

Substituted Hydrocarbons

- HYDROCARBONS - contain 1 Carbon and 1 Hydrogen
- Can form stable bonds with other elements (Oxygen, Nitrogen, Sulfur and Halogens)
- If one atom is substituted for a hydrogen, it's called a substituted hydrocarbon

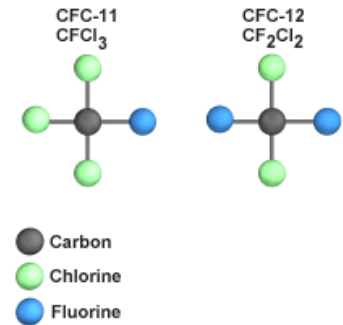
Halocarbon

- Compounds Containing Halogens
- In some **substituted hydrocarbons**, One or more halogen atom
- replace hydrogen atoms (fluorine, chlorine, bromine or iodine)

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Examples

- refrigerants (1,1,1,2-tetrafluoroethane)
- plastics such as polyvinyl chloride ("vinyl" or PVC)
- Teflon (duPont trademark for polymerized tetrafluoroethene)



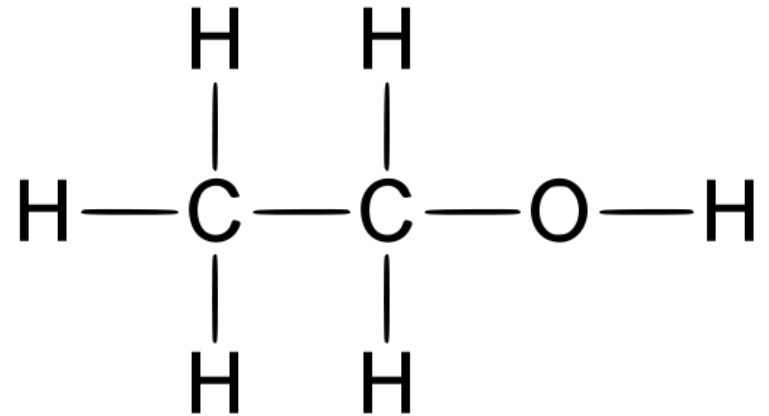
Alcohols

- Alcohols- OH is substitute for a hydrogen
- OH, made of an oxygen atom and a hydrogen atom, is called a hydroxyl group

Examples

Methanol

- Race car fuel
- Anti-icing agent in gasoline



Ethanol

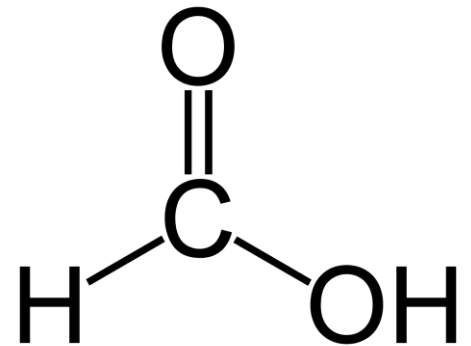
- Major ingredient of alcoholic beverages

Organic Acids

- An organic acid is a **substituted** hydrocarbon that contains one or more carboxyl groups.
- A carboxyl group is written as COOH
- A carboxyl group is made up of one carbon, two oxygen atoms, and one hydrogen

Examples

- Acetic acid is in vinegar
- Citric acids are found in fruits.



Self Check

What substituted group does chloroethane (C_2H_5Cl) belong to?

How would you draw chloroethane?

In an alcohol, what is substituted for a hydrogen atom?