CLASSIFICATION:

Poisons can be classified in a variety of ways, depending upon the interests and needs of classifier e.g. classification may be done on the basis of mode of action of poison, toxicity rating, in terms of their physical states, their labeling requirements, their chemistry etc.

For the purpose of toxicological analysis, poison are classified on the basis of their chemical properties and method of isolation from tissues and other biological fluids which are given below:

1 Noxious Gases:

(i) Carbon Monoxide (CO), (2) Carbon dioxide (CO2), (3) Hydrogensulphide (H2S), (4) Sulphurdioxide (SO2), (5) Chlorine (Cl2), (6) Nitrous oxide (N2O), (7) Methane (CH4), (8) Methylisocyanide (CH3NCO), (9) War gases, (10) Ammonia,

(ii) Tear gas (chloracetophenone).

2 Volatile Inorganic:

(1) Cyanide (2) Phosphine (3) Arsine (4) Phosgene, (5) Stilbine (6) Carbonyl chloride (8) Flurocarbon (9) Isocyanide.

3 Volatile Organic:

(1) Methanol (2) Ethanol (3) Formaldehyde (4) Acetaldehyde (5) Chloral hydrate

(6) Pyridine (7) Ketones (8) Hydrocarbons (9) Chloroform

4 Non –volatile Inorganic:

4.1 Anions:

(1) Halides (2) Selenide (3) Dichromate (4) Chlorate (5) Azide (6) Nitrite (7) Sulphide (8) Sulphate (9) Nitrtate (10) Phosphide (11) Cyanide etc.

4.2 Cations:

(1) Mercury (2) Arsenic (3) Barium (4) Thallium (5) Lead (6) Antimony

(7) Bismuth (8) Copper (9) Aluminium (10) Zinc etc.

5 Non-volatile Organic Neutral Compounds:

(1) Pesticides (Organophosphorous, Organochloro, Carbamates and Pyrethroids)

(2) Neutral Compounds.

6 Non-volatile Organic Acidic Compounds:

Acidic Drugs like barbiturates, sulpha and phenolic compounds, salicylates etc.

7 Non-Volatile Organic Alkaline Compounds:

All basic drugs like benzodiazepines, alkaloids etc.

8 Plant Poisons:

Dhatura, Aconite, Oleander, Nuxvomica, Abrus Precatorius etc.

9 Miscellaneous Poisons:

(A) Mechanical: Glass powder, Diamond dust, chopped hair etc.

(B) Food poisons / mycotoxins.

(C) Animal/insect poisons.

(D) Water soluble compounds.

On the basis of types of POISONING:

Poisons are commonly involved in homicidal, accidental or suicidal cases. These are also used to destroy the animals and plants.

1 Accidental poisoning:

The accidental poisoning commonly takes place as a result of the carelessness/ negligence. The common accidental poisoning cases are:

a) Coal is allowed to burn in a room unknowingly giving rise to the production of poisonous carbon monoxide gas.

b) Workers many times unknowingly go into abandoned wells or gutters and die due to the presence of poisonous gases.

c) Poisonous materials like insecticides are carelessly sprayed in the farms and due to accidental inhalation, many times may cause the death of farmers/workers.

d) Children handle some poisonous articles and develop poisonous symptoms.

e) Overdoses of medicines like barbiturates or fake medicines wrongly prescribed.

f) Allergic conditions.

g) Bites by poisonous insects and snakes.

h) Accidental cattle or animal poisoning cases.

2 Homicidal Poisoning:

Owing to small fatal doses, tasteless and odourless properties, miscibility with drink and common availability, some poisons are mainly used for homicidal purposes e.g. arsenic salts, mercury salts, cyanides, sodium nitrite, methyl alcohol, dhatura seeds, phosphides etc. Rarely, cultures of disease germs are also used for homicidal purposes. In certain parts of the country, opium is used as infanticidal poison.

3 Suicidal Poisoning:

Some poisons are mainly popular for suicidal purposes because of their availability in house or the working place like cyanide in electroplating units, insecticidal compounds mostly available with farming communities, sodium nitrite in dyeing industries. Barbiturates are normally used by the educated people. The cases of committing suicides by a few doctors by injecting anaesthetic agents like thiopental have been reported.

4 Miscellaneous Poisoning:

Cases of poisoning other than the above are prevalent all over India which are caused by stupefying agents. The intention behind this is to stupefy the person and commit robbery or other crimes. However, many a times person dies because of overdoses. These poisons are cigarettes containing dhatura, cannabis, drugs, arsenic etc; sweets containing phenobarbitone or other psychotropic substances like lorazepam etc. Sometimes, chloral hydrate mixed with drinks is also similarly used.