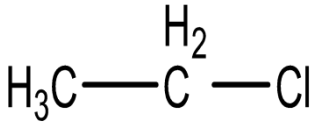
1. Ethyl Chloride



Ethyl chloride is commonly known as **Chloroethane**

It is a chemical compound with chemical formula $CH_3 - CH_2 - Cl$,

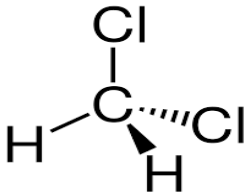
Properties:

1. It is a colourless, flammable gas or refrigerated liquid with a faintly sweet odour.
2. It is insoluble in water
3. It has low boiling point and is denser than water.

Uses:

1. Ethyl chloride is once widely used in producing tetraethyl lead, a gasoline additive.
2. Ethyl chloride is an inexpensive ethylating agent. It reacts with aluminium metal to give ethylaluminium sesquichloride, a precursor to polymers and other useful organoaluminium compounds.
3. Chloroethane is used to convert cellulose to ethylcellulose, a thickening agent and binder in paints, cosmetics, and similar products.
4. Like other chlorinated hydrocarbons, chloroethane has been used as a refrigerant, an aerosol spray propellant, an anesthetic, and a blowing agent for foam packaging.
5. It acts as a mild topical anesthetic by its chilling effect when sprayed on skin, such as when removing splinters or incising abscesses in a clinical setting.
6. In dentistry, chloroethane is used as one of the means of diagnosing a 'dead tooth', i.e. one in which the pulp has died.
7. It also helps in relive of deep muscle pain.

2. Chloroform



- Chloroform is commonly known as **Trichloro methane**
- Its molecular formula is $CHCl_3$
- It is obtained from the replacement of 3 halogens in alkanes, so it is called Trihalogen alkane

Properties:

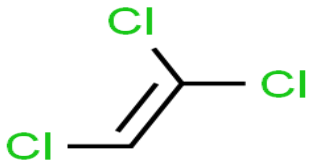
- It is a colourless liquid with characteristic smell and taste
- It is insoluble in water and soluble in alcohol, ether etc.,
- Chloroform is non-flammable. The vapours of chloroform when inhaled in small amounts produce unconsciousness.

Uses:

1. Used as a general anaesthetic in surgeries but it is rarely used now a days because it causes extensive liver damage.

2. Used in dentistry during root canal procedures.
3. The spectrum of pure chloroform is used as the reference or background, and pure cholesterol powder or cholesterol extract from milk products is dissolved in chloroform and used for FTIR analysis.
4. Chloroform was utilized in the past as an extraction dissolvable for fats, greases, oils, and different items.
5. Used as a laundry spot.
6. Used as a laboratory reagent in for testing Primary amines.
7. In Pharma industry, it is used as a solvent in producing dyes and pesticides.
8. Used as an indirect food additive in food packaging materials for adhesive components and as a component of food contact materials.
9. In industry, chloroform is used for the production of Teflon (Polytetrafluroethylene)

3. Trichloroethylene



Properties:

- It is a synthetic, liquid sensitive, volatile, colourless liquid
- It is miscible with many non polar organic solvents
- It is clear non-flammable liquid with sweet smell
- It will decompose upon heating and emits toxic chloride
- It is synthesized by chlorination of ethylene.

Uses:

1. The main use of trichloroethylene is in the vapour degreasing of metal parts.
2. Trichloroethylene is also used as an extraction solvent for greases, oils, fats, waxes, and tars, a chemical intermediate in the production of other chemicals, and as a refrigerant.
3. Trichloroethylene is used in consumer products such as typewriter correction fluids, paint removers/strippers, adhesives, spot removers, and rug-cleaning fluids
4. Trichloroethylene was used in the past as a general anaesthetic
5. Used in decaffeination of caffeine from coffee
6. It is used as a solvent for water less dying
7. Used as potent inhalant analgesic.
8. Used as a drying cleaning agent.
9. Used in automatic movie film cleaning machine.