chemical Properties:

1. When react with water it gives carbonic acid.

$$CO_2 + H_2O \longrightarrow H_2CO_3$$

- 2. When react with magnesium it gives magnesium oxide.
  - $2Mg + CO_2 \longrightarrow 2MgO + C$

### Uses:

- 1. Respiratory stimulants
- 2. Treatment of carbon monoxide poisoning.
- 3. Manufacturing of soft drinks
- 4. Preparation of dry ice
- 5. Rarely used in acid base balance.



### Storage

"Carbon dioxide is stored and supplied in metal cylinders. The shoulder of cylinder are painted with Grey color."

#### Nitrous oxide



### MOP:

# By heating ammonium nitrate. $NH_4NO_3 \xrightarrow{\bullet} N_2O + 2H_2O$

Physical Properties:

- 1. Colorless, Odourless, Tasteless gas.
- 2. Soluble in water.
- 3. Soluble in ether.
- 4. Soluble in oils.
- 5. Soluble in alcohol.
- 6. Slightly heavier than air.
- 7. Aqueous solution is neutral in nature.

## **Chemical Properties:**

1. On heating at high temp. it decomposed and form oxygen.

$$N_2O \longrightarrow 2N_2 + O_2$$

2. When react with copper it form copper oxide.

$$N_2O + Cu \longrightarrow CuO + N_2$$



## 1.General anesthetics

2.Muscle relaxant

3.In dental surgery

4.To calm mental patients.





"Nitrous oxide İS stored and supplied in metal cylinders. The shoulder of cylinder are painted with Blue color."