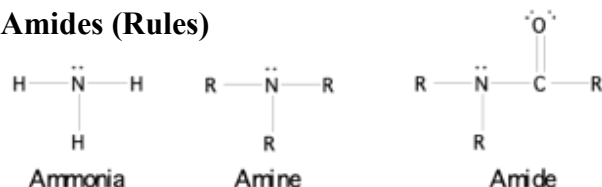
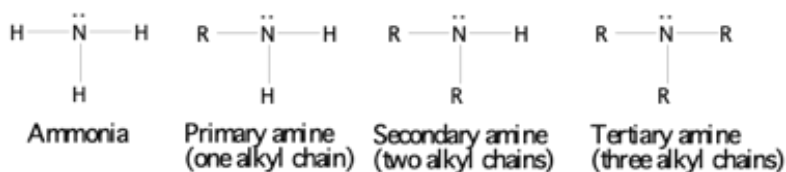


Chem 30B - Naming Amines and Amides (Rules)

Amines and amides come from ammonia (replacing the H's).

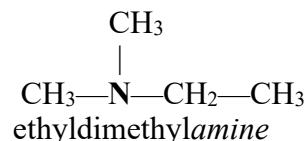
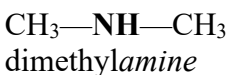
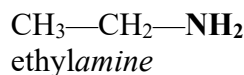


Classification of amines by the number of alkyl chains:

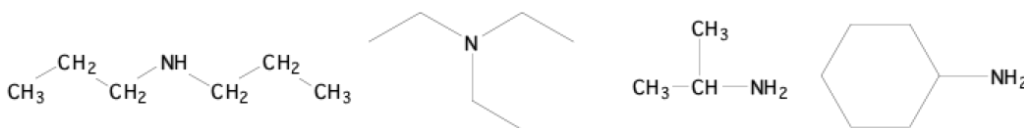


Naming Simple Amines (Common Names)

- Are named as alkylamines.
- List the names of the alkyl groups bonded to the N atom in alphabetical order in front of *amine*.

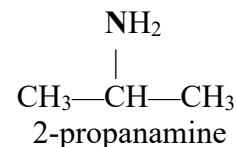
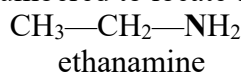


Name the following amines:



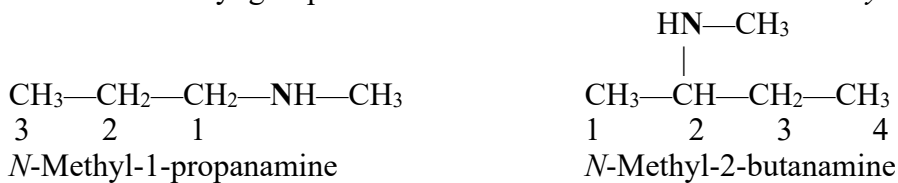
IUPAC Names of Amines

- Amines are named as alkanamines.
- The *-e* in the alkane name of the longest chain is changed to *-amine*.
- The chain is numbered to locate the amine group and substituents.

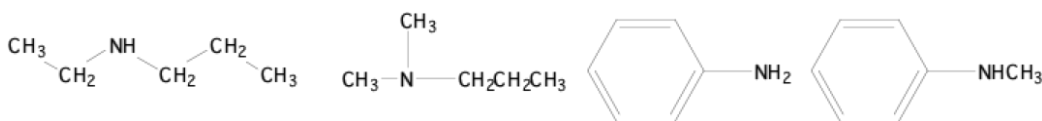


In a secondary or tertiary amine,

- The longest alkane chain is numbered.
- Each alkyl group bonded to the N atom is named as a *N-alkyl* group

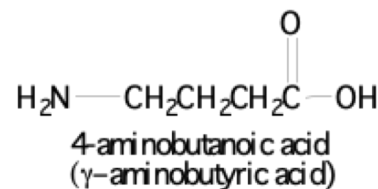


Name the following amines:

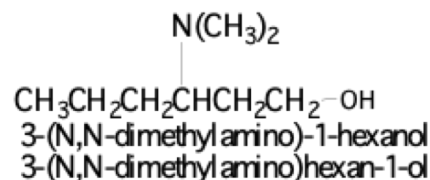


Amines as Branches

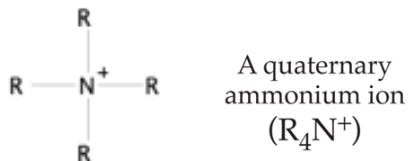
- When found in compounds with oxygen containing functional group:
 - $-\text{NH}_2$ amino
 - $-\text{NHR}$ N-alkylamino
 - $-\text{NR}_2$ N,N-dialkylamino



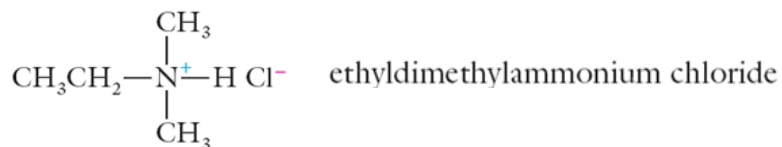
Name the following amine:



Ammonium Salts



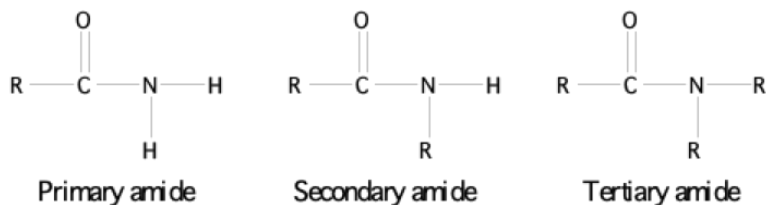
- Named by naming the positive ion first and then naming the negative ion.



- Pharmaceutical companies often name amine salts by naming the parent amine followed by the name of the acid used to synthesize the salt:
 - HCl: amine hydrochlorides
 - H₂SO₄: amine hydrogen sulfates

Amides

Classification of amides by the number of alkyl chains:



Amides are named as alkanamides.

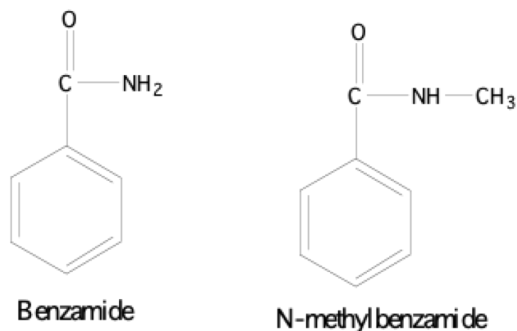
- IUPAC replaces *-oic acid* ending with *-amide*.
- Common names replace *-ic acid* ending with *-amide*.



- An alkyl group bonded to the N atom is named as *N-alkyl* in front of the amide name.

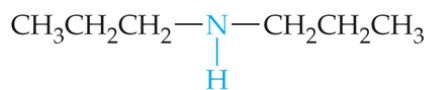


- The amide of benzene is named benzamide.

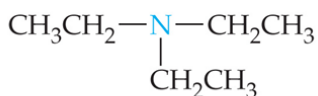


Naming Amines and Amides Key (Rules)

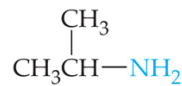
Name the following amines (common names):



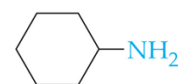
Dipropylamine



Triethylamine

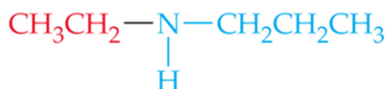


Isopropylamine

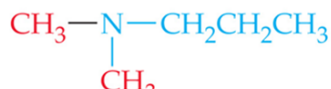


Cyclohexylamine

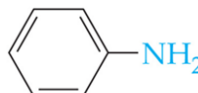
Name the following amines (IUPAC names):



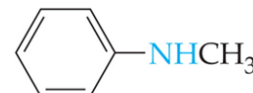
N-Ethylpropylamine



N,N-Dimethylpropylamine



Aniline



N-Methylaniline

Name the following amine:



3-Aminopropanoic acid