



Common name of carboxylic acid & Aldehyde

1	Carboxylic acid	aldehyde
2	formic acid → Ant	formaldehyde
3	Acetic acid → vinegar	Acetaldehyde
4	Propionic acid → fat	Propionaldehyde
5	Butyric acid → Butter	Butyraldehyde
6	Valeric acid → plant	Valeraldehyde

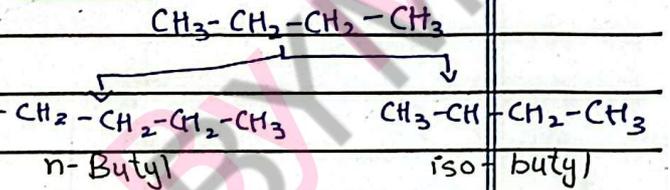
DATE \_\_\_/\_\_\_/\_\_\_

Parts	Name	Formula	alkyl name	formula of Alkyl
Stem	Methane	CH <sub>4</sub>	Methyl	-CH <sub>3</sub>
	Ethane	C <sub>2</sub> H <sub>6</sub>	Ethyl	-CH <sub>2</sub> CH <sub>3</sub> (-C <sub>2</sub> H <sub>5</sub> )
Suffin	Propane	C <sub>3</sub> H <sub>8</sub>	Propyl	-C <sub>3</sub> H <sub>7</sub>
	Butane	C <sub>4</sub> H <sub>10</sub>	Butyl	-C <sub>4</sub> H <sub>9</sub>
Stem	Pentane	C <sub>5</sub> H <sub>12</sub>	Pentyl	-C <sub>5</sub> H <sub>11</sub>
	Hexane	C <sub>6</sub> H <sub>14</sub>	hexyl	-C <sub>6</sub> H <sub>13</sub>
Suffin	heptane	C <sub>7</sub> H <sub>16</sub>	heptyl	-C <sub>7</sub> H <sub>15</sub>
	Octane	C <sub>8</sub> H <sub>18</sub>	octyl	-C <sub>8</sub> H <sub>17</sub>
Suffin	Nonane	C <sub>9</sub> H <sub>20</sub>	Nonyl	-C <sub>9</sub> H <sub>19</sub>
	Decane	C <sub>10</sub> H <sub>22</sub>	Decyl	-C <sub>10</sub> H <sub>21</sub>

**Stem:** The stem tells the no of carbon atom in the chain.

Stem	No of carbon	Stem	No of carbon
Meth-	1	Hep-	7
Eth-	2	Oct-	8
Prop-	3	Non-	9
But-	4	Dec	10
Pent-	5		
Hex-	6		

**Butane:**

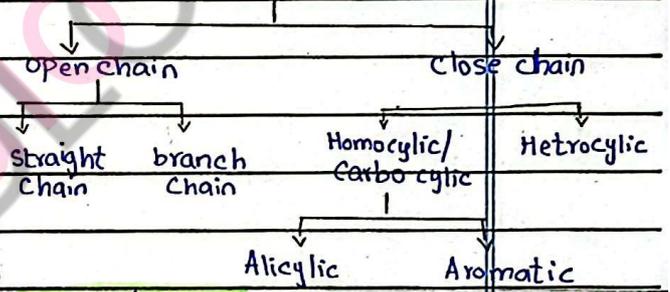


**Suffin:** Suffin is placed after, it tells the class of compound.  
**Example:** The suffin "ane" is used.

**Butane** → suffin it indicates alkane

Stem, it indicates no. of carbon atoms

**Classification of organic compound:**



- Rules:
  - Find the longest chain of carbon atoms.
  - Number the chain from the nearest substituent.
  - Name and number substituents
  - Combine names list substituents with their positions, followed by the parent chain.
  - Use prefixes (di, tri, etc) for multiple identical substituents.
  - Alphabetize substituents in the final name.

**Functional group:** An atom or group of atom that gives a family of organic compounds characteristic chemical and Physical Properties is called functional group.

**Example:** 2-Methyl propane.  
 Add comma b/w number 2,2  
 Add (-) hyphen b/w (letter & no) (2-Methyl)

Name	Definition	functional group	General formula	IUPAC (suffin)	Example
Alkane	H with C-C	-X	R-H	-ane	CH <sub>4</sub> ⇒ methane
Alkene	H with C=C	-C=C-	R <sup>1</sup> -C=C-R <sup>2</sup>	-ene	C <sub>2</sub> H <sub>4</sub> ⇒ Ethene
Alkyne	H with C≡C	-C≡C-	R-C≡C-R	-yne	C <sub>2</sub> H <sub>2</sub> ⇒ Ethyne
Halide	Alkane with a halogen (Cl, Br, I)	R-X	R-X		CH <sub>3</sub> Br ⇒ methyl bromide

**Alkane and Alkyl radical:**

Name	Definition	functional group	General formula	IUPAC (suffin)	Example
Alcohol	Alkane with a hydroxyl group	-C-OH	R-OH	-ol	CH <sub>3</sub> OH methyl alcohol
Phenol	Compound with a -OH attached to a benzene ring.	-OH			C <sub>6</sub> H <sub>5</sub> OH Phenol
Ethers	Compound with two C groups	-C-O-C-	R-O-R'	-ether	CH <sub>3</sub> -O-CH <sub>3</sub> Dimethyl ether
Aldehydes	Compound with a -CHO at end.	-C-H	R-C(=O)-H	-al	CH <sub>2</sub> O Formaldehyde
Ketones	Compound with carbonyl group C=O	-C-	R-C(=O)-R'	-one	CH <sub>3</sub> COCH <sub>3</sub> Acetone
Carboxylic acid	COOH group.	-C-OH	R-C(=O)-OH or COOH	-oic acid	CH <sub>3</sub> COOH Acetic Acid
Ester	Compound with O b/w two C groups.	-C-O-C-	R-C(=O)-OR'	-ether oate	CH <sub>3</sub> -C(=O)-OCH <sub>3</sub>
Amine	Compound with N atom bonded to C.	-NH <sub>2</sub>	R-NH <sub>2</sub>	-amine	CH <sub>3</sub> NH <sub>2</sub> Methyl amine
Amide	Compound with carbonyl group bonded to N	-C-N	R-C(=O)-NH <sub>2</sub>	-amide	CH <sub>3</sub> -CO-NH <sub>2</sub> Ethanamide

Q:- Difference b/w alkane, alkene & alkyne.

**Alkane:** Alkane are saturated hydrocarbon containing only single bond.

General formula: C<sub>n</sub>H<sub>2n+2</sub>

**Alkyl radical:** Group of atoms obtained by removing one hydrogen atom from an alkane

General formula: C<sub>n</sub>H<sub>2n+1</sub>.

Represented by: R

ane → yl