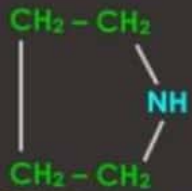
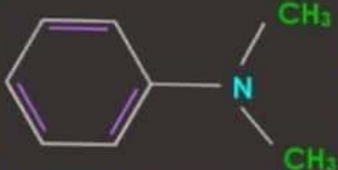
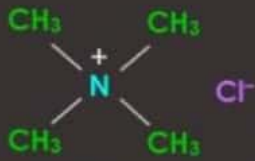


AMINES

Amine are member of a family of nitrogen-containing organic compounds that is derived, either in principle or in practice, from ammonia (NH₃).

Ethylamine	Pyrolidine	N, N - dimethylaniline	Tetramethylammonium chloride
$\text{CH}_3\text{CH}_2 - \text{NH}_2$			
An open- chain aliphatic primary amine.	A cyclic aliphatic secondary amine.	An aromatic tertiary amine.	An aliphatic quaternary ammonium salt.

STRUCTURE OF AMINES

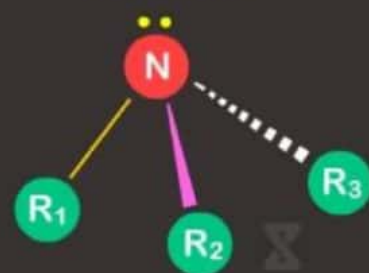
PRIMARY



SECONDARY



TERTIARY



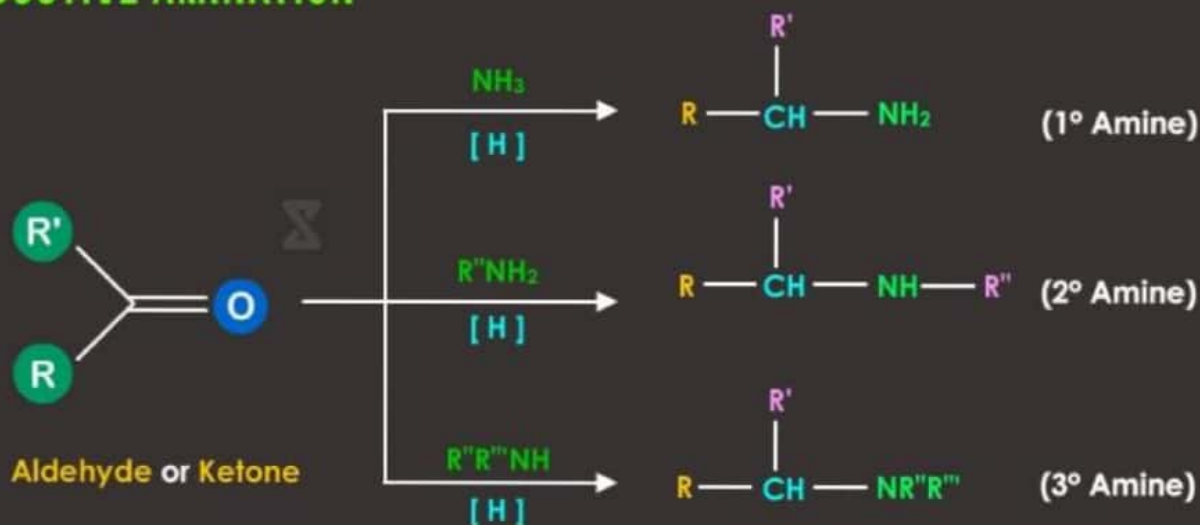
PROPERTIES

- Water Soluble
- Gaseous at room temperature
- Foul-smelling compounds
- Colourless
- High boiling point
- Burns with a yellow flame

USES OF AMINES

- Corrosion inhibitors in boilers
- Lubricating oils (morpholine)
- Stabilizers for cellulose
- Nitrate explosives (diphenylamine)
- Protectants against damage from gamma radiation (diarylamines)

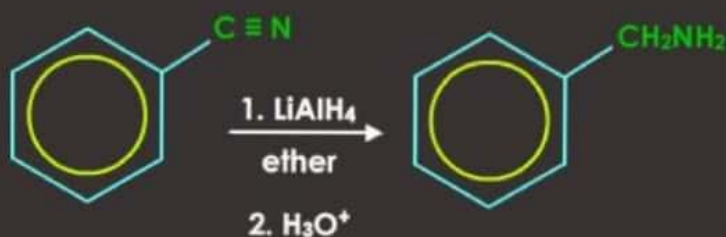
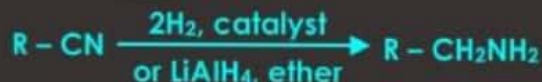
REDUCTIVE AMINATION



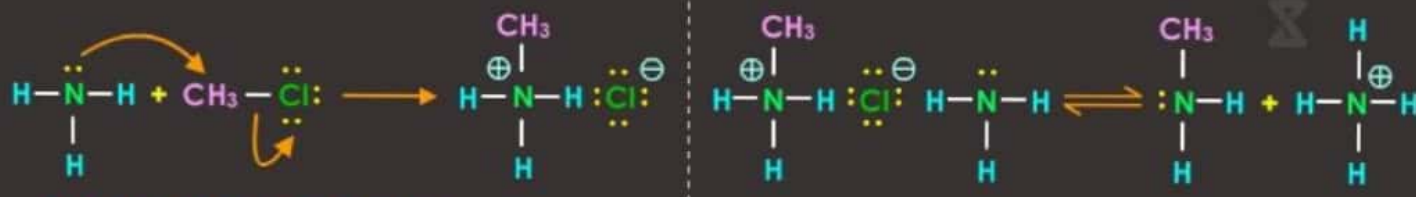
REDUCTION OF NITRILES

Nitriles can be reduced by strong reducing agent like H₂ with catalyst (example Ni or LiAlH₄) to yield primary amines via nucleophilic addition reaction.

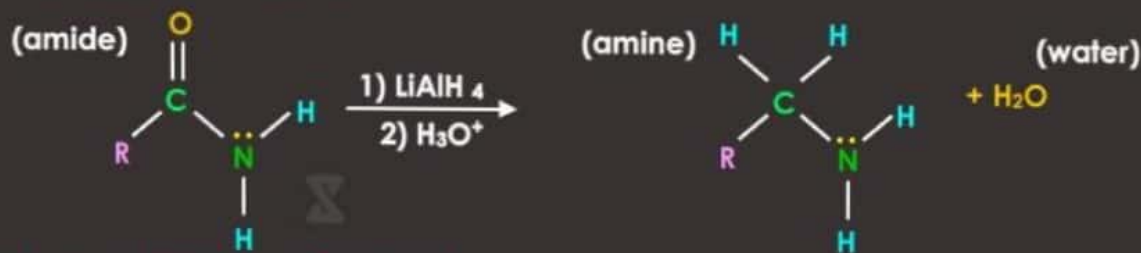
Example :



REACTION OF AMMONIA WITH ALKYL HALIDES



REDUCTION OF AMIDES



REDUCTION OF NITRO GROUPS

